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PROCEEDINGS OF THE FOURTEENTH ANNUAL  
CONFERENCE OF AIR FORCE  
BEHAVIORAL SCIENTISTS

Wright Hall, USAF Hospital  
Randolph Air Force Base, Texas  
14-16 January 1967

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USAF School of Aerospace Medicine  
Aerospace Medicine Division (ASMD)  
Randolph Air Force Base, Texas

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PROCEEDINGS OF THE FOURTEENTH ANNUAL CONFERENCE OF  
AIR FORCE BEHAVIORAL SCIENTISTS

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#### ERRATUM

In the Proceedings of the Thirteenth Annual Conference of Air Force Behavioral Scientists the names of two associate authors were inadvertently omitted from the paper, "Historical Development of the Psychiatric Clinic Technician Career Field." The authors were John W. Gormly, Joseph R. LaCourse, and Edward R. Hammond.

The viewpoints contained in this publication are those of individual authors and discussants and do not necessarily represent official USAF policy.

## PREFACE

The success of a symposium such as that held annually by Air Force behavioral scientists is wholly dependent upon the interests and enthusiasm of the members working individually and collectively. This report of the Proceedings of the Fourteenth Annual Conference again reflects the varied interests and endeavors of the group. Three broad areas of interest were identified in the papers, panels, and discussions as presented.

The area of psychotherapy ranges from concern with dependents to the role of the psychotherapist in a military setting. The emphasis is upon alleviation of symptoms and early return of the serviceman to duty. The increased number of Air Force personnel serving in the Southeastern Asia combat area has resulted in concern for the adjustment of these personnel. This increased interest is reflected in the number of papers submitted.

The broad and important area of community or social psychiatry and all of its concomitant problems receive liberal coverage.

The backbone of a science is the pure or applied research that is carried on either to raise questions or to provide tentative answers that will arouse the curiosity of other investigators.

As we reviewed the articles on research, we noted, with a great deal of satisfaction, that the term, "behavioral scientists," has taken on broader meaning in our context. The papers of this group range from the application of the Human Reliability Program, through assessment and selection procedures, psychopharmacology, and statistical evaluations, to animal studies. We have wished for some time to broaden the work of our group to include parallel areas of research with direct or indirect application to the core interest. It is gratifying to note that this symposium has opened the door to other areas concerned with behavior. We hope the trend will continue.

No conference can be successful without innumerable people working behind the scenes. To all who contributed in any way, the program committee and the editorial staff extend their heartfelt appreciation. The program committee

and editors particularly recognize and extend gratitude and appreciation to Miss Helena V. Kay, Chief, Medical Editing Section, USAF School of Aerospace Medicine, and her staff, for their continued excellence and dedication to the monumental task of editing and preparing the manuscripts for publication, and to Airman Second Class Stephen G. Linowiecki, clinical psychology technician, who was blessed with the ability to operate an electric typewriter and the knowledge of form, spacing, and organization of tables and figures. His was the task of typing the final copy. Without his continued dedication to this sometimes boresome task we would not have been able to meet our deadline.

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## WELCOME ADDRESS

Major General Charles H. Roadman  
Commander, Aerospace Medical Division, AFSC

I welcome this opportunity to introduce the Fourteenth Annual U. S. Air Force Behavioral Sciences Symposium on behalf of the Aerospace Medical Division.

By a happy coincidence, this meeting also marks the 49th anniversary of aerospace medicine. The formal study and practice of technics to relieve the medical problems arising in flight began on the 19th of January 1918 when the present School of Aerospace Medicine was opened at Mineola, N. Y.

From its inception, aerospace medicine has differed from most other specialties in the breadth of its interest. It deals with the whole organism of the flyer rather than with a particular region or function of his body.

The first commander of the School was a renowned ophthalmologist, the late Doctor William H. Wilmer, in whose honor the Wilmer Ophthalmological Institute was created some years later at the Johns Hopkins University.

Six departments were considered adequate to cover the School's research and teaching in 1918. They were devoted to the eye; to the ear, nose, and throat; to the cardiovascular system; to physiology; to neuropsychiatry; and to psychology.

So the behavioral sciences have held an important place in aerospace medicine from its beginning. Conversely, the behavioral sciences--as they are practiced in the Air Force--have been conditioned in many significant ways by the special environment in which the flyer lives and performs his duties.

The psychiatric, psychologic, and social responses of the pilot or crew member lie within the larger field of practice defined by these disciplines over the years. Yet they often follow patterns which are peculiar to the practice of aerospace medicine as well.

These patterns may offer insights which illuminate the more general problems met by behavioral scientists in areas outside the Air Force.

To provide for a ready interchange of knowledge between the Air Force practitioner and his counterpart in the population outside--to insure that neither group would become isolated from the other--in the early 1950's the Air Force Medical Service began to sponsor periodic meetings like the symposium for which we are gathered here today.

They are not confined to the behavioral sciences. There are other such symposia for internal medicine, for pathology, for flight medicine, and for the various subspecialties within the field of aerospace medicine as a whole.

I am particularly impressed by these assemblies because they enable us to meet directly with our esteemed colleagues from community health organizations and to discuss with them outstanding problems of concern to us all.

One such problem is the management of personal crises that occur at one time or another in most human lives--such crises as the unexpected loss of a job, desertion by a member of one's household, attempted suicide, the sudden re-assignment of an officer or airman to a combat theater, or his death in action.

All of these personal trials and disasters have repercussions that involve not only the subject's family but the welfare of the community as well. They are among the situations that may produce effects of the gravest consequence to the health and morale of a military organization.

For that reason, the three groups included in the behavioral sciences--which ordinarily hold separate sessions--will meet tomorrow in a joint program to consider the most effective kinds of therapy in such crises.

Another innovation this year is that the Surgeon General has authorized two representatives from overseas commands to attend the meeting. One is from the U. S. Air Forces in Europe and the other from the Pacific Air Forces. They will present their observations and experiences in those theaters.

Among the guest speakers, one of the most interesting presentations will be made by the distinguished group of scientists who have been engaged in studies of human reli-

ability among Air Force personnel assigned to sensitive activities in nuclear weaponry, security services, and intelligence.

This is an area in which the Personnel Research Laboratory of our Division, here at Lackland, conducted a pioneer investigation beginning seven or eight years ago. Later on, the human reliability program was greatly broadened and extended.

Since the program went into effect, there has been a notable decline in Air Force problems related to security. Fewer cases have been found each year in which men assigned to high-risk duties had to be disqualified.

The suicide rate in the Air Force today is lower than in the population as a whole, partly as a result of this program. A dramatic reduction has occurred in the number of otherwise capable airmen who have been dropped for security reasons from technical training schools.

The report from our speakers will examine the screening technics and the personal guidance procedures by which these results have been achieved.

The rest of the papers will bring up to date a number of noteworthy developments in the behavioral sciences over the past year, both in the Air Force and in civil practice.

It is a pleasure for me to congratulate Dr. Perry on the fine program which he has put together and to thank the many eminent authorities on human behavior who have found the time to join us in these discussions. We are delighted to have you with us.

## ANNUAL REPORT

Paul M. Grissom

I spoke to Col. Flinn at Bethesda on Monday afternoon. He asked me to convey his sincere regards to everyone here and to express his sorrow that he is unable to attend as of now. He did say that if the doctors would release him and felt that it was compatible with his best interest to come down today or tomorrow, he would try to do so. Col. Flinn is retiring from the Air Force and will go on extended terminal leave as of mid-March. At this time I am designated to replace him in his position. I had not anticipated doing so in any capacity at just this point. Much of what he had planned to talk with you about is relatively new material to me, and on the basis of the relatively short briefing I don't know that I can do it justice.

Many questions, of course, will come up as to staffing at the various installations--as to specific assignments as far as individuals are concerned--and I can give you only very general answers. I can tell you that all positions that are presently filled will receive replacements. In other words if your staff is set at 12 psychiatrists at this particular moment, you can expect by this fall to have replacements for those persons who may be leaving. We have some 68 total positions around the world that must be filled with our regular psychiatrists and with our Berry Plan people. We will have 67 individuals, as of this fall, serving as psychiatrists within the Air Force. This means that one slot will go vacant probably, but that slot has already been picked as one that no one is in at the present time and one about which there is no urgency in filling.

Reviewing the manpower situation, I'd like to go over some figures that Dr. Flinn compiled concerning our retention of career psychiatrists, and it is a rather sad commentary. As of three years ago we had 19 career regular psychiatrists. Since that time, 7 have resigned or retired. Five of them are assigned to other duties, including the duties of hospital

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Given by Lt. Col. Grissom for Col. Flinn.

commander; this gives us a total of 7 remaining regular career medical officers who are in clinical psychiatry. It is perfectly obvious that the staffing of our various installations around the country and our overseas obligations cannot be met by the 7 remaining regular career people, particularly with the expansion of the demands on us to fill slots in Southeast Asia. We are going to encounter a tremendous problem in sending Berry Plan people, newly completing their residencies in civilian life, directly into operational theaters without prior military experience, except for the brief indoctrination course that can be given. At the moment there are five locations in Asia requiring a total of 6 individuals on unaccompanied tours which must be filled at the rate of 2 every year. These are short tours. For example, during this next year we must fill a slot in Thailand in February of '68; we have 2 slots in Cam Ranh Bay--one to be filled by August of this year and the second one by January of '68 with an overlapping kind of arrangement; one at Tan Son Nhut to be filled by October '67; and one in Okinawa to be filled in the summer of '67. We already have a Berry Plan volunteer who will fill that slot, however. Additional overseas slots which are not unaccompanied tours include 2 slots at Clark AFB in the Philippines to be filled in the summer of '67, 1 at Elmendorf, 2 in England, 1 at Tachikawa; we expect the one at Tachikawa to be filled by one of our career people. All of these are to be filled in the summer of '67. One slot in Wiesbaden will also be filled in the summer of '67.

It would, of course, be desirable if our Berry Plan people assigned to such places as Thailand, Taiwan, Tan Son Nhut, and Okinawa could be given some experience in military psychiatry as such, prior to their assignment there. Now this may seem rather simple (or at least my approach to it was a very simple one)--you take these people and assign them to installations within the States or you assign them to the slots that are available in such places as Tachikawa or Clark, and you let them work there for 8 months or so prior to going into Southeast Asia proper. Unfortunately this runs contrary to established policies and regulations which would be extremely difficult to change. It's a policy of the Air Force that the assignment of a Reserve Officer in for 2 years of active duty is fixed for a specified period of time, and he cannot be moved during that time without the express permission of the Secretary of the Air Force; therefore, this plan doesn't work too well. It also would have some disadvantages from the standpoint of the man's family and the relocation of the family. So this solution, while an apparently obvious

one, has very definite disadvantages and is probably one that cannot be successfully implemented. A second possible solution is to place an individual coming into military psychiatry for the first time at one of the major installations for a period of approximately one month's temporary duty for the purpose of training in the specific aspects of military psychiatry. This would give him some background on which to work prior to being sent out to these isolated locations. This we are pressing for, and as a matter of fact we have been pressing for this kind of approach for a number of years. Each proposal for a one-month training period or an indoctrination period not in military medicine itself, but specifically in the aspects of military psychiatry, has been rather summarily turned down. This we are not giving up trying, but on the basis of past experience, we're not too optimistic about the success of the implementation of the proposal.

In places like Cam Ranh Bay the solution is a partial one (that is, of overlapping) where we have two psychiatrists assigned, and we send a new one over every-six months to relieve the one who has been there a year. The fellow who has been there at least 6 months can train the new fellow coming in. This is the best solution we can come up with. Immediately, this type of overlapping is being done there; however, the positions in Thailand, Taiwan, Tan Son Nhut, and Okinawa are single psychiatrist positions and there will always be a gap of anywhere from a few weeks to 2 or 3 months between the leaving of one psychiatrist and his replacement's arrival. This situation, of course, has existed in one-man psychiatric installations throughout this country for quite a long time. One way of gaining some continuity in the psychiatric programs in this country has been by utilization of the military consultant program where the chiefs, career people, and experienced military psychiatrists at the various centers make visits on a semiannual basis to the individual installations around the country. I feel that this has been a quite helpful program; it has allowed us to utilize inexperienced people in military psychiatry much more effectively than was possible prior to its inception several years ago. It may be that a similar kind of operation will have to be set up with respect to the Far East bases and, if possible, with more frequent visitations than every six months. However, going back to my original figures, we are spreading them very, very thin--our 7 experienced career people. Just how this is going to work out I don't know, because at the moment it is necessary to utilize at one, at least--and I think two--of our so-called consultant centers, a Berry Plan man who, prior to taking over as chief of the

operation, has had approximately only 8 to 10 months' experience himself. One gets discouraged at the prospect of increasingly having the partially blind lead the totally blind. As to specifics of who is going to what assignment at this time, Dr. Flinn did not know if this has been firmed up. It is going to require another visit to San Antonio in the near future on the part of Dr. Flinn and me to try to work this out with the personnel people. Their headquarters being in San Antonio while ours are in Washington is somewhat clumsy in arrangement. Our retention of people to come in through the Berry Plan has been equally poor. We have retained in the past 3 to 4 years a total of 2 such individuals, and our experience with them has been rather unfortunate. One of them died under circumstances that are not entirely clear, and the other was medically discharged for an acute psychotic episode. Of career people who have taken their training under Air Force auspices, and who have put in their obligatory service, completing it since 1965, there were a total of 14. Of these, we have retained 4 beyond their period of obligatory service, or approximately 30%. Now that figure actually isn't terribly bad, because it stacks up quite favorably with the retention of people in other specialties in the Air Force. I might go into some more detailed figures without too much comment on them. Concerning this retention beyond the obligatory service time, in 1959, of persons who had completed their obligatory service (persons who had taken military-sponsored training), there were 45 individuals who had taken civilian training and

- 20 who had taken military training. Of those who got out immediately on fulfilling their obligatory service, those who had taken civilian-sponsored residencies in civilian hospitals, 16% left immediately. That figure rose to 18% who left in the year following, to 27% the second year, and to 32% the third year; these are cumulative figures, and at the end of 6 years, there were 66% of these people remaining who had taken their training under civilian conditions. Of those taking them in military hospitals, and this is rather an unusual figure, but I would like to comment on it a little later, taking the final figure, 60% rather than 66% remained. In other words 40% got out by the sixth year and they had taken military residencies versus 34% of those taking civilian residencies. This figure doesn't stand up, however, in analysis of further years, nor does the retention rate stand up, and we can't be absolutely certain as to the reason for this situation as of 1959, but presumably it relates to people and circumstances such as my own. Col. Gibbons, also, had prior World War II service time and thus had a considerable amount of military investment even prior to taking a

residency within the service. There was a little greater incentive for remaining in; for example, by the time I could get out I had 13 years of military service behind me. That situation is different from having 7 or 8 years and I think this may make the difference in these early figures and the ones we come to later. Among those completing the residency training by 1961, two years later, 40% got out immediately (they were from civilian programs); 55% had left by the first year; and by the fourth year we were retaining only 38%. The percentage (62% of them had left) is a marked contrast to the 1959 figures. Comparing the civilian figures with the military at that time, of those who had taken residencies in military programs, 61% remained. In other words, only 39% had left; so the retention advantages of military programs for whatever reason as the situation exists becomes more evident at that point.

There were a few other matters that Dr. Flinn thought that should be tossed out and not discussed in any detail. One of them concerns the industrial security review activities that many of you are involved with. You will receive a letter from the Industrial Security Review Board requesting that you see such and such a civilian who is working in such and such an industry that has a contract with the Air Force and is working in a capacity requiring Secret or Top Secret clearances. The investigations of these people, as they have been reviewed, have indicated some past history of psychiatric difficulty, alcoholism, personality disorder, or past arrest for sexual offenses of various kinds. They are reviewed initially in either the Army Surgeon General's Office, the Air Force Surgeon General's Office, or Navy Surgeon General's Office, and it is determined that a current psychiatric evaluation is necessary before the decision is made as to whether these people have a condition which might raise question as to their reliability and judgment in the handling of security materials. These are farmed out then to the various installations, the nearest psychiatrist--Air Force, Army, or Navy--for individual interviews. I am sure many of you have received such a request and sometimes it is a little sticky as how to handle it.

In reviewing reports that come back after the evaluation has been completed at the various installations, it is apparent that there is a fair amount of misunderstanding as to just what the function of the psychiatrist is. Now he is not to be, or put himself in a position of being, totally responsible for saying whether this particular civilian should or should not be granted a security clearance.

He must to the best of his ability (by using his professional judgment and whatever crystal ball it is that people think we have) express himself as to the existence of detectable psychiatric illness, significant degrees of character disorder, or a continuing alcoholic problem. He should comment as to the possible effect on his behavior the handling of security materials would have in terms of his reliability and his judgment (and these two things may be quite different). For example, an individual who is constantly preoccupied with his own emotional problems is not going to perform well in his job, in general, because of his inability to concentrate and deal with details. In the actual day-to-day handling of security materials he may, indeed, make errors in judgment; or he may, indeed, be a somewhat unreliable person. On the other hand, the spree drinker, the spree alcoholic, may constitute some risk from the fact that his tongue gets a little too loose in the barroom when he's wandering about the country during his sprees--even though he may during his sober periods be entirely capable of handling the material according to standard procedures. A variety of factors go into making these decisions. Your comments concerning the probable effects are all that is required. You are not to state, "This man should not have a security clearance," nor are you to state, "I should see no reason whatsoever why he shouldn't have a security clearance." You state that there is or there is not a significant personality character defect or psychiatric illness and indicate the possible effects as pertains to his handling of security materials.

To take two widely separate examples, one such case involved an individual who had a paranoid schizophrenic condition which was noted to be in pretty fair remission but with significant residuals and with some definite evidence that the man was still somewhat shaky. The possibility of recurrence of his acute episodes was quite considerable. The psychiatrist who made the examination rather strongly stated that this man was quite capable of working in his position in spite of these situations--that it would be nice if he could be given a trial. That is essentially what he said. This piece of paper which went into the hands of the paranoid individual's attorney, and eventually into that man's hands, stirred up quite a bit of controversy. The indigenous paranoid said, "damn it! Your own psychiatrist has said that I am perfectly capable of working my job and where do you get off raising the question again. I should be given my clearance without question."

On the other hand, a gentleman was picked up in 1955 in a parking lot masturbating; he had been observed by a little girl and was picked up by the police. He admitted that he had had during a period of a month or two some urges in this direction. He had been shopping and got back into his car and noticed this particular young lady and masturbated. He was seen by a psychiatrist for 4 or 5 visits on advice of his lawyer and decided that, while he didn't fully understand about this, he thought he could control this situation. Since that time he has had no trouble. The man has a stable marriage of some 25 years' duration and has been on one job with an excellent record for almost 30 years now. There is no indication of any particular problem on examination at this time but on the basis of, as this particular psychiatrist said, a lack of insight into the meaning of his behavior back in 1955, there was a possibility this behavior might recur and this man should be considered completely unsuitable for security clearance. Here we go completely over to the other extreme.

So in your reports, refrain please from making binding statements that the person should or should not have a security clearance. Merely report what you find. Give your estimate of the possible effects on this man in terms of his behavior, specifically in terms of his performance and duties concerning security material. Now this may seem like splitting hairs because you know and I know that if you express your opinion as to the possible effects on him and on his behavior strongly enough, you have, in essence, said, "I think he should (or should not) have a security clearance," but in reviewing the report and in the hearings involved, it makes a tremendous difference as to how you word your reports.

Again, I regret that Dr. Flinn so far has not been able to get out of the hospital and be with us. I will perhaps have some other remarks to make this afternoon in a different capacity. I will be glad to answer any questions I can regarding such things as staffing and assignment and future plans as far as I have thought about them at this point, and as far as Dr. Flinn has briefed me on them. But if I have to say, "Gee, I don't know," it means just that--Gee, I don't know. Thank you very much.

## PSYCHOTHERAPY IN THE MILITARY SERVICE

Stuart S. Burstein

The advent of dynamic psychiatry has added a new dimension to military psychiatry (1, 2). It has altered the role of the military psychiatrist. The basic change has been from an earlier preoccupation with diagnosis and disposition to a concern with psychotherapy. Efforts have been made to integrate the technics of dynamic psychiatry within the total military framework. To the extent that these efforts have succeeded, psychotherapy is available to the members of the Armed Forces.

The Armed Forces impose more-or-less uniform limitations on the function of their psychiatrists. The crucial issues are confidentiality and the referral process. At least one military psychiatrist has concluded that effective intensive treatment, especially outpatient treatment, is not feasible with active duty personnel. The author's experience confirms some of the criticisms made of military psychiatry while refuting others. In particular, he has found it possible to carry out some effective psychotherapy amongst active duty personnel.

Almost without exception, the military psychiatrist is a two-year volunteer. He has just completed his residency training and is looking forward to a career in academic medicine, private practice, or both. He is well-versed in psychoanalytic theory, and his therapeutic orientation could best be described as psychodynamic. Many of these men have a major interest in psychotherapy. This is their raison d'etre. In their attempts to treat active duty personnel, they have had equivocal results which produced a seeming disenchantment with military psychiatry. Clausen and Daniels have recently described some of the young psychiatrists' conflicts in a paper entitled, "Role Conflicts and Their Ideological Resolution in Military Psychiatric Practice" (3). Their point is that the psychiatrist coming on active duty is ill-prepared for the change in emphasis from psychotherapy to consultation. The change conflicts with his previous experience and self-image. He is further disturbed by the

lack of confidentiality within the military service. And last, but not least, he has difficulty coping with the authoritarian Army social structure.

Clausen and Daniels state the military psychiatrist's goal as: "to prevent non-effectiveness of the soldier because of transient or chronic emotional disorders." They envision the psychiatrist as functioning in the military hierarchy where his is the first line of defense for resolving conflicts between the soldier and his environment. In this way, the military psychiatrist prevents destructive interaction from getting out of hand. Specifically, the psychiatrist must weigh the feasibility of treatment against administrative or medical board action. If he elects to treat the patient, his goal should be returning the soldier to active duty.

So far as it goes, the above definition of a military psychiatrist's duties is quite adequate. However, it fails to consider the question of whether or not analytically oriented psychotherapy is feasible within the military service. In an earlier paper, Ungerleider has done that and concluded, "Effective, intensive, psychotherapy among active duty military personnel (and particularly with outpatients) is not feasible and perhaps not even possible" (4). He defines intensive psychotherapy as "That which deals primarily with intrapsychic phenomena, has insight into unconscious determinants of behavior as a goal and is not restricted to providing support and environmental stimulation."

Ungerleider had several reasons for deciding that intensive treatment was not feasible. First was the divided loyalty of the therapist who is caught between his roles as officer, physician, and psychiatrist. Second was the limitation on privileged communication. And third was the diffuse role of the military psychiatrist. In Ungerleider's experience, this role diffusion precluded his guaranteeing a regular appointment time to his patients.

The major criticism of Ungerleider's paper is that he fails to differentiate between intensive psychotherapy, insight therapy, and psychoanalysis. What he calls intensive therapy is more commonly thought of as insight therapy. This is made clear when he states the goal of intensive psychotherapy as "Insight into the unconscious determinant of behavior." The distinction is more than academic since he has subsumed a variety of psychotherapeutic functions under the heading of "Intensive Psychotherapy."

To further illustrate this difference, we must remember that supportive psychotherapy is also a form of intensive treatment. It is intensive in the sense that it relies upon psychoanalytic principles. The therapist employs psychodynamic concepts. He utilizes the transference relationship for the purpose of helping the patient recover from his illness.

Supportive psychotherapy is defined as a sustained treatment relationship with clearly set goals. No attempt is made to resolve the underlying neurosis. The goals of treatment are symptomatic relief and strengthening ego-controls. Goals must be reached in short order since there is not time for significant working through. Drugs are used when indicated for relief of anxiety and other symptoms.

In the author's experience, supportive psychotherapy is highly useful to active duty personnel. It frequently meets the patient's needs without hampering his career. It has helped to keep men on active duty when otherwise they would have lost their effectiveness to the Air Force. The following case reports highlight this treatment.

#### REPORT OF CASES

##### Case 1

A 33-year-old technical sergeant was a self-referral to the Psychiatric Clinic. He was suffering an acute depression with overwhelming guilt feelings. The depression was precipitated by his having managed to get an especially desirable overseas duty assignment. He was a very moralistic, repressed individual with chronic feelings of guilt. For example, in describing his childhood misbehavior, he said, "Put I always got caught."

At the time of his first visit, the patient was scheduled for departure three months hence. This created an administrative problem. While the scheduled departure precipitated his depression, the depression would keep him from going. So, his commander had to be notified that the patient was receiving treatment. Administrative action was deferred pending the outcome of therapy.

The patient readily formed a dependent transference relationship. He ventilated his guilt feelings. He obtained reassurance from the therapist who functioned as a benign

authority figure. Within several weeks the depression had lifted. The patient returned to his premorbid level of adjustment. His behavioral function was enhanced by the coping mechanisms that he had acquired in treatment. His commanding officer was then notified that the patient was fit for world-wide duty. When last heard from, the patient was on his way to Europe.

### Case 2

A 26-year-old first lieutenant developed a severe anxiety reaction while attending one of the schools at Air University. He initially sought help at the flight surgeon's office where he received tranquilizers. The flight surgeon suggested that the patient seek psychiatric help. But, the patient refused until the flight surgeon put his suggestion in the form of a request for psychiatric consultation. This, then, constituted a military order for the patient to appear at the Psychiatric Clinic.

Unfortunately, the patient was unable to gain immediate relief from a psychotherapeutic relationship. He eventually made a suicide gesture as a way of expressing his feelings of inadequacy and hopelessness. The suicide gesture resulted in his psychiatric hospitalization, and his case was ultimately presented to a Physical Evaluation Board. He was subsequently discharged from the Air Force.

### Case 3

A 37-year-old major was having an acute exacerbation of a chronic depression. His symptoms seriously interfered with his work. In a letter of referral, his commanding officer stated that the patient "will suffer a serious breakdown . . . unless he is guided off this one-way street that he is on." He added that the patient was "a compulsive worker who had driven himself to the point of complete exhaustion." In this case, the patient agreed to see a psychiatrist only after his commanding officer insisted on it.

The patient readily formed a dependent transference relationship. He ventilated feelings of inadequacy and got some assurance of his own worth. He attained some superficial insight of the conflictual relationship with his dominating, masochistic mother. He quickly recovered from the acute exacerbation of his depression. His work performance improved, and he began to relate more effectively to his family.

It was a matter of concern to him that no record of his psychiatric treatment be included in his permanent military record. Since the referral had come directly from his commanding officer, and his commanding officer was favorably inclined toward the man, he made no record of the referral. Thus, there is no indication in the patient's permanent military record that he received psychotherapy.

#### COMMENT

Case 1 is a clear-cut example of supportive treatment for an acute problem. Conventional technics of ventilation and reassurance were employed to relieve a guilt depression. The only significant difference from civilian practice is the therapist's having to notify the patient's commanding officer that he was receiving treatment. Since the patient was a self-referral, this act was a direct violation of the confidential psychiatrist-patient relationship. It was necessitated by the therapist's obligation to consider the needs of the Air Force as well as those of the patient. The Air Force needed to know if this man would be available. If not, they had to find someone else to fill his slot. Notifying them had the additional effect of imposing a sense of urgency on the patient's efforts for recovery.

Cases 2 and 3 highlight certain aspects of the referral process. Recurrent problems of doing psychotherapy in the military service were encountered in each case. First of all, there is the matter of the patient's Permanent Health Record. In some instances, a contact with the Psychiatric Clinic is noted in this record. In other cases, a full diagnostic evaluation becomes a part of the record. Depending on the sensitivity of the man's duty assignment, such enclosures can do unnecessary and irreparable harm to his military career. In case 2, the record of outpatient psychiatric treatment had to become part of his Permanent Health Record since the patient refused to seek help on a self-referral basis. He came to the clinic only after the flight surgeon had put a suggestion in the form of an official request for psychiatric consultation. This, then, constituted a military order. Both the request for consultation and the consultation itself became part of the Permanent Record.

The patient in case 3 managed to avoid any official mention of his treatment. This reflected on his personality more than anything else. He was a seductive, ingratiating

character who held the affection of his commanding officer. Consequently, his commanding officer elected to delete any reference to psychiatric illness from his official evaluation of the patient. So far as the Psychiatric Clinic was concerned, the patient was a self-referral whose treatment would not normally be recorded in his Permanent Health Record. This is a valuable option which allows military psychiatrists to render psychotherapy to some active duty personnel without unduly influencing their career.

A rather sore point for military psychiatrists has been the issue of secrecy and confidentiality. Perhaps it would be better to say that there is no guarantee of secrecy or confidentiality within the service. Any inpatient or outpatient record is theoretically open to perusal by the appropriate administrative authority. And, the psychiatrist can be ordered to testify on the witness stand in regard to his patient. Many psychiatrists have reacted to these facts by refusing to intensively treat active duty personnel. They justify themselves by referring to Freud's remarks that "The whole undertaking (psychoanalytic treatment) becomes lost labor if a single concession is made to secrecy" (5). But, Freud was specifically discussing psychoanalysis. Psychotherapy, as we know it today, was not conceptualized at that time. Furthermore, it can be useful for the psychiatrist and patient to enter a psychotherapeutic relationship with full knowledge that their communications are not confidential. It imposes a sense of reality and timeliness on the undertaking. It reminds both participants of their mission's urgency. And, it can be an effective focal point for the patient's angry feelings. It may discourage a pathologic regression while allowing the necessary degree of support for the patient's recovery.

The last issue to be considered is the authoritarian role of the military psychiatrist. This is an inevitable component of the military social structure. It cannot be ignored. The patient's transference is invariably influenced by his perception of the doctor as a military officer. This fact reduces the number of patients for whom the doctor can be effective since it means that the patient must be able to accept a dependent transference relationship. The patient's dependency conflicts cannot be resolved in the short space of a few hours. If his conflicts prevent him from accepting a supportive relationship, the treatment is doomed to failure. Bond commented upon this as early as 1952. He said, "The power of the physician to determine the disposition of the patient by the use of a diagnostic label,

and the authority of his rank, were at the center of those transference problems peculiar to therapy in the service" (ref. 1, pp. 107-108). The situation is unchanged today.

These are the issues which confront a military psychiatrist who attempts to treat active duty personnel. The issues are resolvable. For the psychiatrist who recognizes and accepts the limited conditions of his work, the military experience can be a gratifying one. It is an opportunity to test old hypotheses and develop reality-oriented technics.

In an oft-quoted remark on the neuroses, Lawrence Kubie said, "There are only two kinds of neuroses: The onion and the garlicks. Onions stay with you long after they cease to offend other people. Garlic on the other hand, offends other people long after it ceases to annoy you" (6). Military psychiatrists only see the garlicks. But this constitutes a large crop of potential patients. The military psychiatrist can learn from these patients while helping them.

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(See discussion following paper by Graller and Crabtree.)

## THE PSYCHOTHERAPIST IN A MILITARY SETTING

Jack L. Graller

Loren H. Crabtree, Jr.

We would like to describe a crisis in our lives as psychotherapists. This critical moment occurred when the authors entered the military service for a two-year tour of duty. For purposes of presentation, we will consider the events leading up to the crisis under the headings "The Psychotherapist" and "The Military Setting." We will then describe our struggle to redefine ourselves as therapists.

### THE PSYCHOTHERAPIST

Those times when we considered our professional identity before coming into the military, we regarded ourselves as psychotherapists. To us this meant, in part, a need to work with disturbed people over a long period of time with the belief that (1) out of this relationship, new life can emerge; (2) before this takes place, years of psychotherapeutic work may be required; and (3) years of treatment may of necessity follow it. This reverence for the time-demands of therapy is undoubtedly rooted partly in the fact that we had both spent several years in psychoanalysis and in doing intensive one-to-one psychoanalytically oriented therapy. In addition, each of us had had the experience of working for several years as part of a multiple therapy or co-therapy team with individual patients, with groups of patients, and with disturbed families. As a result, we had a respect for the psychotherapist's needing others and for the impact of bringing a relationship (co-therapy), rather than a single therapist, to a patient or to a group. This, in brief, is what we brought, as psychotherapists, to the military. We were hoping for a professionally rewarding experience and were fortunate in obtaining a two-year assignment to a neuropsychiatric center where we would primarily be doing inpatient work.

## THE MILITARY SETTING: STACKED DECK

Several important features immediately imposed themselves upon us as we embarked upon attempts to do psychotherapy as we needed and as we were trained to do. First of all, there was a large number of hospitalized patients to be cared for. Secondly, we had no control over the selection of patients under our care: diagnosis, severity of illness, age, sex, civil condition. Thirdly, the average duration of total care per patient was three months, another factor over which we had almost no control. Fourthly, the primary concern of the military, and of many of the patients during their brief period of time in the hospital, was the final administrative outcome: return to duty, discharge from the service with various forms of monetary benefits, or discharge from the hospital to face pending administrative or legal charges. Clearly, secondary gain from illness was relatively great, and recovery had its disadvantages. Fifthly, this unique setting fostered and encouraged an authoritarian-oriented staff and patient population. The "chain of command" concept was the modus operandi: a mildly upset patient would talk to a fellow patient; if more upset, a psychiatric corpsman; if even more upset, the wardmaster (a sergeant); then the nurse; and finally, "the only person who could really help but doesn't have enough time"--the psychiatrist.

Such were some of the obvious features that led us to the feeling that the deck was stacked against psychotherapy as we knew it and against psychotherapists as we knew ourselves.

## THE REDEFINITION

Utilizing the methods and criteria for kinds of psychotherapy as we had learned them, we felt singularly unsuccessful. Brief, infrequent, individual sessions for three months maintained, and commonly fostered, superficiality and impersonality. The ward group psychotherapy which we instituted failed to reach all the patients. They didn't seem to be particularly motivated, apparently being as aware of the three-month deadline and of the secondary gain in their illness as we were. It was during this time in our military experience when we were most depressed--when we thought we would have to shelve our roles as therapists and settle for two years of evaluation and dispositional work. This was accompanied by the fear that our talents would become "stale," and that our productivity would be greatly

curtailed. During this time we found ourselves working hard to not treat patients. Confronted with a severely depressed or psychotic patient, we forced ourselves to take the position that he would have to work it out with the staff and with other patients in ward group psychotherapy. This had very much to do with the fact that we were still thinking in terms of long-term treatment. We did not want to encourage a patient to attempt to work out problems of such magnitude with us only to develop a three-month "transference" for which there would be no resolution. In this and other ways, we took a definite stand against regressive and dependency trends in the patient population. However, this turning patients away from us, to an experience toward which we felt lukewarm, entrenched us further in bitterness and depression.

Slowly, however, a new theme began to emerge. We started to train the psychiatric personnel (nurses and corpsmen), mostly informally, in our approach to patients and their problems. Soon these people began to relate energetically to the patients in a way that was new and exciting. In addition, during this period blatantly psychotic and suicidal patients were given passes accompanied by fellow patients with whom they were particularly involved. Clearly the staff was coming to life, and patients and staff started moving toward each other and toward us for help. We openly took the position that we valued and respected others' thoughts and perceptions, and we encouraged and supported any relationship that formed in the milieu. At this point we made a most important move--we began to bring into the office relationships that formed naturally on the ward, and in this manner started having sessions with various combinations of milieu participants. At first these sessions surrounded a ward problem or personal crisis. The primary patient, his friends (patients), and involved staff would meet with us to contend with the acute upset. We functioned as co-therapists to the small group (hospital "family") as a whole. In the process, we emerged from our depression.

Initially an approach to an acute crisis, this orientation was extended to other patient problems and ward developments. Several examples come to mind. A most withdrawn schizoid patient asked for help with the problem of being unable to get close to anyone. He had been able to discuss this with only one person, a fellow patient. These two friends were then seen together weekly, and soon they were able to share this experience with the ward group, leading the group and the schizoid patient to a more

meaningful relationship. Suicidal patients were coupled with those "who cared" and were seen together. There were several examples of paranoid impasses where the therapist, by including important others with the paranoid patient, was able to break a stalemate in the doctor-patient relationship.

We were excited over these experiences and the results and have continued to handle crises and other milieu problems in this manner. However, this in itself had limitations--mostly in terms of being temporary and crisis-oriented. The obvious advantages are numerous, but we were most intrigued by the growth potential in the natural selection of relationships. We therefore extended our approach to include the psychotherapy of natural relationships independent of conflict and of crisis. We began to have sessions with natural subgroups (cliques and friendships) of the milieu. Staff members were included if they were considered to be part of the subgroup. Groupings of 4 to 6 people were seen on a regular basis in one hourly session per week for a three-month period. The kinds of subgroups and their problems have varied. One grouping included four male patients with latent homosexual problems who were clearly drawn to one another as they struggled in the milieu to work out their shared problem. Another grouping evolved around a desperately lonely, uncommunicative, depressed patient whose only contacts were with the three patients with whom he ate dinner each night. The four were started in treatment. A third grouping was chosen during a ward meeting when only three patients in the total ward population responded to another patient's plea for help concerning incestuous experiences. A fourth grouping included four patients who were evacuated from four different countries in Southeast Asia and met on the evacuation plane in the Far East. They were seen in a group intake and continued to meet weekly thereafter.

Our current ground rules for the three-month psychotherapy of natural subgroups include (1) a statement that we respect their ability to help each other; (2) that we are available to the members only as a group (once weekly and for emergencies); (3) that they will work together on problems outside of our therapy hours; (4) that if one or more members are too upset to leave the hospital alone, the group will assume that responsibility; and (5) that the group decides on inviting new members (patients or staff) into the meetings.

## CONCLUSIONS

Our work has been exciting and stimulating, and probably this satisfaction has served as the impetus for reshaping our original psychotherapy models. We noticed that one of the major shifts was to the recognition that therapeutic benefit and growth could result from a short-term, intensive, small group experience when the influence of the therapist's support and involvement was added to the impact of the forces in already-existing natural relationships. In addition, we have extended our personal thinking about co-therapy to include the psychotherapist, staff members, and other patients working together in the combined effort of psychotherapy.

## DISCUSSION

DR. LUDWIG: In my opinion, the paper by Dr. Graller and Dr. Crabtree, as well as Dr. Burstein's paper, illustrates graphically what one might call a sort of culture shock which the young civilian psychiatrist experiences when he finds himself operating in a military setting.

Dr. Graller's experience reminded me of a visit to a group of surgeons in Italy in an evacuation hospital during World War II. This unit was doing about 150 operations a day using several teams who operated in four-hour shifts. They were standing in the mud with a nurse holding a dish over the operative field so that rain would not drip in the wound. The results were very good, and often they were even better in the field hospitals where nontransportable wounded were being treated. These physicians, at first, were furious and much disturbed not to be working in the marble halls of their parent institutions at home, but out of frustration and necessity came the ability to adapt themselves to the war situation.

It seemed to me that Dr. Graller was being unduly modest in his presentation. He had much to do with what happened that didn't just come about by accident. In the first place, like all young psychiatrists who come into the service, he was an intelligent and highly adaptable person. More than that, however, he exercised a high degree of leadership in his ward. Thereby, he set up an environment and atmosphere and a morale in the unit that produced

the results he described. I believe that as psychiatrists, we come into the military setting from civilian life with a number of misconceptions which simply don't work very well in the military setting. If we always remember that our function (that the function of all medical officers and of the Medical Corps in general) is to preserve maximal fighting strength at all times, we would operate in a much more effective manner. Furthermore, we have to operate within an authoritarian setting. This isn't always a negative factor. Not only is the psychiatrist in charge of the ward as a physician with all of his skills in psychiatry and with all of his knowledge of emotional disorders, he is also there as an officer who is required to maintain military discipline in that ward. This can be very supportive and limit-setting and thus can counter the tendency of the patient to regress. The need for limit-setting would be necessary anyway in a civilian ward as well as in a military hospital. In the military setting, the medical officer can sometimes do it better.

There are many other functions which the psychiatrist fulfills in the military. For example, in his consultative capacity, those of you who have worked in mental hygiene clinics have experienced being asked all kinds of questions as to how to deal with soldiers who have behavior problems and what shall be done about them by the line officers. You will have noted that when the case load suddenly increases in the clinic from certain units, often there is something wrong with the leadership and morale of that unit. By bringing this to the attention of command, it can be corrected.

Perhaps the most striking lesson that I learned in World War II as a military psychiatrist was that with good leadership and morale some very marginal people can be utilized for military service. We had units in which there was very little psychiatric breakdown, although they had the same number of people with character disturbance and neuroses as other units, but had such superior morale of leadership that these marginal people could function. Conversely, when morale broke down, psychiatric casualty rates always rose.

With reference to Dr. Burstein's paper, there is no question whatever that intensive insight therapy does not fit into the military setting. However, short-term intensive psychotherapy does fit. I believe that the more psychodynamically oriented we are, the more we use our knowledge of psychodynamics, the more successful we will be in this kind of treatment. You may be asked, at times, what to do with material from our military patients which indicates certain unconscious conflicts. Perhaps, the best answer to this is "Note it, but do not interpret it to the patient," and attempt to utilize it with whatever kind of treatment you wish to institute with the patient.

Dr. Burstein has mentioned the matter of confidentiality. This is a problem that concerns us in civilian life as well. One of the things we have to teach our young residents in psychiatry is not to write everything down in the records that the patient tells you. One must be circumspect about what is to be included. There are certain matters which cannot be evaded and which are peculiar to the military setting. In World War II, we often saw patients who had been involved in a single homosexual experience, perhaps when they were drunk. Had we recorded this and brought it to the attention of command, the man would have been discharged. However, we were often able to transfer such people elsewhere and allow them to go on and have a good career in the new setting.

Another matter that may handicap us as we come into the Army from civilian psychiatry is that our orientation in civilian life is primarily toward sick people and what they are unable to do. One of the things that can be learned in the Army is that there are a great many things a lot of sick people can do. At present, the Air Force is in the happy situation of being able to screen out everyone who can't do the job. We must not forget, that in a mass emergency during war, we have to stop this because manpower quickly runs out, and it then becomes necessary to screen in all sorts of people with limitations, to find jobs for them and to find the conditions under which they can do them. Here again, leadership and morale are very important.

Another unfortunate discovery that we make is that as psychiatrists, we are often not as capable in

picking out the handicapped people who can do a job. There are certain nonpsychiatrists who are doing selection. Line officers often can do it much better than we can. I believe some of our limitations in this area of selection have to do with directing our focus primarily on illness rather than on capabilities which may exist in the person in spite of limitations.

COLONEL GIFFEN: I believe the two papers presented complement each other, and I wish to thank the authors for elaborating some of their opinions and observations during their tour of military duty. I am sure that the attitudes expressed and the thoughts crystallized in the presentations have occurred and been ruminated upon by everyone here, probably more intensively by the two-year men, probably in the dim by the Regular officers. I believe that the sooner one comes to an understanding of the structure of the military, its needs and functions, the easier it is to take a more comfortable view and arrive at a more productive role as a military physician with a specialty in psychiatry.

While certainly there are problems inherent in a rapid turnover of physicians, the service still in some aspects benefits tremendously by having for just a short space of time a large number of individuals trained by a variety of university teaching centers. It is true that many enter with preconceived ideas from their residencies and teaching programs, but I think it is adequately shown here, and in my experience they are flexible enough to be able, in a fairly reasonable time, to adapt themselves to the situation and render an excellent service.

The military establishment's aim is to keep effective men on duty effectively with a minimum of interruptions in their duties and training. This is true not only in psychiatry but in all branches of medicine. Here at Wilford Hall we depend heavily on the two-year men to assist us. We see all stages of endeavor to cope with the situation, and we hope that we quickly teach psychiatrists to remain somewhat "loose" until they are more familiar with the institution in which they are working, its requirements, limitations, and assets.

In the past 18 months I have had the added duty of Director of Professional Services of this hospital

which is the largest teaching hospital in the United States Air Force and the second largest military medical establishment in the United States, the first being the Naval Hospital in California. The complaints of my psychiatrists on the fourth floor do not seem to be any different from complaints from my other staff on the first floor. The Department of OB-GYN is quite upset and annoyed that psychiatry is privileged to keep its own records within its department and they are not. They feel that the numerous obstetric and gynecologic problems dealt with are just as confidential and should be just as privileged as an individual's psychiatric problems. It is a chronic complaint by physicians who constantly voice the "restrictions" placed on them by the military service in the treatment of their patients. A point made by these speakers concerning the referral process and confidentiality is of interest since for some years, starting, as far as I know, with Bob Williams at that time in the Consultants Division of the Surgeon General's Office, an attempt to formulate some type of privileged communication between the psychiatrist and his patient was discussed. This, however, did not materialize. However, I think there are some things which might benefit the younger psychiatrists in the service concerning confidentiality. I feel many times this is breached by the psychiatrist himself in the reports which he renders. Many of the reports are detailed with vivid interplay of the patient with significant people in his life, his attitudes, thoughts (both conscious and unconscious), and ideas. Surprisingly enough, much of this is unnecessary. The physician-patient relationship does have some control if the psychiatrist remembers that in arriving at his opinion and during some of his treatment verbatim accounts of the sessions are not recorded. As you know, there are some loaded words in the Air Force which raise red flags and set all kinds of wheels in motion when they are mentioned--specifically homosexuality. I have seen reports from psychiatrists who mentioned unconscious homosexual aspects of the individual in their written reports when there was no overt activity and very little likelihood that overt activity would ever occur. In the department here we refrain from using words with these connotations unless it is absolutely necessary (for example, when the individual is facing charges dealing with homosexuality). Certainly, in dealing with the military

dependent population, I think there is more confidentiality allowed as sort of an unwritten law. So care must be taken in how the record is written.

Referral of individuals by a variety of military people to a psychiatrist can pose problems. In many instances this has protected the man's career rather than immediately washed him out. I grant you that there is still a reluctance on the part of the airman to actively seek psychiatric care on his own volition, but surprisingly enough we are getting an increasing number of direct calls from patients themselves, and it has been a policy of this department that patients and patients' wives can call directly without going through "normal" channels of sick call, etc. The highest ranking individual we have who sought our aid directly was a two-star general. I think certainly there is still a great problem here, but I think with proper and continuous education, with the psychiatrist meeting the public, much can be done to alleviate the stigma which still is present.

The second paper, as I mentioned, sort of complements the first and I think is the readjustment phase of the new psychiatrist and his acceptance of the inevitable two-year tour and his making the most of it, and from my personal knowledge, being quite effective.

THE ROLE OF THE FLIGHT SURGEON AND PSYCHIATRIST IN  
EVALUATION AND TREATMENT OF PSYCHIATRIC CASUALTIES  
FROM THE USAF SURVIVAL SCHOOL

James S. Robbins

In the six-month period from June to December 1966, seven patients from the USAF Survival School at Fairchild AFB were referred for psychiatric evaluation to the Department of Psychiatry, David Grant USAF Hospital, Travis AFB. Five of these patients had anxiety reactions which resulted from being put into the "black box" during the resistance training phase of the course.

Our initial impression on hearing about the methods of training and seeing severe psychiatric symptoms in previously well-functioning officers was that this program was more detrimental than beneficial. Concern about this prompted me, the author, to review the case histories of these patients, to review the statistics from the Survival School, to survey the literature, and finally, to visit the Survival School.

In this six-month period 3,817 students were sent to the Survival School (1). (All personnel on flying status who are scheduled for a PCS to SEA are required to take this training.) Seventy students were eliminated from the course; 36 were for medical (including 19 psychiatric) conditions. Seven other patients were diagnosed by the flight surgeon as having anxiety reactions but were treated successfully and completed the course without further difficulty. After learning this information, it occurred to us that this was an excellent situation to study the interrelationship of crisis adaptation and psychopathology.

In this paper I will discuss the following aspects: (1) objectives and methods of the Survival School; (2) the psychiatric syndromes encountered with speculations about the psychodynamics; and (3) the role of the flight surgeon and psychiatrist in management of these patients and problems they encountered.

## SURVIVAL SCHOOL: BACKGROUND, OBJECTIVES, AND METHODS

During the Korean War period, all four military services became concerned about the problem of survival and resistance training. This was brought to public attention with articles and books on poor conduct by American POW's in North Korean camps, turncoats, false confessions, brainwashing, etc. (2, 3). The Air Force set up a training program at Camp Carson, Colo., in 1951, which was moved to Stead AFB, Nev., later that year. The program operated there fourteen years until the transfer to Fairchild AFB, Wash., in 1966, in the interests of economy. The Air Force program is the longest (three weeks) and most intensive of all the services--perhaps because flying personnel were subjected to the most abuse and hardship, or were least prepared to deal with these problems during the Korean War. In 1955, this program was exposed to considerable unfavorable publicity in the national magazines (4, 7) and was modified to exclude all forms of physical brutality. The program and personnel have remained relatively unchanged in the past ten years, excluding the change in ecology from Nevada to Washington.

There are three phases to the training. The first week consists of lectures, films, and demonstrations on the elements of physical survival, resistance, evasion, and escape technics; one week is spent living in the wilderness (about 100 miles from the base) where the student must capture his own food, build a shelter, and put into practice the lessons learned earlier. The last--and most stressful--is the compound phase or resistance training laboratory (1, 8).

Physical difficulties are commonly encountered in the wilderness survival phase. Most students lose ten to twenty pounds during the seven days, and orthopedic problems, infections, etc., are seen. Seventeen students (including 14 officers) were eliminated because of nonpsychiatric medical conditions. These men either returned to duty with a lowered physical profile or were referred to a medical board.

The resistance training phase begins with the student going through a 1½-mile obstacle course at night. After completing this three-hour task, which usually is in 20° to 35° weather, the student is unexpectedly "taken prisoner." (Note: Most of the students are anticipating this.) The student is subsequently put through twenty hours of experiences without sleep or food which is in a small way similar to the way a prisoner is treated. This ordeal includes being stripped, searched, interrogated frequently, made to wear a

light-concealing gunny sack over the head, put in a small cell, told to stand at attention, and given constant harassment both physical and psychologic. One of the most effective forms of harassment is the "black box." This is a small wooden cabinet about 2 by 2 by 3 feet, and to get inside, one must assume the fetal position. While the student spends no more than twenty minutes at a time in the "black box," the majority of the psychiatric problems arose when the student was required to enter the box a second time. To add to the realism, the guards and interrogators wear foreign-looking uniforms, speak with foreign accents, call each other "Comrade," and have communistic-looking props.

To dispel the idea that this experience is all harassment, there are times when the basic purpose of the training is clearly demonstrated to the students. If a student shows some grossly inappropriate behavior, he is taken aside by an instructor and a critique is given. (There is also a critique after the final part of this phase.) Following the twenty-hour interrogation, the student is put in a large POW camp with all the other students in the class. (The number of students ranges from 130 to 200.) The activities in the POW camp are the stereotypes portrayed in movies and on television. The objective here, as in the interrogation phase, is to encourage the students to develop resistance technics, and to formulate an escape. The avowed purpose of the interrogation and harassment is to show the student his vulnerabilities and to psychologically prepare him for the possibility of being captured.

#### PSYCHIATRIC SYNDROMES ENCOUNTERED

The individuals who showed psychiatric symptoms did so after several hours of confinement and being put in the "black box." These symptoms were manifestations of acute neurotic reactions or traumatic neurosis and included: fighting and combative behavior, uncontrolled crying, generalized loss of muscular control, hyperventilation with carpopedal spasm, dissociative reactions, catatonic posturing, and pressure of speech with flight of ideas and auditory hallucinations. Within minutes after removal from stressful situations, the patient usually reconstituted. He was then given supportive treatment and sent to the dispensary for evaluation and treatment by the flight surgeon. By the time the student was seen by the flight surgeon, the acute symptoms had diminished and his main concern was not to return to the "black box."

As cited earlier, seven men responded to supportive treatment by the flight surgeon and returned to complete the course. Unfortunately, complete psychiatric evaluations were not performed on this group. Eighteen patients did not respond and were handled in the following manner: Seven were sent to Travis for psychiatric evaluation and the remainder were sent to duty with a change in profile or recommended for a new AFSC.

The following case histories are on patients who were sent to Travis for psychiatric evaluation. They presented problems in diagnosis and disposition.

1. Captain P. was a 33-year-old, married father, with twelve years of service. He was a helicopter pilot who took additional Air Force - sponsored training (AFIT) in data-processing, and requested to be removed from flying status, but was refused because of shortage in his field. When the patient was forced to get into the "black box" for the second time, he reportedly hyperventilated, repeatedly beat his head against the floor, and became mute. Later he remained in a state described as staring into space, hesitant in speaking, and frequent crying. When seen at Travis, he was quiet, thoughtful, and very precise, and firmly refused to complete the program. This man was diagnosed as a chronic anxiety reaction with an acute exacerbation. He was returned to duty with a profile change and recommended for grounding and a repeat evaluation in one year.

2. Lieutenant P. was a 26-year-old, married, Air Force Academy graduate, with 1,900 hours of flying time. He admitted to feelings of claustrophobia beginning at age 11--unknown to the Air Force. In the "black box" he experienced uncontrollable crying, hesitation of speech, trembling, and helplessness. Past history revealed that the patient received a surgical operation at age 7 which involved tonsillectomy, adenoidectomy, and circumcision, for which he was not prepared. He recalled having many repetitive dreams afterwards. The first episode of claustrophobia occurred while riding in an elevator in the police station while attempting to get a bicycle license. The patient reported that he had spent many hours practicing tolerating closed spaces such as closets, in order to get over this feeling, but became overwhelmed when he could not fight his anxiety. The

patient was diagnosed as having a chronic anxiety reaction (phobic type), mild, and was recommended to have a waiver for flying.

3. Lieutenant B. was a 26-year-old, married pilot with 600 hours of flying time. He was the son of a retired Air Force colonel (pilot), and had an appointment to the Air Force Academy but dropped out after three months because of dislike for hazing and regimentation. He entered another school and dropped out after one year because of dislike for engineering. He tried again at accounting and was able to complete the program and at the same time became an Air Force cadet. He experienced much anxiety in the "black box" but attempted not to show it, so that he might be able to escape it a second time, and when interviewed by the flight surgeon refused to go through this phase again. Significant in his past history was that he recalled two episodes of severe anxiety. Both times he was trapped in a closed setting and was momentarily helpless. The first occurred when he was locked in a closet by a cousin against his will at age 9, and the second episode occurred on a camping trip with his family at age 15. This time he was momentarily unable to release himself from a mummy sleeping bag tied to a tree. Also, of significance was the fact that the patient's wife was scheduled to undergo cosmetic surgery on her breasts within a few weeks. Psychologic testing revealed a WAIS IQ of 146. There was much dissent among the staff about his diagnosis and disposition, but as a compromise gesture he was diagnosed as an adult situational reaction and returned to duty with an S-2T profile and recommended for DNIF status.

4. Captain S. was a 31-year-old, married navigator with ten years of service, whose wife of six months was three months pregnant. He volunteered for SEA duty rather than receive the assignment unexpectedly. He gave a history of fearfulness of the dark since childhood, and increasing anxiety over the past three years after a serious auto accident where he was trapped in the wreckage for three hours. He was fearful and unable to sleep before starting the course and requested tranquilizers and sedatives from the flight surgeon. He became acutely anxious during the first part of the compound phase and never experienced the "black box." The patient related that he had an overly protective mother and had put off marrying until he

found the "right girl," and his wife turned out to be similar to his mother. On psychologic testing, the patient had an IQ of 136. He was diagnosed as a chronic anxiety reaction, moderate, given an S-3 profile, recommended for DNIF status, and returned to duty.

The other patients were referred for psychiatric evaluation. Two showed psychotic symptoms before starting the course and were diagnosed as paranoid state and chronic paranoid schizophrenia and were referred to PEB for discharge. The third initially complained of back pain, was then thought to be malingering, and finally admitted to claustrophobia. On reviewing the record he had a history of previous psychiatric treatment for nervousness and had also had some legal difficulties. This patient was diagnosed as a chronic anxiety reaction, given an S-3 profile, and returned for limited duty.

#### DISCUSSION OF PSYCHODYNAMICS

In considering the psychodynamics of these patients, one can find several points of view in the literature. Freud, in Beyond the Pleasure Principle, wrote that the main factor in a traumatic neurosis was the breaking through of the protective barrier and flooding of the psyche with large amounts of stimuli (9). He later amended this concept by stating that objective danger alone can't give rise to neurosis without participation of the deeper unconscious layers of the psychic apparatus. His conception was that an event is traumatic because of its relation to the individual's unconscious conflicts, rather than because of its intensity (10). Fenichel wrote that the personality of the individual determines whether or not a sudden influx of unexpected stimuli has a traumatic effect and mentioned the following pertinent factors: the state of preparedness, the condition of the ego at the time, and the entire infantile history (11). He appeared to emphasize the childhood history and suggested that potential victims of traumatic neurosis be excluded from military services (11).

Other writers, such as Leopold and Dillon, place more importance on the nature of the trauma than the previous personality organization in the development of traumatic neurotic symptoms (12). This position is supported by psychologists on the basis of animal experimentation (13). Saul and Lyons (14) place equal importance on the

precipitating stress and the presence of a specific emotional vulnerability.

Crisis theorists tend to look at this problem in another light. Rapoport (15) cited three interrelated factors which react to produce a state of crisis: (1) a hazardous event which poses a threat; (2) a threat to an instinctual need which is symbolically linked to earlier threats that resulted in vulnerability or conflict; and (3) an inability to respond with adequate coping mechanisms. Tyhurst, a social psychiatrist, maintains that a state of crisis rather than being an illness, is a unique opportunity for personal growth for the individual (16).

The fact that only 26 students out of 3,800 (0.63%) broke down would imply that the intensity of the stress was not the crucial factor in the production of the traumatic neurosis. Thus, the initial impression that the Survival School was more detrimental than helpful was erroneous. It would appear that this experience is also helpful as a screening method to eliminate potential psychological casualties, in addition to the main function of survival training.

Why these individuals broke down can only remain speculation. Current life situations (viz, pregnant wife and assignment to SEA, wife facing mutilating surgery, or inability to change from a hazardous career field in spite of advanced training in another field) plus unresolved unconscious conflicts appear to be most important. While data on the successful students are not available, it is assumed that they would have many of the same unconscious conflicts, but presumably their expectations and interpretations of the Survival School experience would be different from the casualty's.

#### ROLE OF THE FLIGHT SURGEON AND PSYCHIATRIST

The main task of the flight surgeon in management of the psychiatric casualty is evaluation of the severity of the symptoms (i.e., determination whether the individual is neurotic or psychotic) and helping the casualty to deal with the problem. The motivating factor behind this is the expectation by the flight surgeon that the casualty will be helping himself and the Air Force by mastering his anxiety and vice versa. Seven of the 26 casualties responded and were able to successfully complete the course.

Those patients not responding to treatment and specifically refusing to make an effort to tolerate the stressful situation were handled as follows: enlisted men in noncritical career fields without persistent symptoms were treated administratively with a change in career field, profile reduction, or both. Officers in critical career fields (pilots and navigators) with significant symptoms were referred for intensive psychiatric evaluation and disposition.

The problems encountered by the psychiatrists in this role were significant and there was much disagreement over the diagnosis and disposition at the medical boards. Only one of the four cases described in this paper showed a clear-cut psychoneurotic disorder. While the others had a history of an acute psychoneurotic reaction, at the time of examination they showed predominantly characterologic traits. Looking at this problem in another perspective, since these individuals had functioned well prior to Survival School, the reaction could be considered a transient situational personality disorder (viz, a gross stress reaction). The main difficulty, then, since there is no specific Air Force policy about this matter, is that the psychiatrists were in a quandary whether to separate the individual from service under appropriate regulations or return him to duty in a modified capacity, such as a flying officer returning in a nonflying capacity. There was considerable disagreement over making a disposition in such case since some psychiatrists emphasized the contribution the officer could make even in a modified capacity, while others felt that AFM 35-4 clearly states that individuals with psychoneurotic reactions with moderate to marked impairment should be referred to a PEB for medical separation. The fact that all five of the patients presented were returned to duty probably reflects the conviction by the psychiatrists that this was an artificially created transient stress reaction; however, this remains a very complex issue with no pertinent regulations. It is specifically for this reason that this paper is being presented, and it is our desire that suggestions from the discussant, the consultants, and other members of the audience be presented for the most appropriate management of these cases.

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#### DISCUSSION

COL. GRISSOM (for Col. Flinn): Before commenting on this paper per se, I would like to express my great admiration and, I think, the respect and gratitude of the entire group here, to Dr. Perry, for, indeed, one of the most stimulating programs this symposium has ever had. The symposium, to date, has been extremely well integrated, and obviously well planned. I'm not sure just how Dr. Perry managed to get the papers and discussions to dovetail in the manner that has been demonstrated here, but I think he has done a magnificent job. As past president of the organization I want to express my deep appreciation.

I think that all of the papers here, those in the psychiatric section yesterday afternoon and those we heard today, have reflected unusually for this symposium (and I have now attended some 13 sessions), an acceptance of what has been referred to as Air Force or military necessity, and in general have been directed at an understanding of the problems generated and solutions to those problems within this framework rather than being merely protests against the military systems and realities, often accompanied by impotent lamentation at our inability to remold it nearer to our heart's desires. I think that is characteristic of this particular session.

Is it really necessary to subject these men to these stresses? We see here at least on the part of some individuals, a destructive kind of influence that could potentially terminate their career. Now is this

really necessary? Is this thing really worth what it is costing? Col. Flinn, who unfortunately still cannot be here because he is still trying to deliver a small stone, commented rather briefly to me on this paper. The substance of his intended comments here concerned his own experiences as an American on a maneuver with the British Air Force. I can't recount it in the detail with the color that Col. Flinn would have presented it to you, but the gist of it was this: He was given along with a number of other men an assignment to progress through supposedly enemy territory for a space of 100 miles in 5 days, constantly being subject to capture, living off the land so to speak, evading capture to the extent that he could, and making his way towards a rendezvous point with the understanding that if he were captured he would be subjected to interrogation methods. Col. Flinn got within roughly 100 yards of the rendezvous point finally, discovered that the rendezvous point itself had been determined by the supposed enemy, and that they had just sat there and waited for the evaders to arrive. He states there were several points along the way at which he was almost captured. Just before arrival at the rendezvous point it was necessary to ford a river by removing one's clothes and holding them above the head and getting across. Part way across he discovered the captors were waiting on the other side, reversed his field, ran and got away, but in the process lost his pants, shoes, and jacket and was that much more miserable from fatigue. During that night he recalls very vividly that he could have cared less whether he was captured or not, that in the presence of this fatigue, that in the presence of this cold miserable situation his estimate of his own stamina decreased greatly, that as a result of this experience in looking back on it he learned two major things--one, that he could indeed make his way through supposed enemy territory and manage to survive under adverse conditions and that he knew now some of the technics for doing this. But more than that, he knew of his own tendencies, what his own reactions would be, and that in the event that he had to play this game for real, he would not only have to utilize the knowledge of actual survival that he had gained but he would have to be on guard against the tendencies that he came to recognize in himself.

I think that the experiences at Stead and Fairchild, as far as I have talked to some of the graduates of the course, some of the first to have gone through it, give these individuals somewhat the same feelings. I think it is indeed a valuable experience from this standpoint in addition to the fact that here we have a number of individuals (and I happen to have experience with two additional ones that apparently Dr. Robbins is not familiar with for reasons that I will explain in a moment) who were and should have been screened out. I think that the course gives a type of screening process for individuals who are going to be subject to capture and interrogation in Vietnam. The problem of how to handle these people is at this time further complicated by the fact that now most of them know very well that they are on their way to Vietnam, and this sometimes plays a part in reactions to stress.

I refer to a particular case that I saw at Andrews. Probably the reason that Dr. Robbins is not familiar with this man is that he broke down during the first day, prior to being subjected to any of these stresses. The only stress he was subjected to was the explanation that he was given of what was going to be going on at this place, and this he greatly resented. He became quite panicky and saw the flight surgeon within three hours after his arrival and after the beginning of the orientation to the whole process. He was obviously panicky and at the suggestion of the flight surgeon, was returned to the Washington area to his unit, and was referred to me for evaluation. This young man was a captain who had approximately six months before been recalled to full-time flying as a helicopter pilot after having completed a course in engineering. He had gotten his degree in engineering in the Air Force under Air Force auspices and had been assigned an engineering job which he greatly enjoyed; thus, he was quite resentful when he was recalled to active flying. He was even more resentful when he was told he would be going to this particular Survival School and following that would be on his way to Vietnam. He very much wanted to continue in engineering and he considered it both a personal insult and a situation in which obviously the Air Force did not know what it was doing because he was such a valuable individual in his engineering capacity. They paid for all his training, paid for all his education,

and here they were having him fly around in a helicopter which really was much beneath the potential he had to offer to the Air Force. In discussing what panicked him on arrival at the Survival School, he was very indignant at the attitude of certain of the noncommissioned officers there who gave him his initial orientation and indoctrination. One of them had dared to refer to the fact that unless he made it through, unless the participants made it through this course which was going to be quite difficult to do, they would likely find themselves grounded. The captain responded to this with intense anger saying, "Well, if this kind of thing is all that the Air Force gives in recognition of my services and superior contributions to the Air Force, then they can take their wings and you know what they can do with them and to heck with the Air Force anyway." The prior discussions among the other participants there concerning the little "black box" had been extremely frightening to him. He discussed the fact that he had always been afraid of closed places but mostly what he was afraid of as far as he presented it was that he didn't trust the staff of Survival School. He claimed to know of persons that had been allowed to have very serious accidents and injuries while going through this course, owing to the incompetence of the staff. He was certain that he would probably panic if he were placed in the "black box," particularly if this gunny sack were placed over his head, that he would be sure to lose control and that he would almost certainly hurt himself and that nobody would stop him. He further stated that this whole procedure was quite useless in that any person, any really sensible person, flying a helicopter in Vietnam who was shot down would make very certain that he was not captured, that he personally would either get himself shot or shoot himself before he would allow capture. He argued further that this whole business would make cowards of the individual who had to fly helicopters in Vietnam because you had subjected him to an experience about which he was going to think constantly while he was flying. This would frighten him greatly and would impair his performance of duty in Vietnam. Mostly, however, this man demonstrated a great fear of loss of control over any situation in which he was involved. As you may suspect from the comments that I have given you, psychologic testing on this man showed a very distinct underlying kind of schizophrenic illness which

resulted in eventually his retirement from the Air Force through medical channels.

A second case demonstrates something a little different. A man was told that he was going to Vietnam but he would stop at the Survival School on the way to temporary duty and then he would proceed to his port of embarkation out of Travis. He took off from Washington and went directly to Travis; when he got there, it was discovered that his orders were slightly in error, but they did indicate that he was supposed to stop off at the Survival School. He was told that corrections in his orders would be forthcoming and that he should go on down to the Survival School; then he would report at a later time to Travis. He decided that this wasn't satisfactory. He had to go back to Washington to talk to the person who was responsible for the mistake in his orders in the first place. He therefore got on the airplane and went back to Washington and en route was obviously quite confused, uncertain where he was supposed to be; he reported into his unit and when they said he was supposed to be out at the Survival School, he explained the situation and they became a little alarmed at the rather confused story he told. He was therefore sent to the psychiatry service at Andrews. There, his confusion was such that he was not sure whether he had told his wife to move elsewhere or what the situation was. We contacted the wife. She reported that he had been preoccupied, obviously confused, and had some memory problem for several weeks before--ever since he learned that he would be going to Vietnam. In further checking we found that he had managed to get himself off orders to Southeast Asia on at least three previous occasions over a period of approximately 18 months. In the hospital with some reassurance that more than likely his days in the Air Force were numbered (and this was reassuring to him) he cleared rather rapidly from his confusion and talked considerably about the fact that he had never been separated from his family throughout 13 years of military service. He could not quite picture how he would survive this stress in addition to the stresses he foresaw in Vietnam. Here, too, there was considerable fear of loss of control if he did go through the survival course and particularly if he were placed in the "black box" situation. The combination of factors here, the dread of family separation

and the fear of Southeast Asia assignment and the "black box" all played a part in this man's disruption.

I think, however, that we have to be careful and consider, at least at the present time, that a person going through this course is indeed en route to Southeast Asia and the part that this expectation plays in his reaction to the survival course. Dr. Robbins has brought up some rather knotty questions that he hopes some of us can answer--the matter of what to do with these people. We are all familiar with the concept of the fear of flying regulations which was brought into great prominence when a number of individuals, pilots, a large number of them who were recalled for the Korean conflict suddenly became quite anxious and had to be grounded as a result of it. This amounted to something in the neighborhood of one-third to one-half of individuals, pilots from World War II who had remained in reserve and when recalled suddenly found that flying duty wasn't for them anymore. They were scared to death, shaky, and anxious. The fear of flying regulations concept was essentially this--it is all right for a man to be a little bit neurotic about this or that or the other thing, but the fact that he is anxious about doing hazardous duty when he is a soldier and is being paid as such, or as an airman and he has been paid to keep his proficiency up for the purpose of flying, that we can't really allow his fear to be considered an illness. We have to treat it as though it is a type of cowardice. I don't know--I would like some discussion as to whether or not in some of these cases--selected cases--at least, where the problems are predominantly characterologic, if our attitude toward going through this survival course should not contain some of these elements. I'm not saying that we take a person who obviously has a phobic reaction here and say we will force you to do this, but I'm not so sure either that we can afford to retain too many of these people reassigned to other jobs within the Air Force. I think that in many cases they should be treated very much like the individuals who have been discharged from the Air Force under administrative regulations as a result of so-called "fear of flying."

SHORT-TERM GROUP TREATMENT OF LATE-ADOLESCENT AIRMEN  
A Followup Report

Allen W. Davis

INTRODUCTION

At this symposium one year ago I presented a report of my first attempt to offer treatment services in the group situation to late-adolescent airmen, often labeled as "character disorders," who experience adjustment problems in the Air Force. Today, I present a followup report of my continued effort to help these young airmen make adjustments to the demands of military life so that they may satisfactorily complete their enlistment and improve their interpersonal relationships. Also, I have surveyed pertinent periodical literature and will present a review of that survey.

All of us are familiar with the young airman making his first attempt at life independent of the family unit and trying to learn the customs and adjust to demands of military life. He is usually 19 years old, has finished high school, and has enlisted in the Air Force immediately after high school graduation. Sometimes he has worked for awhile between high school and entering the Air Force or occasionally he has attended college classes. Sometimes he has enlisted on impulse to leave an unpleasant family situation or as part of a peer group impulse to enlist. Not infrequently he has consulted the recruiter in his home town who described to him programs of interest and excitement and challenge and promise. Later, in basic training, the young airman may discover that he has little choice in his eventual assignment and that assignment frequently is made on the basis of supply and demand. If the airman is assigned to a technical school of his interest and aptitude, he may fail to satisfactorily complete the training. On the other hand, young airmen often report no difficulties during their basic training.

The airman begins to get into trouble when assigned to his base and supervision has been replaced by freedom and less discipline. He sometimes reports a disappointment in the difference between the basic training experience and life

on an Air Force base. With the reduced control and greater freedom comes overt disrespect and an apparent lack of inner control over his own behavior. He argues with his supervisor, he dresses shabbily, and his uniforms do not conform to regulations. He is tardy for work, he is disorderly in his off-duty hours, and he projects the responsibility for his behavior onto others--often claiming an inadequate supervisor, a dissatisfying job, or discrimination--and sometimes he totally denies any problems. Sometimes he is lonely and tries to make friends, and sometimes he is homesick but denies it. No doubt these descriptions all sound familiar--perhaps all too familiar. Attempts to help these airmen often prove frustrating and are plagued by the refusal of the airman to face responsibility for his behavior.

For airmen convicted of offenses and facing discharge, there has been for several years a program of rehabilitation at Amarillo Air Force Base, Tex. For less serious offenders, commanders and supervisors frequently have attempted to counsel the young airman in a fatherly and firm way, and to show him the fruitlessness of his behavior and the self-defeating direction it takes. It is rare that the squadron refers a man to our clinic without first having attempted counseling on at least one occasion. The problem of keeping young airmen on active duty has long been recognized. The Air Force has an investment in these young men which is both financial and educational. In September 1966, the Air Force published new regulations, AFM 39-12, which provide for an official rehabilitation program. Unfortunately, professional services are not outlined in such a rehabilitation program, and commanders and offending airmen are left to their own devices to seek a solution to their common problem of the young airman's troublesome behavior.

### REVIEW OF THE LITERATURE

I have sought references in the literature which describe the usage of treatment groups in the military, the problems of acting out and adolescence, and attempts to deal with adjustment problems of young airmen.

The literature contains numerous references to use of groups for treatment of combat psychiatric casualties. These references seem to be particularly present in the literature following World War II and in that during and following the Korean conflict. Shaskan (19) reported the use of groups for treatment of anxiety and tension in neurotics. Dynes and

Hamilton (6) reported that use of the group method for discussion of effects of war on the nervous system resulted in improvement among 82% of their patients, 50% of whom were able to return to active duty. Grotjahn (11) reported successful use of the group method and an ultimate improvement in ego strength. Loomis (14) found groups helpful in therapy services to military patients--particularly as part of the total regimen for patients receiving insulin coma therapy.

But one recent writer, Ungerleider (21), seemed particularly discouraged about effectively offering psychiatric service. "The proposal (is) advanced that effective, intensive psychotherapy among active duty military personnel is not feasible and perhaps not even possible." This author raised the issue of divided loyalties of the therapist between his patients and his employer, the military service, as an immovable stumbling block to effective therapy.

Boenheim (2), in an article on group psychotherapy with adolescents, stresses the importance of remembering the factor of development in adolescents and the fact that attitudes and behavior patterns are not yet fixed as in adults. Such an attitude lends a more hopeful outlook to work with behavior problems in airmen than is often held. Corsini (5), in his work with a psychopathic boy, reported his successful use of a psychodrama sequence designed to help the boy discover the self-destructive element in a specific episode of severe acting out. An attempt to deal with such self-destructive activities by therapeutic intervention (prohibition) rather than transference interpretation is discussed in an article by Frank (8).

In his work with acting out of character disorders by hospitalized patients, Macdonald (15) makes an important point about attitude toward acting-out behavior: ". . . the disapproved behavior comes to be regarded as an inevitable feature of the underlying character disorder. This fatalistic attitude, so often conveyed to the patient, dulls the therapist's perceptiveness, diminishes his therapeutic zeal, and thereby contributes to further acting out" (15). An interesting report is made by Rapoport and Rapoport (17) of the incorporation of permissiveness into a psychiatric hospital program for treatment of adult acting-out disorders.

Kassebaum (12) relates a reduction in frequency and severity of post-release difficulties of prisoners to group counseling during the imprisonment. Grant and Grant (10), in reporting on their approach to treatment of nonconformists

in the Navy, describe favorable post-institutional adjustments after placing confinees in small, closed communities and confronting them with their interpersonal problems by continuous association with the same fellow confinees and supervisors. Such association resulted in a discomfort that helped to bring about personality change. Shulman (20), in his article on group psychotherapy in a post stockade, says that he found voluntary sessions a valuable service to the confinees. Cavanagh and Gerstein (3) also report valuable use of therapeutic groups within a disciplinary institution-- a U. S. Naval disciplinary barracks.

Dr. Joseph D. Noshpitz (16) describes the therapy of five adolescent inpatients between the ages of 12 and 16, boys and girls, on a closed ward (cottage-styled building). All had been diagnosed as having "character disorders"; all had created tremendous management problems in the hospital, and all had had serious social difficulties prior to admission. The technic of supporting the patient's antisocial behavior was successfully used in developing a therapeutic bond and effecting a change of symptoms from those of character disorder to those of neurosis which then permitted the use of conventional therapy. One wonders what would happen if the method were adapted to the outpatient military airman and during his treatment the therapist sympathetically supported his antisocial impulses. It is strongly suspected that without the control of the institutional setting an increase in antisocial behavior or anxiety instead of a therapeutic relationship and bond would result. In a more conventional setting it is possible to empathize with the patient's bitter and resentful feelings toward authority symbols and figures, both current and past, and at the same time to point out the reality which demands at least outward conformity.

Futterman (9) investigated differences between confined offenders and nonoffenders in the Marine Corps. He found "the offenders admitted to significantly greater past delinquencies than the controls. They also rated themselves low in sociability and self-esteem. . . . The fathers of the prisoners were described as unreachable, punitive, inconsistent, harsh, and dependent. The mothers were seen as weak, sickly, emotionally unstable, and long-suffering. . . . Strong dependent longings were suggested by the data." In his clinical observations Futterman (9) found that while these men manifested problems of dependence and independence as well as impulsive behavior, many of them appeared to be trying to control their socially unacceptable behavior.

While generally found to have histories of juvenile delinquency, the majority of offenders had displayed truancy (being AWOL) as the only remaining manifestation of such delinquent pasts. And, Futterman noted, these men were in transition from adolescence to adulthood and, therefore, clinical pictures of their personalities could not be considered permanent. He quoted another author, Berman (1), who stated that "the majority (delinquent adolescents) gradually contain the behavior in the form of serious character defects when adulthood is reached and are able to achieve a marginal social adjustment." Futterman's observations certainly add another hopeful note to the usually discouraging attitude toward helping the young, nonconforming military man. It also tends to clarify some of the psychosocial developmental problems of these men.

Simons and Stockton (18) describe in detail and depth the use of a training group composed of all members of the clinic staff as part of the development of group therapy services at an Army post.

The authors concentrate on the training group rather than the actual service offered to the military man. However, they do say that nine therapy groups were maintained, each with co-therapists and an average of eight patients. Three of the groups were services for female dependents, and the remaining six were for military personnel. Assignment to one of the six soldier groups was determined not by diagnosis but by post assignment (roughly categorized into three areas of code training school, infantry brigade, and the stockade) and then by military status. The draftees with a 2- to 3-year obligation was grouped separately from the career enlisted man or noncommissioned officer.

These authors (18) conclude that even though certain diagnostic criteria for group psychotherapy were not always followed, ". . . the similarity of sex, military assignment, and rank status served to promote group stability and cohesiveness and helped to offset, to some extent, the disruptive effect of a rapid turnover of group members due to reassignment." They also comment that the use of co-therapists was found advantageous to provide stability in the temporary absence or reassignment of one of the therapists. Also, a division of labor was possible by using two therapists. One was free to handle the clinical responsibilities of the group and the other to maintain consultive liaisons with commanding officers whose continual support was found

necessary. They found that without such support, treatment programs frequently collapsed.

Engel (7) points out particular problems in her treatment of adolescents who had been hospitalized for character disorders. The patient's low self-esteem and his difficulty in trusting, combine in his efforts to manipulate the relationship "in such a way that the essentially negative concept of self need not be reorganized." Dr. Engel notes that manipulation characterizes the first part of the treatment phase, and at the transition point into the second phase, a sharp rise in the patient's anxiety may be noted or observed when "vaguely and weakly, the question arises from within the patient: 'If you are not like the others whom I have been able to manipulate, then who are you and what are you to me?' This question foretells the third phase when the burning question becomes: 'Who am I?'" (7).

From his experience at the U. S. Army Hospital, Fort Ord, Calif., Lindsay (13) reported on "the problem of increasing psychotherapeutic efficiency in the military service (which) is of far-reaching sociologic as well as military importance. A maladjusted person who is separated from the service is in most cases permanently lost from the manpower reserve, and those salvaged not only represent manpower conserved for defense but also a stronger, healthier society. A great advantage offered by group therapy is a marked increase in psychotherapeutic efficiency. A psychotherapist can confer with 80 to 100 patients a week in group therapy in addition to his other duties. Thus the function of the military psychiatric clinic becomes oriented more toward salvage and rehabilitation than toward disposition and environmental manipulation, with its resultant problem of secondary gain."

One of the main disadvantages he found with group therapy was the constant change of patients in a military setting. However, his work apparently was with Army trainees who were available at the base for only sixteen weeks at a time. He also found it difficult to get 8 trainees together at the same place and at the same time. But this problem was solved by close liaison with line officers and noncommissioned officers. And here is where the Army social worker was particularly helpful since such liaison is his specific responsibility and the Army structure so facilitates it. But because of constant change and turnover due to reassignments and poor motivation, Lindsay (13) found it helpful to start blocks of four groups of 8 members

each and planned to get one long-term group from it. "The therapy is at first directive and superficial with gradual progression to more advanced, nondirective technics. After the first three to five meetings, the four groups are consolidated into two therapy groups. These two groups will remain from 10 to 12 weeks in a basic training center. When it becomes necessary to consolidate these two groups, the result is a group that is motivated for therapy and physically able to continue." He used groups of patients with mixed types of problems ranging from somatic complaints to adjustment difficulties to achieve the best balanced and most effective operating situation.

The problem Lindsay (13) found most difficult to handle, and also most important to the success of the group treatment, was that of handling hostility. "If the group feeling is directed so that the therapist is the center of attention and each member talks to him, or through him to the others, although the group is less anxious and absenteeism is lower, the possibility that he will have difficulty with the problem of hostility later is increased, and he will have difficulty getting the members to accept his interpretations. If the therapist stays on the periphery and forces the members to deal with each other (for they will instinctively try to force the therapist into the center), there is initially as much or more hostility toward him, but he is in a much better position to impart insight and work members against each other. In the military situation, with poorly motivated patients, the latter method, if used early, often produces so much anxiety that absenteeism is a problem. An early directive, superficial atmosphere shading gradually into a nondirective one is perhaps more practical." This particular problem of anxiety and absenteeism is one that I found also in my work with groups in the military.

Cook (4), in an article on group therapy in a military community, found the group method to be an effective psychiatric service to enlisted men and dependents. He emphasized that this method was specifically chosen as a treatment of choice for the military man with adjustment problems both in his military and personal life. That is, he found the problems to be problems of adjustment in group interaction. He found it also to be helpful in preventing administrative separations of older enlisted men with more than 12 years of service. In the over-12 category, problems frequently were alcoholism, anxiety relative to impending retirement, or problems relative to marriage with foreign-born nationals. In the under-12 category, problems frequently were adjustment

problems to the service, early marital problems, or problems related to training of recruits, all of whom commonly experienced adjustment problems to group living. "Many fears developed concerning his (the recruit's) ability, security, and identity, and he has many tensions and anxieties" (4). He found that most adjust without help but some require assistance, and the group method was found to be a helpful way of extending such assistance.

In this review of the periodical literature, I have concentrated on those articles which were relative to problems of acting out both in regard to everyday living (where, for example, the airman gets into a fight) and the treatment hour; on the different treatment approaches, both outpatient and inpatient, for the range in severity of disorder from that which requires hospitalization to that which does not; and those which report specifically on attempts to help the military man control his nonconforming behavior and make adjustments in interpersonal relationships. I also attempted to show in this review the extensive use of the group method in the military setting.

#### CLINICAL OBSERVATIONS

During the period from April 1965 through December 1966, I treated 18 men in three separate and successive groups. A short-term treatment experience of under 5 months was planned in each instance, although the more specific length of service was not set until near the end of each separate group. In the first group the treatment was terminated abruptly after the loss of support from squadron supervisors. But in retrospect it also seems likely that my anxiety level was high since this was my first experience with the group method and therefore the termination was more abrupt than perhaps necessary. In the second group, treatment was offered with a stated length of from 3 to 5 months. The decision to terminate was left with the group within the stated limitation. However, the group put off making the decision and wanted either to stop impulsively when the subject was introduced or simply to avoid the subject altogether. In the third group, several factors were present which effected the termination. Two members were transferred, and a third member was sent to a referral hospital. Of the remaining 3 members of that group, 2 are awaiting formation of a new group and 1 is awaiting discharge.

Of these 18 men, 8 were nineteen years old, 4 were eighteen, and 4 were twenty years old. The remaining 2 were respectively twenty-one and twenty-two. Fourteen of the men graduated from high school, 2 respectively had tenth and eleventh grade educations, and 2 had one year of college. Thirteen of the men had 18 months or less of active duty time and 5 ranged from 2 to 3 years of service time. Squadrons referred 9 of the men, doctors referred 4, and 5 referred themselves. Their problems included nervousness, homesickness, anxiety, difficulties with supervisors or with their jobs, job dissatisfaction, disorderliness, a history of disciplinary offenses, and difficulty in socializing either on the job or during off-duty hours. A typical group patient was nineteen years old, had graduated from high school, had 18 months or less of active duty, was referred by his squadron, and had one of a variety of problems of which one was often characterized by acting out behavior. The problems also roughly fell into two categories--one which dealt with the demands of military life and one which dealt with demands of separation from parents and friends. The typical patient also tended not to consider himself responsible for his problems and tended to look toward a concrete solution to his problems such as cross training, reassignment closer home, or a different supervisor. He characteristically was impulsive and did not customarily think ahead to the results of his actions.

During the first part of the treatment process for each of the three groups, there was a tendency to talk about casual matters unrelated to problem areas although the third group had an opposite tendency toward plunging into problem areas without first getting acquainted with each other. The time spent in casual conversation was frequently interpreted as time spent getting acquainted with each other and the phenomena of group meetings. During the second part there generally was a transition from casual conversation to discussion of problems. In the third and final part of the process there was generally evidence of guilt for antisocial behavior as seen in members' relating to the therapist. For example, during the first two parts of the process, the members often attacked the therapist with hostility--with claims of his either not understanding or not doing anything to help. These kinds of responses changed eventually to expressions of guilt for such hostile attacks and a more respectful manner. Usually improvement in behavior was reported during the last part of the process from supervisors and from the men themselves in terms of personal comfort and increased sociability. Usually there was evidence of at

least partial attainment of individual goals by the end of the group. For example, some members possibly accomplished the cross training that they had desired, a change in supervisor, or satisfaction in interpersonal relationships and the development of friendships.

In terms of final disposition, 12 were returned to duty. Of these 12, at least 8 were likely prospects for administrative separation; 2 have requested continued assistance and are being seen individually while waiting for a new group to be formed. A third person later returned to the clinic with marital problems, and a recommendation for marriage counseling was made.

Of the 6 men with other dispositions, 1 was returned to duty and later administratively separated by his squadron, 2 were recommended for separation, 2 were recommended for continued therapy and are awaiting such, and the remaining man was discovered to have a more serious illness, was hospitalized, and transferred to a referral hospital.

Of the 2 awaiting separation, 1 is a patient from the second group. He requested continued help and it was given in the form of casework. Later, after two hospitalizations which followed severe acting-out behavior, recommendation for separation was finally made. During the second hospitalization treatment, the remainder of his active-duty time was changed to psychotherapy three times per week. In this process there has been evidence of beginning change from behavior disorder characteristics to more neurotic ones.

So the effort to extend help to the enlisted man and to keep him on active duty can be counted as fully successful in two-thirds of the cases. It is felt that of the remaining third, at least half received some benefit from the service offered. With perhaps only 2, it is thought that there was no evidence of benefit from the service offered. That is, there was no change in behavior, and there was no improvement in the patient's recognizing, identifying, or trying to deal constructively with his problems.

It is thought that by being offered help in the group setting, young airmen can learn that there are others who encounter similar difficulties and that they can gain a measure of understanding and support from each other as well as from the therapist. They are helped to look for and identify their problem areas particularly as they relate to those tendencies toward acting on impulse and the difficulties

which result from so doing. Again, this is done both by pointing out to one another their self-defeating tendencies and by help from the therapist. And in the process of the group, they begin to show evidence of interjecting thought between an impulse and an action which Engel (7) emphasized as necessary for more mature behavior.

The men are able to ventilate much resentment and dissatisfaction with military structure and authority figures, and they express their disappointment in failing to find the strong, masculine figure identification which they perhaps didn't find in their fathers but had hoped to find while in the military. This is in keeping with the description that Futterman (9) obtained from the histories of military offenders in their references to their own fathers. It is also thought that the patients used the group experience in strengthening interpersonal relationships, achieved personal growth in the process, and then reached out to make friends and develop relationships outside the group setting.

Absenteeism, anxiety aroused by the treatment process, and problems in poor motivation were all observed. Lindsay (13) felt that there was a relationship between incorrect handling of hostility and absenteeism. I am more inclined to relate absenteeism to fantasy about the power of the therapist or to poor motivation. Absenteeism was a problem with the third group in which there were several expressions of patients' fantasies about the therapist's authority, power, and ability to sway their minds or influence their lives. Absenteeism was manifest in all three groups but was more prevalent in the last group. It is thought that the lapse of time between the first contact and the start of the group may have been responsible for some of the absenteeism. Several months elapsed for some of the patients in the third group between their evaluation process and the actual beginning of the group.

There is no question that closer liaison with squadron supervisors and commanders would be helpful. So far there has been no formal liaison, and the Air Force structure itself is not conducive to such a liaison. That is, the medical unit is a separate entity, and with the exception of the flight surgeons, there is no formal relationship or association between us and the command--at least not at the level of psychiatrist and social worker to squadron unit. This is contrary to the structure in the Army where a social worker may be assigned to a unit and thus have a channel in which to develop a close working relationship. However, supervisors

and commanders are found to be generally interested in any attempt to extend help to one of their men unless that man has committed so many nonconforming acts or otherwise has made himself so troublesome to his supervisor or commander that they want him separated.

Contrary to some other reported experiences and attitudes in which the group method is seen as being a timesaving one, it has been used in these three instances as a method of choice. On an empirical basis, it has proved successful in helping young airmen deal with their problems in adjusting to military life, to its demands, and in improving and strengthening interpersonal relationships. The advantages of beginning several groups with the idea of obtaining one long-term intensive and well-motivated group are obvious. While each time it has been apparent to me that should the group continue, there would be greater opportunity for enhanced interpersonal functioning, enhanced social functioning, and personality growth. The goals of these groups have been purposely limited to helping the enlisted man make a sufficient adjustment so that he might perform his duty and satisfactorily complete his enlistment as well as achieve some increased personal satisfaction. In view of the favorable results of these three groups, it is thought that a short-term group experience can be used effectively.

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# INTENSIVE SHORT-TERM GROUP THERAPY FOR PSYCHIATRIC INPATIENTS

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## INTRODUCTION

Upon arrival at my assignment to the Department of Psychiatry, Wilford Hall USAF Hospital, I was interested in providing group therapy services as part of the Inpatient Service. An evaluation of the treatment program revealed that there were limited group therapy experiences provided for the patients. These were primarily in the form of ward meetings. In addition, some of the psychiatrists were meeting with their patients on a group basis. The Social Work Service also conducted a "Post-hospital planning group" and a "Return to duty group." These were information-giving groups to assist and prepare patients prior to their discharge from the hospital. However, there was no intensive group therapy program currently being offered to patients admitted to the Department. Consultation with various staff members revealed consensus that there was a need for such a program.

Once the need for an intensive group therapy program had been established, such a program was proposed and initiated. The establishment of this program had to be coordinated with all other services and had to comply with the policies and procedures of the Department. Since the mission of the Department of Psychiatry at Wilford Hall USAF Hospital is primarily one of evaluation and disposition rather than long-term treatment, it was established that the proposed group therapy program would be short term in duration. The purpose of this paper is to present the group therapy program which was developed and to evaluate this completed pilot study. It is believed that the information contained herein may be beneficial in the initiation or expansion of other intensive short-term group therapy programs for psychiatric inpatients.

## SIMILAR PROGRAMS

A review of the literature indicates that group therapy has been used as a method of treatment in psychiatric settings for a number of years. Group therapy, as a treatment of

choice, has increased significantly during the past few years. The literature revealed a variety of applications of group therapy in the treatment of patients. Outpatient groups for dependent wives at the Department of Psychiatry, Tachikawa USAF Hospital, Japan, are described in an article by Colonel Jack A. Davis in the February 1963 issue of Social Casework (2). The July 1960 issue of Social Work presents a group therapy program at the Colorado Psychopathic Hospital (3) which is very similar to the ward meeting groups currently held on the closed ward here at Wilford Hall USAF Hospital. There were a number of articles presenting examples of group therapy (both inpatient and outpatient settings) for enlisted military personnel experiencing difficulty adjusting to the military environment.

Although the group program presented in this paper is not thought to be a pioneering effort in the use of group therapy, no article presenting a similar short-term intensive group therapy program has been found. Most of the programs presented in the literature were ongoing or long-term studies while this program provides a short-term closed-group experience. However, many of the findings and recommendations of the cited articles support the findings and recommendations of this paper.

## DESCRIPTION OF PILOT STUDY

### Purpose

An intensive short-term group therapy program was proposed, approved, and initiated. Selection of a pilot group was aimed toward providing intensive group therapy for the individual patient and evaluation of the therapeutic potential of the proposed program. The objectives of the proposed program were (1) assessment of individual's progress for disposition, (2) improvement of reality testing, (3) aid in socialization, (4) motivation for additional therapy, and (5) the training of staff members.

### Staff Involvement

In a psychiatric setting where the team approach is used in the treatment of patients, the involvement of staff members in the proposed group program was an important consideration. In addition, the training of staff members was one of the stated purposes of the program. The most significant area of involvement and training of the staff was in co-therapy. The pilot program was conducted by two co-therapists,

a female psychiatric nurse, and me. Although co-therapy provided a practical learning experience for only one staff member, other interested staff members will be able to participate in future groups. Another area of staff involvement was observation. Throughout the pilot study, a social work technician attended as a nonparticipating observer. A more indirect method of involving the remainder of the staff was provided through the distribution of the written recordings of each group session. And finally, a most important area of staff involvement was weekly collaboration with the physician assigned to the individual group member.

### Recording

An important aspect of group therapy that takes place outside of the group session is recording. There were two types of records kept for the pilot group, a group record and individual summaries. The written account of what takes place during a group session enables the therapists to be more aware of the group process and is a valuable tool in preparation for the following session. It is also a means of keeping the remainder of the staff informed on the progress of the group and the involvement of the individual members. A written record is also a valuable research tool and was most helpful in the development of this paper. In addition to the group record, an individual summary was prepared on each group member at the conclusion of the pilot study. This summary included the patient's involvement in the group, his response to group therapy, his progress, and the therapist's recommendations. These summaries are routed to the patient's physician before being entered in his medical chart.

In addition to the written record, each group session was recorded on tape. The presence of the tape recorder had a marked impact upon the first session. During this session I secured the group's approval to tape the sessions and explored their feelings regarding recording.

It is my impression that the overall use of recording had a positive impact upon the group experience. During the third session, the recording of the first session was used to assist a new group member to identify with and become a part of the group. Patients also requested access to tapes to listen to prior sessions.

The primary reason for recording was for training purposes. Upon termination of the study, significant areas such as phases of the development of the group process and

individual progress were transcribed onto a single tape. This tape will be a valuable tool for future training of staff members.

### Physical Arrangements

An important factor in the success of any therapeutic experience, individual or group, is the physical environment in which the therapy takes place. At the time this group program was proposed, there was no designated group therapy area in the Department of Psychiatry. Arrangements were made to use a dayroom on one of the wards for the sessions. Although a door was shut blocking off the ward, there were occasional disturbances caused by patients passing through the area to or from their rooms. In addition, there was almost continual outside noise such as typewriters, a television set in the other dayroom, and other common hospital noises such as gongs, doctors being paged, etc. One wall contained windows and a closed door which was shared by a secretarial office. During the group sessions, the group members and therapists were seated in a circular arrangement. One other note regarding the physical arrangement was the air conditioning. On occasion it was so cold in the therapy area that the session was an unpleasant experience.

### Duration

Because the hospital's mission is one of evaluation and disposition, it was determined that any group therapy program would have to be short-term. In order to make it as intensive as possible, a maximum number of sessions was desirable. It was, therefore, determined that the total group experience would last eight weeks. Sessions were held three times a week, Monday, Wednesday, and Friday, and each session lasted ninety minutes. This gave the patients a total of 24 therapy sessions and 36 hours of group therapy.

### Composition

The next process was the selection of group members. It was decided that the group would be composed of six to eight members selected by the following criteria:

1. Length of stay - Those patients who were expected to have an extended length of stay at the hospital were considered as candidates. This included patients who were being transferred to a Veterans Administration Hospital, patients who were receiving extended treatment before removing to duty,

and patients awaiting medical separation for administrative reasons.

2. Physician - An effort was made to select patients assigned to the same physician to enhance collaboration and consultation between group therapists and the physician.

3. Diagnosis - At the discretion of the physician, those patients who were unable to benefit from group therapy or whose presence in the group would interfere with the treatment potential of the group were not referred for group therapy.

4. The final step was an individual interview by the group therapist. This also prepared the patient for involvement in the group. Membership was involuntary since group therapy was prescribed by the patient's physician as the treatment of choice.

The pilot group was composed of six white male patients. Two were 18 years old, two were 19, and the others were 24 and 35. There were two airmen basics, two airmen third class, one OTS student, and a staff sergeant. Four of the members were still completing their initial training at the time of hospitalization while one member had had four months of service. The remaining member had completed 18½ years of active duty. The four youngest members were single while the OTS student had been married five days prior to entering the service. The remaining member had been divorced and remarried. None of the group members had children.

Only three of the six members remained in the group for the complete 24 sessions. One member entered the group during the third session, and two members left the group early as they were discharged from the hospital at the conclusion of the 16th and 21st sessions.

During the first group session, each member stated the reason for his hospitalization as he understood it. At that time only one member gave psychiatric difficulties as his presenting problem. The other reasons ranged from physical injury to psychosomatic complaints. The range of diagnoses of the six group members was wide and included depressive reactions, schizophrenic reaction, passive-aggressive personality, manic-depressive reaction, and psychophysiological cardiovascular reaction.

## Group Process

As group therapy progresses, it is thought that some type of group development takes place since the terminating group is seldom, if ever, the same as the initial group. The characteristic phases of group development which closely resembled those seen in the pilot group are presented by Trecker (6).

1. Beginning stage--individuals together for first time.
2. Emergence of some group feeling, organization, program.
3. Development of bond, purpose, and cohesiveness.
4. Strong group feeling; goal attainment.
5. Decline in interest; less group feeling.
6. Ending stage--decision to discontinue as a group.

The first phase of the group, the beginning stage, was simply a meeting of individuals for a common purpose. There was no real "group feeling" as the patients had little regard for the needs of one another. This phase continued throughout the first three sessions. It should be noted here that one phase doesn't necessarily start where the other leaves off but rather tends to overlap and may occur simultaneously.

The first session was very therapist-directed and consisted primarily of defining the purpose and goals of the group. Participation on the part of the patients was more active and spontaneous than was expected for the first session. During the second session one of the members made the first personal investment in the group while others realized that the group provided an opportunity and desire to express feelings, which up to this time, they had kept to themselves.

The third session was highly influenced by the entrance of a new member into the group. This experience made the group aware of the need for mutual trust before further involvement could take place. The impact of the new member was observed by a lack of personal investment or exposure of feelings. In addition, the group discussion became superficial on a number of occasions during this session. The group was made aware of this and attempted to deal with it.

The entire session was devoted to the acceptance of the new member by the group and the acceptance of the group by the new member. It is felt that the goal of this session was accomplished and enhanced by playing the first 15 minutes of the first session from the tape recording and then allowing the new member to introduce himself and state his presenting problem as if it were his turn in the first session.

The second phase in the development of the group-- emergence of some group feeling--was noted during the fourth session when the group members identified a common feeling of inferiority. There was still no meaningful investment on the part of any member during this session. The group feelings continued to develop during the next several sessions. The fifth session was summarized by one member as a "story telling hour" during which each member made a significant investment in the group. This was felt to be healthy at this phase of the development in that it increased the group feeling and initiated cohesiveness as the third phase of development began to take place. During an evaluation at the conclusion of the fifth session, the group members became aware that their expressed desire for something more meaningful could be met by focusing on one individual or problem and following through for a total session.

The third phase of development--development of bond--took place during the next several sessions, although the group did not become aware of its completion until the emergence of the fourth phase during the fourteenth session.

From the sixth session on, the group experience was more therapeutic and satisfying for the members as they began to follow through on areas of focus. During the seventh session the group attempted to refocus on Sergeant S who had been the focus of discussion throughout the sixth session. However, Sergeant S found such intense involvement too threatening and refused to become involved. The group then shifted the focus to another member. Although Sergeant S was unable to become further involved at this point, he was able to verbalize that during the previous session the group did enable him to bring out, discuss, and evaluate many things that he otherwise would have overlooked. The value of group therapy, as recognized by the group members, was again brought out during the eighth session when a member who had been exposed to one and one-half years of individual therapy prior to entering the service was the focus of discussion. He stated that the questions asked of him by the other group members enabled him to bring out things that he had missed during his one and one-half years of individual therapy.

A new level of development was achieved during the tenth session when the therapists initiated "role playing" as a group method in assisting Sergeant S to experience an emotional response. This patient had been the primary focus of the group up to this point and had an inability to experience emotional response. The entire group united throughout the session in attempting to stimulate an emotional response in the patient and experienced a great deal of satisfaction in the patient's first successful emotional involvement.

A very significant stage of development was achieved during the eleventh session when the group approached the therapists for more therapy. They recommended meeting five times a week instead of the current schedule of three sessions a week. In conjunction with this, the group realized that almost half of the total program was over and that eight weeks of therapy really wasn't very long. Only one of the members had received any significant attention at this point, and there were still five others to discuss.

During the thirteenth session, active and direct intervention on the part of the therapist altered the focus of the session. The group attempted to shift the focus from Sergeant S because of his failure to put forth what they considered to be a minimum of effort. The therapists shifted the focus back to Sergeant S and then assisted the group in evaluating this patient's behavior in the group. It was recognized that the patient was using the same behavior pattern he used with all people or groups in his attempt to make them reject him and thus support his feelings of being rejected.

The emergence of the fourth phase, strong group feeling and goal attainment, was noted during the fourteenth session. One of the group members was 45 minutes late to this session. His initial absence almost totally immobilized the group and made the group aware of the strong group feeling and bond that did exist.

The fifteenth session fell on a legal holiday and was, therefore, an optional session with the group meeting without the therapists. The session itself was void of meaningful investment or exposure of feelings as the majority of the session was devoted to a "liked and enjoyable discussion about sex." The impact of the optional session was felt during the following session when the group regressed--the members experienced difficulty in getting back to work and had a resultant feeling of frustration. In addition, one of the

members left the group at the conclusion of this session due to his discharge from the hospital.

The fifth phase, as presented by Trecker--decline in interest--took place during the final group session. Trecker's final stage, the ending stage, did not occur in this group as the length of therapy was defined at the beginning of the group experience, and a decision to discontinue the group was not made during the course of the group development. However, a very important phase of the group development was initiated at the conclusion of the sixteenth session with the departure of a member from the group. I will call this the termination phase.

The intense degree of therapy that was achieved by this group is exemplified by the great impact of termination upon the group. Just prior to the seventeenth session, following the group's first direct confrontation of termination, by the departure of one of the members, Sergeant S approached the therapist and asked to be withdrawn from the group. Further involvement would have intensified his fear of termination. During the seventeenth session, Airman R became very emotional in expressing an intense desire to get out of the hospital. As a result, the group united in verbalizing their desire to get out of the hospital.

The nineteenth session was significant in that the group recognized a continued primary focus on the same patient throughout the total group experience; the group evaluated this as avoidance of personal involvement by the remaining members. Airman H then stated that on two occasions he had attempted to invest himself in the group but that he had been "left hanging" on both occasions and that he didn't dare risk further investment for fear of the same thing happening. Airman R expressed similar feelings. Although not recognized at this time, the first signs of an intense rivalry among the patients for the attention of the group appeared. The remainder of this session and the following two sessions focused on Airman H who, up to this point, had feared further investment due to the group's failure to become interested and follow through.

The twenty-first session was significant for two reasons: (1) Airman R failed to attend the session, and (2) the gaining of insight on the part of the member under discussion, Airman H, was a classic example of the value of group therapy.

During the twenty-second session, the sibling rivalry among the patients for the attention of the group was exposed. Airman R, who was absent during the last session, was 30 minutes late to this session. During the discussion following his late arrival, the group became aware that three sessions previously Airman R and Airman H had competed for the attention of the group and Airman H won. As a result, Airman R acted out his feelings of having been rejected by rejecting the group (i.e., missing the last session and coming late to this one). As a result, the remainder of this session and the following one were focused on Airman R. The patient was able to verbalize a close correlation between his home and the group. Two examples which he gave were: (1) He could never say anything at the dinner table as the youngest child in his family; therefore he felt that he couldn't say anything in the group. (2) When he returned from a long trip to California, his mother treated his return with ambivalence. When he returned to the group after missing a session, the group was also ambivalent.

The impact of termination had a marked effect on the group during the next to last session. The group was constantly aware of the remaining time during the session and appeared to "overwork" to complete the tasks of the group by the end of this session. There was an increased feeling of pressure and anxiety which was manifested by the tendency of outside disturbance to immobilize the group temporarily. In addition, some of the group members began to withdraw to avoid further involvement.

The extreme impact that termination can have upon a group therapy patient was seen at the commencement of the final session. Sergeant S, who had approached the therapist prior to the seventeenth session asking to be taken out of the group, failed to attend the final session. Termination from the group and its members was so threatening to this patient that he elected to avoid the situation.

The final session was completely void of personal investment. For all practical purposes, the group considered therapy as being over at the conclusion of the next to last session and felt that they could not be expected to invest themselves during this final session since they would not be provided an opportunity to work through their investment.

The final session was used to evaluate the total group experience. One patient summarized it very well when he said, "It was like Columbus getting his ships." The group then

used this illustration to conclude that they were on their way but that they still had a long way to go; that they didn't know where they were going, nor what they would find upon reaching their destination.

Following the completion of the pilot group, each of the remaining members was seen individually to evaluate the meaning of the group therapy experience to him. All of the patients felt that participation in group therapy was a positive and rewarding experience. The majority said that they became aware of the impact of past events upon their current problems. Other statements that summarize their evaluations are: "I understand myself better;" "To become aware;" "I found out others have similar problems."

### CONCLUSIONS

An evaluation of the pilot study was made. It consisted of a review of the tape recordings and written records, interviews with group members following termination of the group, and solicited and unsolicited comments of staff members representing the various disciplines. In addition, the development of the group process was understood in terms of the theoretical framework. It is recognized that the conclusions made are not based upon a scientific research method but rather on the observations of the writer.

1. The stated purposes of the group were accomplished.
2. The degree of therapy achieved was very intensive and is accounted for in part by--
  - a. The hospital setting.
  - b. The living arrangement whereby the group members were almost continually exposed to one another.
  - c. Preparation of the patients for group therapy.
  - d. The fact that the group was a closed group and small in size.
3. The group expressed a desire for more group therapy than was provided by this program.

4. The use of co-therapists was successful and enhanced the total group experience.

5. The positive influence of a "non-participating observer" was noticed in his collaboration with the therapists and his personal involvement with the group members between sessions.

### RECOMMENDATIONS

The following recommendations are made for future intensive short-term therapy groups conducted under this program:

1. The success of the pilot group indicates maximum possible expansion of this program. This will be dependent upon availability of group therapists and the number of patients qualifying according to the group therapy selection criteria.
2. It is recommended that the group size be set at six members.
3. Twenty-four sessions of group therapy were found to be the minimum of therapy needed to meet the goals of the program, and it is recommended that this be expanded.
4. To effect the expansion of the group therapy program, it is recommended that the Social Work Service assume more responsibility for the selection and preparation of group members.
5. As a result of the negative impact of the early termination of two members of the pilot group, it is recommended that all patients involved in group therapy remain hospitalized for the duration of the program.
6. It is recommended that staff involvement remain the same with the use of co-therapists and observers.
7. The use of the ninety-minute session was very successful and should be continued.
8. It is recommended that a control and an experimental group be initiated among the future short-term therapy groups to study the use of alternate sessions as a

means of increasing the amount of time group members spend in therapy. The control group will be conducted the same as the pilot group, meeting three times a week with the therapists while the experimental group will meet with the therapists three times a week and, in addition, meet twice a week in alternate sessions. "The alternate group meeting is established by the therapist, though he does not attend it, occurring between the regular meetings and held for the purpose of forwarding the group psychotherapeutic process. And, although the therapist suggests the meeting, he neither controls it nor prescribes how the patients are to act at these times" (5).

### SUMMARY

The need for an intensive short-term therapy program at Wilford Hall USAF Hospital was recognized and a program proposed to meet this need. A review of the literature revealed that group therapy has been used as a method of treatment in psychiatric settings for a number of years and that articles present a variety of group therapy programs that have been used in the treatment of psychiatric patients. The completed pilot study that was used to initiate the proposed program was then presented and evaluated. The various phases of group development were presented along with significant examples of stages of development. The conclusions of the pilot study indicate that the group did achieve its planned objectives. As a result of the pilot study a number of recommendations were made, the primary one being that the intensive short-term therapy program should be expanded in the treatment of psychiatric inpatients at Wilford Hall USAF Hospital.

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## THE MIDDLE CLASS FATHER'S ROLE IN HIS DAUGHTER'S SEXUAL ACTING OUT

Richard R. Abidin, Jr.

What I am attempting to explain is not some perverse sexual behavior in middle class fathers and daughters, but rather how the probability of socially unacceptable sexual involvement by such teenage females may be increased. The developmental, personality, and environmental stresses which I believe to be operating are generalizations regarding one possible etiology of sexual acting out in middle class teenage girls between the ages of 13 and 17. These ideas are the by-products of my experiences with 7 middle class and upper class families. With the exception of one case, all of the families were seen as self-referrals. The presenting problems were either the parents' awareness of their daughter's sexual acting out or the fact that in the past 2 years the girl had become increasingly hostile toward the parents and, particularly, toward the father. In each case it was established that the girls were involved in sexual acting out behavior. Before I attempt to explain and interpret the problems these families were having, as I see it, I would like to present some significant generalized findings regarding the social histories of these families as presented in the initial social work history. In each case, the parents of the teenager reported having a relatively satisfactory marital relationship. Both parents appeared free of any major emotional disturbance, and both reported having had relatively happy childhoods. The educational and financial circumstances of these families were above average. The typical developmental history of each case was that of considerable parental involvement with these children. Uniformly, the father was actively involved in the child-rearing process, and the family, as a unit, engaged in numerous social and recreational activities. The families reported no unusual problems with the patient during the first 12 years of life. The girls involved appeared to have a precocious interest in external feminine appearances such as the use of lipstick, and hair styling. All of these girls indicated that as preadolescents they had very close relationships with both parents; however, they felt that the father was the most significant parent and the one most

capable of understanding their problems, needs, and wishes. In short, these families presented themselves as the "ideal American family." Yet, each found themselves asking, "How could this happen to us?"

The remainder of this paper will be devoted to presenting one possible formulation concerning sexual acting out behavior in middle class teenage females. The problem is a highly complex one and involves cultural, sociologic, and individual dynamic factors. My attack on the problem will proceed in three steps: first, the specification of some background historical sociologic factors; second, the specification of some of the predisposing psychologic developmental factors; and, third, a presentation of the stresses and dynamics which appeared to be operating at the point of psychologic crisis.

### SOCIOLOGIC FACTORS

For several years the philosophy of "having fun," "enjoying life," and "being popular" has pervaded our educational and child-rearing practices.

In child rearing, fun morality is expressed by the belief that whatever the child wants is good for him. As less and less distinction is made between what he needs and what he wants, the two become merged in the child's mind. The permissive child rearing of today is producing adolescents who believe that whatever is wanted is needed and whatever is fun is good. Everywhere they see, hear, and read (in novels, plays, movies, and other mass media) that sex is fun. Advertising today uses sexual enticements for selling everything from perfume to oil furnaces. The common advertising theme of today (Come Alive! Have a Blast! Live a Little!) promotes having fun as the sole evidence of psychologic health.

Another important sociologic factor of the mid-twentieth century is the changes which have taken place in middle class fathers. They are characterized by higher educational levels and greater awareness of psychologic issues than any of their predecessors. In addition, they generally have more time available for involvement in the process of child rearing. These fathers are generally aware of their major role in the psychologic development of their children. The middle class fathers feel particularly responsible and guilty if their children meet with psychologic

difficulties. The "over-protective-permissive father syndrome" is a relatively unique phenomenon of the twentieth century. In each of the families studied, the father appeared to be susceptible to strong guilt feelings regarding how he behaved in relation to his child. He had to be a "good" father, and anything from within himself or from without which caused him to question his adequacy as a father seemed to generate excessive anxiety. In many ways the functioning of these fathers was complementary to the previously suggested twentieth century concept of fun morality.

It is my belief that one source of external stress and stimulated internal stress for these fathers is the increased eroticism of twentieth century society. The nature of this eroticism is particularly distressing for these fathers, since the literature, advertisements, movies, and other mass media create an ideal female sexual object which closely resembles the teenage daughter. I believe that it is significant that in contrast to the voluptuous, mature woman of the nineteenth century, the ideal female sexual object of the mid-twentieth century, as presented by the mass media, is a slim, youthful, teenage female. The destruction of the difference between the ideal sexual object and the teenage female appears to make the dissociation of incestuous sexual ideation somewhat more difficult. The modern teenage daughter of today more closely approximates the ideal sexual object of the twentieth century than did her counterpart in the nineteenth century.

### PSYCHOLOGIC DEVELOPMENTAL FACTORS

The families of these 7 girls reported family relationships as being very good, and the children seemed to pass through the various preadolescent developmental stages without marked difficulty. These females displayed a reasonably good feminine identification and a strong desire for interpersonal interactions. Upon closer examination of the reported "close family relationship," it was found that these daughters engaged in a high degree of ego-dependent behavior. Both parents, and particularly the fathers, made many decisions for the girls. The households were very child-centered and permissive with parents trying to show love by doing for the girls, by giving them advantages, by trying to insure their happiness and by not saying no and not allowing them to face frustrations. The basic narcissistic impulsiveness of these girls never seemed to cause great difficulty in the families owing to the complementary

permissive roles played by the parents. After interviewing these girls, I realized that "father understood me best" really meant that "he helped me to function; he was my external ego, and he helped me get most everything I wanted." It is posited that any significant deficiency in ego-dependent interpersonal interactions and any curbing of narcissistic impulsiveness will motivate the girl to seek a new interpersonal relationship which will allow these needs to be met.

### PSYCHOLOGIC CRISIS SITUATION

In each of the cases studied, a common phenomenon appeared to occur after the onset of puberty with regard to the father-daughter relationship. All members of the family reported an estrangement between father and daughter. The basis of this estrangement appeared to be the father's withdrawal from close interpersonal interactions with the daughter. These fathers seemed to expect greater independence on the part of the daughter and appeared angry because the daughter did not function in a somewhat more adult manner corresponding to her unusually mature physical appearance. It is interesting that the previously permitted dependence and narcissistic impulsiveness now seemed to be a great irritant to these fathers. There was also some suggestion that the father's withdrawal from involvement with the daughter and hostility toward her was a reaction formation to his sexual attraction to her. As I have pointed out previously, there are many current social pressures which set up the young teenage girl as an ideal sexual object, and these fathers appear particularly sensitive to any internal or external stress which threatens their self-image as the ideal father. Incestuous thoughts or ideation probably represents an enormous threat and stress for these fathers.

To date, I am aware of two phenotypic reactions of these permissive, overly protective fathers to their daughters' entering adolescence. The first, and apparently most common reaction, is severe and relatively sudden withdrawal of involvement with the teenage daughter and, generally, increased involvement with other, younger siblings. The second type of reaction on the part of the father is to become increasingly hostile and critical toward his daughter and teenage society in general.

In each case the daughters were, apparently, acutely aware of the father's withdrawal, and there were reported

feelings of depression. The daughters of the fathers who displayed the first reaction showed a chronic depression of varying degrees, whereas daughters of the fathers who displayed the second reaction suffered from a short-lived depression which was replaced by counter-hostility toward the father and adults in general. This depression is understandable in light of the oral nature of these girls' personalities. The loss of the father carries with it not only the loss of needed narcissistic supplies but also the loss of the external ego and its reality testing and impulse control functions. These losses uniformly caused a loss of self-esteem, and there began a process of self-devaluation. The self-devaluation appears to take place on the basis that the girl "loves" and "needs" her father very much and knows he is a good person, and he remains her ideal love object. Hence, his rejection must be due to a defect or deficiency in her. In short, "he is good; therefore, I must be the one who is bad." This depressive nucleus in girls with sexual acting out behavior has been reported frequently (1, 2, 4). It is interesting that the inability to reject the father also operated in relation to the boys who rejected two of these girls when they learned that they were pregnant.

At this point, the stage appears to be set for the possibility of the daughters' sexual acting out. These teenage girls possess a good feminine appearance, and with the loss of the fathers' complementary role, they developed a strong drive to re-establish a narcissistic, ego-dependent relationship. This statement indicates that a condition exists in these teenage girls much like that suggested by Segal (4) in his discussion of impulsive sexuality in adults. He hypothesized that "Sexually impulsive behavior, precipitated by imagined or real object loss, is a desperate restitutional measure to re-establish a symbiotic relationship upon which ego integration depends."

After this disruption of the father-daughter relationship, these girls did, in fact, become very interested in obtaining the "exclusive companionship" of a boy, usually only a few years older than themselves. None of these girls chose to play the field, nor were any of them blatantly promiscuous. Rather, they usually had only one steady boy friend. Their relationship was characterized by the girls' almost exclusive preoccupation with the boy, talking to him, talking about him, and being both jealous and restrictive regarding the boy's free time. They all reported that after 6 or 9 months they had become sexually intimate. It is interesting that none of these girls reported any great

enjoyment from sexual relationships, and all saw the boy as being more interested in sex than they were. They were all able to verbalize feelings that they thought their sexual involvement was wrong and bad even at the time it was going on but that they could not do anything about it. This impotence appears to be related to two factors. The first factor is the oral, impulsive, narcissistic personalities of the girls. These girls appeared to be as unable to say no to their impulses as their parents were unable to say no to them. The second factor appears to be related to the need to maintain the ego-dependent relationship with the boy.

In his work with adults who engaged in impulsive sexuality after perceived or real object loss, Segal (4) found: "Any interpersonal conflict with a needed object mobilizes a narcissistic response. So important is this to them, that such patients prefer self sacrifice or jeopardy of self interest rather than to incur dislike of the object they deem to be essential."

If these speculations are accurate, they would suggest that in some "ideal middle class families" there exists a hidden pathology which is only manifested in the child who must assume adultlike self-responsibilities when entering adolescence. The years of permissive, overly protective child rearing and of fostered ego dependency appeared to have produced narcissistic, impulsive, ego-dependent individuals. The father seems to play a special role once the girl enters adolescence, and it is his withdrawal which seems to be the precipitating factor in the sexual acting out behavior of these girls. On the basis of the analysis presented here, this behavior is considered to be largely asexual in motivation.

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## MANAGEMENT OF HYSTERICAL DEPENDENT WIVES

James A. V. Galvin

I trust by now you have all been adequately instructed on the proper treatment of consultants who come to visit you. This is a fairly complicated game of one-upmanship and a bit safer than the game you routinely play. Probably the best known technic in this game is, first of all, to exhaust him with a long trip in a bad airplane and then soften him up with courtesy, booze, and other things to which we have all long since become immune. Then when you have lulled him into a sense of security, you present to him the most miserable case you can possibly find--cadavers from the morgue. The last time I went to Alaska, this is exactly what happened. Most of the cadavers I interviewed had not yet admitted their condition. So pending the admission, we generally made the diagnosis in them of hysteria. You are all aware of the historical change which has taken place within this century, that once upon a time there were many more conversion reactions than we now see, and what we now most often see are hysterical characters manifesting in various ways. Hysteria has become a diagnostic and dynamic syndrome. Let us remind ourselves that both sexes can be involved. I sometimes wonder if we are continuing to overlook hysteria in man. It certainly exists. I don't know what its incidence is, but we think of it more often in women and perhaps we're continuing to practice the classical error. You know, Freud once upon a time when he returned to Vienna from his work with Charcot, presented a paper in the Vienna Medical Society--the Chamber of Doctors, as they call it--on male hysteria. Afterwards a senior doctor decided to shoot him completely out of the water with the remark, "My dear young man, don't you realize that hysteria is derived from hysteron?" In Greek this means "uterus." That was the end of the argument. It may be that partially we are continuing to do that. I am not sure.

In any case, these people are characterized, first of all, by a very driving kind of sexual ambivalence, with even more fascination than is normal with sexuality in its initial stages. These people are terribly interested in flirting, courting, dating, and this kind of thing, but much less

interested in the more meaningful parts of sexuality which involve intercourse, child-bearing, and child-raising. There is a peculiar compulsive quality to the sexuality of these people as far as it goes. They are theatrical and exhibitionistic primarily in the service of their kind of sexuality. One of the awkward by-products of this, as far as we are concerned, is the extraordinary publicity they give to their complaints. Now once again there may be some kind of sociologic disease involved. I also wonder if we don't, in our choice of theater heroes or heroines, provide some kind of secondary gain. A fair case can be made for the idea that many movie stars and opera stars are typically hysterical characters. They seem to be the people whom we adulate at least in this social arena. Although the people with hysterical characters are terribly interested in trivial sexuality, they generally do badly at real love-making--in genuine, unselfish relationships. It is striking that these people have more amnesia, immediate and past, than does the average patient.

Only two weeks ago I saw a young woman of 22 who was functioning very well, about to graduate from a university. She told me that she could remember absolutely nothing before her twelfth year. Now this is considerably beyond the limits of normal and is typical of these people. Also--and this is infuriating in any kind of psychotherapy--they are awfully good at repressing from one day to the next something you think you have worked through. I am sure many of you had the experience of sort of signing a contract with such a patient: Now X subject is solved; we've decided about it and we understand it; future behavior has been decided upon, also. Then the next time they come in, they say, "Who are you? What is your name?" An extremely important part of this psychologic picture is the underlying dependency. It is often missed, because we are so impressed by the barrage of pseudosexuality that we often do not see the enormously troublesome dependency which is very close beneath the surface. Once again, when Freud first began to treat hysteria, he made two major mistakes in his early formulations. The first one as you know was that he failed to differentiate between fantasied sexual traumata and real ones until finally he had the good fortune of having a patient who had told him of some sexual abuse at the hands of an uncle. After he had published this, the uncle became his patient and informed him that he hadn't even been on the same continent when the abuse supposedly took place. The other kind of thing which Freud did not see early was this dependency which is probably more costly psychologically--more costly in terms of robbing the

patient of normal satisfactions in living--than any other part of the syndrome. So much for generalities.

Now let me tell you a little bit about the particular women to whom I refer. The patients presented to me there as hysteriacs were all women--depending on your definition somewhat. But in any case they were all females, and I was told there that there were very large numbers of them in a medical situation which was shorthanded, one in which travel was difficult, and the methods which they had used had not seemed to provide any solution to the problem. Now, first of all, these women were, as one would expect, physically exhibitionistic. By this I mean their dresses were low cut, tight, and hitched up over their legs. Whatever they had to wave about, they did. I think we are having again a national phase of heavy makeup, but these women, in general, outdid anything. Theirs was thicker, purpler, wider; their hair was piled higher and glued larger, and everything was done a little more. In this physical exhibitionism, however, they demonstrated their ambivalence because to the taste of most of the men who saw them, who joined me in examining them and thinking about them, the exhibitionism was not attractive. It was repelling. For example, if a woman puts lipstick a half inch above and below her lips, it becomes mawkish; it puts you off instead of attracting you. They also had a tendency to be exhibitionistic of somewhat unfortunate physical features--extremely bony legs and other organs which more decently should not have been exhibited. Now they act out their ambivalence very nicely in this way, because what they do or what they consciously believe themselves to be doing is to make themselves attractive. I didn't have a fair sample of the total male population, but I believe that most men would not, in fact, be attracted by this kind of maneuver. Almost all of them had made very early marriages. Now for people who wish to marry early in these United States, one method is to join one of the armed services, because in this way a young man without training has a modicum of money more quickly than he would have otherwise. In spite of official efforts to discourage this--not providing quarters, etc., for junior enlisted men, as you know--in every post in the country it is an enormous problem that entering-stage enlisted men do have wives and families and do not have enough money to manage it; so it becomes a very complicated and difficult social problem. To go back to the generality, one of two patterns is usual. Either there is very early marriage or there is a great deal of passing from man to man, and among those I saw, early marriage, very early marriage, was the rule. In Alaska there are restrictions on

the people who may bring their families to the theater with them, but these restrictions can be circumvented because private travel is not restricted. Very often men who would have been better off without their wives and families did, in fact, have them there with the added complication that lots of things are a little more expensive in Alaska than elsewhere. They all or almost all had pretty severe financial problems. In this there was unmistakably a large proportion of reality, but this is also an excellent way in which one can express one's feelings about dependency, and the usual expression is simply to say to the husband, "I don't care what your problems are. I don't care what your pay is. I need more money or I need a television or I need something, and it is up to you to get it." The fact that the guy is tied hand and foot or serving time in the stockade is not an adequate excuse. I might also add in parentheses here that, as the marriages became more difficult, many of the men escaped from them--a kind of de facto escape without divorce or without any open and recognized rupture of the marriage by taking extra jobs--sometimes for money if they could be found (that type of job is not easy to find in Alaska), but even more successfully in some kind of good works. You know your wife may be able to complain if you want to go every evening to attend bar or do something of this sort, but if you are saving the world for democracy or leading the local boy scout or girl scout troop, or doing some other volunteer work, the old girl doesn't get off the ground.

The ability to repress seen in amnesia also worked very well for these people in weakening their duty to test reality. If young people without much money wish to marry, it would then seem logical that they postpone having babies for a while. These women did not, and very often at the age of 19 or 20 they would already have two or three babies. In addition to the reality of the young woman having several babies, which has to be a burden, by exploitation of their ability to repress, these women were badly informed about the nature of babies and about the technics of taking care of them; so the job was doubled--more laborious than it need have been--and the children were fairly routinely neglected in a place where housing is less than desirable and where the climate is rigorous. This meant again, a secondary by-product--unnecessary disease in the children because of "ignorance" (I mean psychologically determined ignorance) in their mothers.

As you could predict, their husbands tended to be somewhat ineffectual. Frequently the marriage had been a

supposed contract for dependency gratification of each. Now, as you know, courtship among us is a time of concerted lying and what these people frequently did was represent themselves falsely to each other before marriage, and then afterwards obviously (not as crassly or as obviously as I state) each said to the other, "I was only fooling about wanting to be married. Really what I want is somebody to take care of me and baby me." When both say this, the results are unfortunate. There was frequent complaint against the husband on many fronts, but among them was the complaint that the husband did not help the wife and did not help care for her children nor take care of her house. Now this, I suppose, can be traced to the beginning of comic strips in this country and is a continuing battle of the sexes for all of us, but it was much more marked there. I think it was Theresa Benedek who, some years ago, made the point that there are women who can function adequately as mothers, provided they have an assistant mother. Now this means their own mothers come in and lend a hand now and then, or an aunt or anybody who can come and sort of let them out of the cage from time to time. With the mobility of our population nowadays this kind of thing is more and more difficult to find. As a poor substitute, we have the baby-sitting system. This is a recent invention, an invention of the last 30 or 40 years. When we were somewhat less mobile, there were almost always maiden aunts or cousins or somebody around who would be willing or even anxious to take the kids on rare occasions when the mother would permit it. Under all of the presenting complaints could be heard a kind of drone bass which really represented frustration and dependency needs. There are people (and I'm glad to see by looking over the audience that not one of them is represented here) who joined the military forces thinking of them as a kind of welfare state. "I don't have much gumption; I don't have much education; and I don't have much ambition; so I'll join the Horse Marines and just sort of float gently upwards and offend nobody until after 30 years. Then I'll retire with an adequate pension." Wives can also be involved in this. We saw a small number and this does not represent a trend from the total group, but we saw a small number of women whose husbands very badly wanted to get out of the Air Force. In general, these were people who had acquired some kind of marketable skill in the Air Force, wanted to leave, and go elsewhere where they thought they could make better lives.

Another thing which was common among these people was the assignment of extremely heavy responsibility to small children. A couple who would somehow struggle along for 6 or

8 years generally doing badly, and doing what they did unhappily, until one of the kids got to be 7 or 8; particularly if this were a clever kid or an energetic kid, the child would then be made the executive of the family. It was perfectly ordinary to see women of 30 who always came to the clinic or the hospital accompanied by this 8-year-old child. In Alaska, again, you see this is a particularly interesting thing. The child had to be taken out of school in most cases to accompany the mother. As soon as the child showed the slightest ability to cope with life, in many cases father and mother said, "O.K. It's all yours. We quit." Eight-year-old girls did major parts of the housework and had major duties in preparing food and caring for the children. Again, as we know, there is a well-known pattern of premature maturity in children, so that they may seem to do very well at this kind of thing. Then when the time arrives for them to take up these tasks normally, they are partly exhausted and partly disillusioned and they cease to function in a domestic way.

Practically without exception these women, without understanding the nature of their frustrations, presented a sizable number of complaints and frustrations; they were almost never reasonable ones, but very commonly they projected their frustrations, their disappointments, and their unhappiness first on the husbands with the idea of "I don't know what the solution is, but get me out of this theater, or rid me of these children, or get more money . . . I don't care if these are the quarters which we've been assigned, I want better quarters . . . I know the tour is what it is, but I want you to go home with me earlier . . . I know we are broke but I want to go stateside for Christmas"--this kind of thing, and always with the implication that there is nothing unreasonable in the request and the husband is a bastard if he doesn't come up with a solution. The projection then goes farther, I suppose, with the defensive help of the husband, but then it is the commanding officer who becomes the agent of the devil in Alaska. It's he who assigns the quarters, determines the tour, assigns duty, and does whatever other malevolent things that are happening to the poor defenseless girl, and eventually it becomes the Air Force. I think in my life I have heard a fairly representative sampling of "bitching" about the Air Force, but this particular group were the world's champions. Time after time, in trying to interview them--of course, this was always in pretty limited time--you would have to catch them with a butterfly net and bring them back from their complaints about the Air Force to get them aimed at the interview again.

Almost always they had first come to medical attention because of hypochondriacal complaint. I mean loud, repetitive, unceasing complaints about one or more physical matters.

You know it is possible to construct a psychologic continuum between stoicism, at the one extreme, in the presence of real physical discomfort--through normal complaint--through obsessive complaint--through exaggeration of the physical condition--and then on until you have frankly hypochondriacal delusions. These patients almost always had had long periods of experience in the family care clinic before they came to the attention of psychiatrists. Another thing about them was they had learned, and learned very well and very accurately, how to make their complaints extremely loud and effective. They had consulted with the air inspector, the chaplain, and the base commanding officer. They wrote their senators. They had this armamentarium extremely well developed.

There were two usual ways in which they were referred to psychiatrists. The first was the general practitioner simply couldn't stand them anymore. They had seen him twice a week for 6 months, and he had given them all of the colors of aspirin he had, and nothing had happened. This was not a thoughtful referral. It was, "Just go away. I can't stand you anymore." The other way was when they had come to public attention, when the post commander got a letter from a congressman. An excellent way to come to attention is by suicidal gestures. These women made gestures dramatically and repeatedly. There was the small incidence of bad technique--by which I mean the girl who takes pills not really knowing the pharmacology of the pills, or sticks her head in the oven because her husband is coming home in 15 minutes, and that day he doesn't. In this way a certain small proportion of these suicidal gestures by mistake resulted in suicide.

Well, this is at least a partial description of these women, and I emphasize again there were very large numbers of them. In most cases they eventually gravitated to the psychiatric clinics. They were seen as infrequently as could possibly be managed in groups, which were called "therapy groups." Diagnoses were almost always made by exclusion. For weeks and months they are treated for headaches, backaches, toothaches, dysmenorrhea, upset stomachs, or whatever. They are treated symptomatically without accurate diagnosis--certainly never with a diagnosis of hysteria. The diagnosis of hysteria as such was made only at the end of a long course of chronic complaints. By the time such a woman came to the attention of psychiatrists, she had already had a long time

of unsuccessful and, she thought, unfair treatment by other doctors who wear the same kind of uniform. I offered these thoughts to my colleagues in Alaska. In general, I think they agreed that there are major problems in countertransference in the treatment of these women. The psychiatrists for the most part were relatively young and relatively inexperienced in the practice of psychiatry. There were some psychotherapeutic traps to which they had not yet been sensitized.

It can be expected of hysterical patients that there is an enormously active and complicated fantasy about any therapeutic agent. These fantasies were practically never examined. In some cases at least, romances were going on in the minds of the patients while the psychiatrist was completely unaware of them. One particular group deteriorated into a completely nonmoving, repetitive recital of complaints and aspirations. The psychiatrist out of whatever motivation, boredom or disinterest, had practically ceased to be a factor in the therapy group. They met once a week, and week after week did exactly the same thing, taking it carefully in turns, being extremely ladylike about it; but each one had her little 10 minutes to recite what a hopeless jerk her husband was, what a person like her deserved of this life, and how soon she was going to Hollywood. Month three was exactly the same as month one.

In the days of Freud's collaboration with Breuer you remember that Breuer had exactly this problem. He was treating a young woman hypnotically when she developed a pseudocyesis with the fantasy that he was the father of the pseudo-baby. When finally after quite a long time Breuer became aware of this, he immediately terminated the treatment and took his wife on a 6-month vacation to Italy after which she came back pregnant.

Breuer's reaction is typical of a reaction in which we often engage with these patients. When we finally find out that we have made a series of mistakes, we indulge in a kind of angry and dismissing reaction to the former unaware indulgence. Some of our colleagues do this more frankly and easily than we do. I am sure that you have had the experience of consultation when making a psychiatric diagnosis causes anger and rejection.

A major frustration which the psychiatrists had was that the patients would not get well. You know we all view ourselves as healers. We are envious of the surgeon who sees

very clear results of treatment. We are very grateful to the patient who will say, "You cured me." These women using the allegedly therapeutic situation as an arena for acting out are not about to get better or about to get well, although they may teasingly get better from time to time.

We are all aware of the importance of style in psychiatric treatment. It is an extremely stupid thing for any teacher to say to any student of anything psychiatric, "I do it this way; therefore, you do it this way." It can't possibly be done by any two people in the same way. There are always differences on the basis of the personality or skills or limitations of the two people involved. One of the things which I think ought to be more generally known among the young men who are dealing with the problems is this danger of acting out in a situation which is called therapeutic. There is danger of repetitively nurturing the neurotic character structure while labeling the process "therapy." One of the reasons for the pessimism which exists among some of us about our psychiatric methods or psychotherapeutic methods is that we have not been careful about really evaluating the results. I think it might be useful that these therapy groups not be homogeneous--that is, not be made up all of young hysterical women. There are all sorts of secret transactions that go on in therapy groups which are never mentioned. Little secret treaties are made which very often escape the attention of the therapist or therapists. In these groups there can be a kind of conspiracy of applauding hysteria and of being firmly against anything else, and this I think might be helped if the groups were not homogeneous. It is also useful to increase the number of therapists. We have, however, begun to learn a little bit about using adjunctive personnel so that these people can help with the therapy. Group activity in the whole United States now tends to be automatically permissive and this is not as it should be. There can be very great passivity in the therapist when in fact a great deal of confrontation and activity is called for.

I don't think we are doing well enough about sharing experience--the experience which we have currently or the experience which has happened in the past. I think it would be a useful thing if we could, first of all, make a concerted effort to put together the real facts. You see, what I have been talking about are impressions. These are worth about as much as impressions are generally worth, but what we ought to have is some information about the morbidity of this kind of disorder, about the fact (if it be fact) that there are common trends in the psychodynamics, about the ways we go

astray, and about methods which have been demonstrated to benefit the situation. Such information should be available in published form.

## CULTURE SHOCK AND THE PROBLEM OF ADJUSTMENT TO A NEW OVERSEAS ENVIRONMENT

Vincent Wallen

Imagine yourself in a strange new land, a land where a completely different language is spoken; a land of flimsy wood and paper houses, where people drive their cars on the left with the steering wheel on the right; a land where one reads a newspaper or a book from back to front, from right to left, and from top directly to bottom; a land where a house on a street may bear the number 5 and the ones on either side the numbers 374 and 5406; a land where you will pay for a meal before it will be served; a land where when you ask a question it is always replied to in the affirmative, "Yes, I do not have the answer," "Yes, I cannot do it," "Yes, you are not on the right road." Add to these the many sights, sounds, and smells, and the other cacophony and you might begin to experience a sense of loss of well-being, a sense of confusion, and bewilderment. You might be experiencing the initial stage of onset of what is commonly called "culture shock."

What is culture shock?

Culture shock is a psychologic malady that has afflicted man in varying degrees from time immemorial. It occurs when a person is suddenly transplanted abroad. It has its origin in the anxiety that results from the loss of the familiar signs and symbols of the person's basic culture. The signs or cues are the thousand and one ways in which each person learns to orient and adjust himself to the basic situations of daily life--when to shake hands, what to say when one meets people, when to give tips and how much, how to make purchases, when to accept an invitation and when to decline it, when to speak and when not to speak, when to take statements seriously and when not. The cues, which may be words, facial expressions, gestures, customs, or norms, are acquired by each person in the process of growing up and are as much a part of one's culture as the language spoken or the beliefs one has learned to accept. Each person's peace of mind and emotional balance and efficiency depend on hundreds of such

cues, most of which are thoroughly ingrained and of which the person is usually totally unaware.

When the individual enters the new overseas cultural environment, all or most of his learned cues are removed. No matter how broad-minded or full of good will a person may be, props are knocked out from under him. He feels like the proverbial fish "out of the water" and experiences frustration and anxiety.

First comes the rejection of the new environment by verbal epithets and criticisms, "the customs of \_\_\_\_\_ are bad" or "the people of \_\_\_\_\_ are \_\_\_\_\_."

Next comes regression through the benign mental images and pleasant fantasies of the previous culture. Everything from the past suddenly becomes inflated and wonderful. All of the person's serious and past difficulties and problems are forgotten and all of the good things are suddenly remembered. The individual may then start to experience some of the symptoms of culture shock. They may be: (1) excessive washing of the hands; (2) continuous concern over drinking water, food, dishes, and bedding; (3) fear of physical contact with the hired help; (4) a feeling of helplessness and increased dependence on fellow nationals; (5) great and inappropriate anger over slight delays and minor frustrations; (6) refusal to learn the host country's language; (7) pre-occupation with fear of being molested, injured, cheated, or robbed; (8) concern over bodily functions, minor pains, and skin eruptions; and (9) the terrible longing to be back home, to be able to have a good cup of coffee and a piece of apple pie, to be able to walk into the corner drugstore and order a chocolate malt or a hamburger, to visit one's relatives, and, in general, to be able to talk again with people "who really make sense."

Individuals differ greatly to the degree in which they are affected by culture shock. Although not too common, there are those who cannot live in a foreign country. These are the individuals who become quickly and profoundly traumatized in the new environment. A quick return to the previous environment is the only solution. Then there are those individuals who never have to cope with the real conditions of life in the new country. They stay in the large hotels, responding in fascination to all that is new, and they associate and deal with foreign nationals who can speak their language fluently and who are polite and gracious to all new visitors. Such a honeymoon stage may last from a few

days or weeks to months depending on circumstances. If one is an "important" person, he or she will be shown the show places, will be wined and dined and pampered, and will, upon returning home, speak glowingly about the progress, good will, and the amity of the country and its people, and may talk at length about the pleasant and superficial experience abroad.

The individual who remains in the new country, however, and who has to cope with the real conditions of life reacts much differently. He quickly becomes beset with transportation problems, maid problems, language problems, house problems, shopping problems, and the fact that the people in the host country appear to be largely indifferent to all of these problems. The locals try to help but they just don't seem to understand the newcomer's great urgency and concern over these difficulties; therefore, they are perceived as being insensitive and unsympathetic. The individual may then band together with other fellow countrymen and proceed to criticize the host country, its ways, and its people. The criticism, however, is not an objective one. It is not an honest analysis of the actual conditions and the historical events and circumstances which have created them. The people of the host country might then be perceived as stereotypes, caricatures of a negative type. The "stuffy Englishman," the "nearsighted Japanese," the "lazy Latin American" are some examples of mild forms of stereotypes. The use of such stereotypes might soothe the ego, but it does nothing for adjustment since it hinders the paths of reasoning and understanding of the host country and its citizens.

If the visitor succeeds in learning some of the language and can begin to get around by himself, he may find the way into the new cultural environment. Also, if there is someone else who is worse off, helping him can provide the confidence needed to improve the ability to speak and get around.

If the new visitor is able to accept the customs of the host country as just another way of living, he may begin to respond within the new milieu without experiencing the former anxiety, although there may be moments of strain at times. Only with a good grasp of all of the new cues of the host country and its people, will this strain disappear. With a good adjustment comes the acceptance of the foods, drinks, habits, and customs and then actual enjoyment of them. When the visitor finally leaves for good, he may take many things back with him and will generally miss the country and its people to whom he has become accustomed.

In some instances, however, what might appear to be good adjustment might actually be fair or marginal adjustment. The new arrival might begin to deny consciously or unconsciously the fact that he is in a completely new environment and might repress and suppress his true feelings of discomfort and anger at the many new frustrations. The individual might, for example, be depressed without being aware of it and might superficially appear to be interested and active in the new culture. When the prospect of returning home looms large and draws closer, it is accompanied by an automatic "uplifting of spirits" and the individual begins to talk about reaching the "halfway mark" or entering the "downhill portion" of the tour.

At times, it appears that even those persons who are considered to be well-adjusted, might, if the stresses and frustrations continue over a long period, exhibit signs of malaise, disinterestedness, and listlessness coined by some observers as "rice-paddy depression," a malady which seems to occur more often in wives than in husbands. The depression is usually dispelled by a move into government quarters or government approved housing where the physical facilities, lighting and plumbing, and the cultural cues and symbols are adequate and also familiar to the individual. A sense of relief and release usually accompanies the change and the family members become energetic once more, especially the wife. This phenomenon appears to be quite prevalent and does not necessarily reflect any basic emotional inadequacy or psychopathology in the individual, for recovery is almost always immediate and complete.

The importance of the impact of culture shock on personnel in the Armed Forces and on their families cannot be minimized for experience has shown that culture shock acts in many instances as a stimulus to marital discord, excessive drinking, and numerous hypochondriacal concerns. It also precipitates excessive sick-call visits to dispensaries and to family clinics, and may result in psychiatric referral, psychiatric hospitalization, and abrupt or early termination and cancellation of the military member's overseas tour. The results are usually costly to both the military member and to the Armed Forces in terms of moving expenses, man-hours lost, and the requisitioning of a replacement.

An example of extreme emotional reaction which is sometimes referred to as "travel psychosis" is the case of Mrs. X, who at the present time is a patient in an overseas

military psychiatric ward. She is a 47-year-old female dependent, a mother of three teen-age children, who arrived with her husband and children at the overseas international airport. On debarkation from the airplane she exhibited signs of mild confusion. On reaching the hotel room she became increasingly confused and disoriented and later began to wander from her room, walking into rooms occupied by others and informing the occupants that her husband was beating her. She informed strangers in the lobby and in the hallways that people were putting arsenic in her food. On admission to the hospital she appeared to be markedly disoriented and displayed "pressured speech," talking continuously and nonsensically. She was admitted with the diagnosis of acute paranoid schizophrenia. At the present time, despite the large doses of medication which she has received during the last two weeks, she has shown only slight improvement. Prognosis for her complete recovery and for her living in the foreign country is described by her physician as being "extremely poor."

It is also important to point out that many of the difficulties that the newcomer experiences are real. An individual coming to a tropical area from a temperate zone may suffer from intestinal disturbances, excess temperatures, excessive humidity, skin irritations, and other disturbing conditions. Strange food and various tropical food parasites can upset the newcomer. Local standards of health may be different. The milk may be unpasteurized and "night soil" might be used as the basic fertilizer. Spitting on the sidewalks and in public buildings might be permitted. Urinating in public open urinals or alongside busy highways might be sanctioned. Toilet facilities and plumbing might be primitive and unsanitary. When these physical difficulties are added to those arising from not knowing how to communicate and the uncertainties presented by strange customs, compounded by the problems and emotional fatigue of moving one's family and possessions thousands of miles, the emotional stresses and anxieties become understandable. Consequently, the individual's physical and emotional tolerances are lowered, making him susceptible to physical illnesses and emotional fatigue.

Through the course of time most individuals learn to make the necessary adjustments. They learn to adapt to the difficulties through a change in attitude. The individual learns to shift his perception of himself and the environment and he learns to accept those things that he cannot change.

Another important point is the attitude of other persons toward the individual who is experiencing culture shock. If the individual is frustrated and angry toward the people

of the host country, they will sense the hostility and will either avoid him or respond in an equally hostile manner. Anger begets anger and hostility begets hostility.

One of the difficulties with culture shock is that it has never been studied carefully and objectively. Hence, there is no body of organized information that can be applied successfully and there are no systematic rules to follow. Each individual therefore must learn to make his own adjustments, and until he makes the necessary adjustments, he is not able to fully play his part on the job or as a member of the community.

It also appears that culture shock affects wives more often than husbands. The husband has his professional duties to occupy him and his activities may not differ sharply from what he has been accustomed to. The wife, on the other hand, has to function in an environment which may differ totally from the environment where she grew up and to which she has been more accustomed than her husband.

To overcome culture shock a person should realize that each individual lives in a unique cultural environment consisting of man-made physical objects, social institutions, and ideas and beliefs. An individual is not born with culture but only with a capacity to learn it and to use it. There is nothing in a newborn child which dictates that it should eventually speak French, German, Japanese, or Hottentot, nor that he eat with a fork in his left hand rather than in his right, or use chopsticks. All of these things the child has to learn from his parents and the culture into which he has been born. It is by means of the culture that the young learn to adapt themselves to the physical environment and to the people with whom they associate. Once learned, culture becomes a way of life--the sure, familiar, largely automatic way of getting what the person wants from his environment, and as such, it also becomes a value. The individual learns to accept his culture as both the best and the only way to do things, and carries this unconscious training and conditioning with him wherever he goes. This indicates that when a culture and its values are well ingrained in the individual it is not a simple matter to acquaint oneself and adjust to the culture of another nation.

Successful adjustment seems to require the realization that each culture has to be perceived objectively and through the "eyes" of the native citizen. The solution lies in

getting to know the people and their customs, their ways of thinking and their ways of doing things, and the philosophy that lies behind them. Once the person can learn something of the new language and learn to communicate with the maid, the new neighbor, the storekeeper, and others, he will gain confidence, and the whole new world of cultural meaning may open up for him. He may then begin to find out what and how people do things and what their interests are. These interests which are usually basic and habitual are almost always talked about and discussed in conversation and can serve as a vehicle or as a basic point for acceptance into the group or culture. In addition, it may be helpful to be an observer or a passive participant in local activities, whether it is a carnival, a "bean-throwing" ceremony, or a "bon-odori" dance.

Yet, the individual must always remember that he is a visitor or outsider and can be expected to be treated as such. He should view his participation as a form of "role-playing," realizing that the understanding of the ways of the people are essential, but that he does not have to give up his own basic patterns of thinking and patterns of behavior.

Given a good attitude, a willingness to learn about oneself and others, and time, the great healer, each individual has the potential for his own recovery from the malady of "culture shock."

## DISCUSSION

DR. BRILL: I think that the only excuse for my being asked to discuss Maj. Wallen's paper is that I have been to Japan and have seen all the scenes that Maj. Wallen just showed. Unfortunately I was one of the individuals that he alluded to in his paper who "comes over there, is wined and dined, protected, sheltered, and never is exposed to any of the hardships or any of the difficulties that really exist if you have to live there just on your own." So I feel that I am not very well prepared to discuss his report except that I do have some little feeling of sympathy by having had experiences where I couldn't read a sign, didn't know where I was, couldn't communicate, and felt very frustrated. About the greatest experience of that nature that I had was coming back with one of the Tachikawa psychiatrists from a visit which we undertook on our own to the University of Kanazawa

which is on the other side of Japan, across the Japanese Alps facing the China Sea. On the way back on a commercial airline our flight was grounded in Nagoya. It was just after they had two very bad crashes in the Bay of Tokyo and the airline was being very cautious. We had to wait in the Japanese airport for another plane to get back to Tokyo. We had a terrible time trying to find out which flight we were to take and when it was going to leave. We didn't know how to get word to the Tachikawa AFB, that we were not going to be arriving on time; we wanted to inform the driver who was to pick us up that we would be late--but we didn't know how late. This really turned out to be an experience! When we arrived in the Tokyo International Airport we didn't know how to contact anyone; didn't know where the driver was; we were about five hours late; and I can see how, if you multiply experiences like that a thousand-fold, which is what people experience when they live in a foreign country, they can suffer the culture shock Maj. Wallen described. He has painted such a nice picture of it that the few remarks I make will be around the periphery.

First of all, the unfamiliar and the unknown universally produce anxiety which can be clear-cut and exist in a situation that is even as little of a change as moving to another city in the United States (where one is not familiar with the public transportation system, where one isn't familiar with names of the streets, and where one will practically always experience some increased tension during the initial period of adjustment). This interestingly enough has its physiologic or neurophysiologic counterparts. In animal experiments it is very easy to demonstrate with EEG recordings from various parts of the brain that exposing the animal to a novel stimulus or to a learning situation results in increased activity in all the leads, creating an impression of an electrical counterpart of anxiety. It's interesting that, once the animal becomes familiar with the situation and learns to respond appropriately, you can see little or no evidence of this in the electrical activity as recorded from the various parts of the brain. The whole brain quiets down and even the stimulus hardly even registers. So it appears that there is some counterpart in the nervous system of the tension and nervousness that an individual experiences in a new or unfamiliar situation.

In some respects culture shock has some of the elements of separation anxiety. One can see some of the same symptoms in children when they go away to camp. They may show some of the homesickness that Maj. Wallen referred to as well as the fright. Older children, when they go away to college, may have feelings of anxiety until they become familiar with the new environment. Officers in both Army and Navy may manifest the same syndrome when ordered to a remote base in the United States or to a place with which they are unfamiliar. It happens to doctors and even (or especially) to some psychiatrists who never completely recover from it.

Someone from a large city and cultural center who is assigned to a remote area in the southeast part of the United States with a culture that is totally different from anything he has known before, sometimes suffers greatly; in fact, I've heard it said that some people even have a culture shock when they are transferred to Texas.

Maj. Wallen mentioned something about the fact that it often is more difficult for the wives, who suffer culture shock even more severely than do their husbands, who do have some familiar occupation to keep them busy all day long. I believe this is true. Dr. Galvin this morning described the hysterical wife of an airman in Alaska. As one visits various military installations one is impressed with the special problems in adjustment that the wives have. They don't all react by becoming hysterical, but they have difficulties as a result of being taken out of familiar places and exposed to the unknown. For example, just this past spring I saw one woman who couldn't stand being assigned to Scott AFB, which was not more than 200 miles from her home in Indiana where her sister was and where she was agitating to be assigned to. It was an interesting thing that there should be such a severe adjustment problem just 200 miles away.

One other point is worth mentioning briefly. As part of the ICA program, the faculty from an American university (I think it's the University of Chicago) is working with the medical school faculty in northern Thailand. The Army psychiatric team at the SEATO Laboratory (that's the Southeast Asia Treaty Organization Laboratory) has been studying

the interaction between the American medical school faculty and the students and faculty of this Thailand medical school way up in the north. One of the psychiatrists reported the observation that the American men who are most respected by the Thais at this medical school are the ones who seem to remain themselves; they are the ones who don't adopt roles or act overly polite or try too hard to be compliant with the new culture. They apparently seem to prefer people who act natural, who are themselves and yet who respect the culture in which they find themselves. This doesn't mean one shouldn't try to understand the new culture but it's a mistake to try to imitate it, especially prematurely, in an inappropriate fashion.

I would like to ask a question of Maj. Wallen, who has been at Tachikawa and has had extensive experience with this problem. How serious is the problem of culture shock from a clinical standpoint? Is it a major problem? Is it a minor problem? Does he see lots of patients? Is it something that the services should be devoting more attention to in an attempt to try to minimize it? I know it hasn't been a serious problem for Maj. Wallen himself, whose excellent adjustment to Japan and the Far East I had opportunity to personally observe. It may well be that he has been helped in making his excellent adjustment by his very charming wife Phyllis and also by the fact that he's a stamp and coin collector, and this interest brings him into intimate contact with many of the Japanese.

**SOCIAL PSYCHIATRY AT AN AIR FORCE BASE:  
A MILITARY COMMUNITY MENTAL HEALTH SERVICE**

Thomas F. Ednie

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INTRODUCTION

The mental health profession owes much to military psychiatry. The experiences of the World Wars gave great impetus to the development of modern dynamic and social psychiatry and to the application of the mental health team to human crises. Although the general demobilization of the military services after the great wars has threatened to destroy these hard-learned lessons within the military establishment, the U. S. Army, after World War II and during the Korean conflict, again began to apply to principles of social psychiatry by re-establishing mental hygiene clinics at all large training bases. This development did not affect the Air Force, however, as it had not previously affected the Air Corps in World War II. But for the ground forces it works.

Notice (table I) the huge psychiatric noneffectiveness rate in the pre-Korea, pre-mental hygiene, Army (24 psychiatric hospital admissions per 1,000 men per year) and the very low post-Korea, post-mental hygiene, rate (5/1,000/year). These rates for the Air Force meanwhile have remained fairly constant at 9/1,000/year, with no comparable innovations in the Air Force psychiatric program.

In recent years there has been a crescendo of interest in applying these mental health skills and technics to the solution of civilian social problems. The late President John F. Kennedy gave considerable assistance to this movement, and our government has appropriated hundreds of millions of dollars in the past three years to aid in establishing community mental health centers throughout our great nation. Now, whatever else they may be, social psychiatry and the community mental health refer to the maximum utilization of community resources in the identification and treatment of

the mentally ill. Social psychiatry is associated with decreased psychiatric hospital admission rates and shorter lengths of patient stay in the hospital, and with more community-based outpatient care. We have already noticed the low Army admission rate with a re-emphasis of social psychiatry, but this was not achieved by simply eliminating all psychologic casualties from the Army. A concurrent change in psychiatric outpatient visit rates is also shown in table I, which, however, does not show that many of the increased number of visits are not "patients" but consultations with other community caretakers.

We believe our profession and our nation are headed in these directions, and this paper is a report of such a program at Sheppard AFB, a large Air Force training base. The program at Sheppard necessarily used only existing local resources and owes its existence to the local community leadership, specifically to Maj. Gen. Edward H. Nigro and to Col. Quintano J. Serenati. They, like the nation, are looking to us for solutions to the problems of human crises in the community, and are willing to do their share.

Prior to 1966, the Neuropsychiatry Division of the USAF Hospital, Sheppard, was primarily a U. S. Air Force "NP Treatment Center." It was organized and staffed around 120 hospital beds to which patients of both sexes were sent by air-evacuation from world-wide Air Force sources, and around an outpatient clinic to which individuals were sent from several nearby Air Force bases for evaluation and occasional treatment. Modern treatment techniques, based primarily upon the one-to-one doctor/patient relationship model, were in use. But, many airmen who could not be fitted into that

TABLE I

Army mental health statistics (estimates)  
(rates per 1,000 men per year)

	Pre-Korea (pre-MHC)	Post-Korea (post-MHC)
Psychiatric admissions	24	5
Psychiatric outpatient visits	90	300

treatment model by the available psychiatric staff were recommended for discharge from the Air Force because of their "unsuitability," and local commanders had come to look upon the Neuropsychiatry Division as the disposal unit for airmen with psychologic problems. This image at one point was so strong and clear that the base legal officers were refusing to approve unsuitability discharges unless they were actually recommended by the Neuropsychiatry Division, a practice without good legal or psychiatric foundations. Both the community and the mental health workers were dissatisfied with this solution to the community mental health problems.

As the program to be described below took shape, our role and image began to change, and the Neuropsychiatry Division became the Department of Mental Health Services. We continue to operate an inpatient treatment center and to support local bases as before, but to thousands of Sheppard Technical School airmen and officers we now provide a Military Community Mental Health Service, which we believe could serve as a model for such services elsewhere in the Air Force, particularly as category IV men begin to wear Air Force blue. A description of this service, and some of the early results of its operation, follow.

#### ORGANIZATION, STAFFING, AND OPERATIONAL DYNAMICS

The Military Community Mental Health Service (MCMHS) was located in a temporary building situated apart from the main base hospital facility on 6 June 1966. This location served three immediate purposes: (1) it made possible functioning outside of the hospital psychiatric environment, thus reducing patient resistance for seeking and continuing treatment; (2) it reduced patient traffic in the outpatient clinic, Department of Mental Health at the base hospital; and (3) it provided opportunity for functioning as a quasi-autonomous unit with squadron commanders and other base personnel. Original staffing consisted of two professional and two subprofessional personnel--i.e., one psychiatrist, one psychiatric social worker, and two enlisted psychiatric clinic technicians. A clinical psychologist was added later, working one afternoon per week, and a half-time psychiatric social worker joined the professional staff soon after. Red Cross volunteers served as receptionists and have functioned very effectively, although present programming includes acquiring a full-time Civil Service receptionist-secretary. All staff members form what we choose to call a mental health team, each with a distinct function and a shared appreciation

of the interdependence among the various personnel. This team approach has been a key factor in MCMHS operations.

### Referrals

Patients, mostly enlisted student airmen in the 17- to 22-year age range, are referred to the MCMHS from two basic sources: (1) squadron commanders, and (2) physicians assigned to the various hospital departments. Occasional referrals have been received from chaplains, technical school instructors, and other interested base personnel. A limited number of permanent party personnel and dependents are referred for group psychotherapy by hospital physicians, most often from the Departments of Mental Health and Medicine. Telephone contacts are made with the appropriate squadron commander or physician prior to the patient's being seen and after his initial interview. In addition, a written report of the patient's psychiatric evaluation with the appropriate recommendation is forwarded to the patient's commander or referring physician. In the event the patient is placed in psychotherapy, periodic telephone contacts provide the man's commander with a current account of his progress in therapy. This has served to tie the squadron commanders closely to the therapeutic progress of their personnel. The patient's initial contact with the MCMHS is in the form of a standard clinical interview resulting in a diagnosis and recommendation. A system of "on-the-spot" consultation has evolved at MCMHS where subprofessional personnel are encouraged and feel free to seek guidance from professional staff on difficult diagnostic cases. An interesting corollary of this has been the development of the triangular or multiple interview where a professional and subprofessional staff member interview the patient together. Recommendations typically consist of one of the following: (1) further trial of duty under close observation; (2) duty; (3) elimination of airman from his technical school course with reassignment (most often a direct duty assignment to another base); and (4) discharge from the Air Force under an appropriate administrative regulation. Occasionally, a patient will manifest an acute emotional disturbance requiring hospitalization, but this has occurred in no more than two patients each month. In most cases, patients are placed in one of seven outpatient psychotherapy groups for treatment. This then provides short-term group psychotherapy for the better than 90% of the total MCMHS patient population diagnosed as possessing "disorders of character, behavior, and intelligence," a diagnostic category not usually considered as treatable in a military setting. When patients are recommended for administrative discharge,

predischarge counseling is provided to encourage patients to seek psychiatric treatment, where indicated, in civilian life. Some patients whose primary difficulties are such that they would not lend themselves to treatment in an open-ended group; e.g., certain sexual problems, are offered individual psychotherapy as time permits.

### Group Psychotherapy

Seven open-ended psychotherapy groups are now operating at the MCMHS, with at least two more in the planning stages. Each group meets once weekly. Five of these groups are for enlisted student airmen, one for permanent party military personnel, and one for married couples. Membership in the student airmen groups has been held to 15, with ideal size ranging from 8 to 12. The student groups are arranged so that an airman will not be required to be absent from his technical school training to attend group therapy. The base is presently utilizing three basic school shifts: (1) "A" shift, from 6:00 a.m. to 12:00 noon; (2) "B" shift, from 12:00 noon to 6:00 p.m.; and (3) "C" shift, from 6:00 p.m. to 12:00 midnight. Student airmen on "A" shift attend therapy in the afternoon, while airmen on "B" shift attend morning sessions. Students on "C" shift attend either morning or afternoon groups. Groups include a therapist and a co-therapist. All staff members, both professional and subprofessional, serve as therapist and co-therapist in at least two groups. Each of the seven groups, and any future groups, has at least one professional staff member present. Brief pregroup sessions involving therapist and co-therapist are held to discuss past group developments, patient terminations, and group themes.

After each group meeting, the staff involved holds post-group sessions to discuss thematic material, individual progress within the group, group transferences, and the ongoing relationships of therapist and co-therapist to the group and to each other. These often include didactic exchanges which are particularly instructive for subprofessional staff members. Student group themes invariably revolve around adjustment to Air Force life, but ultimately evolve into some discussions of interpersonal dynamics and intrapsychic conflicts. Owing to the fact that all groups are open-ended (i.e., membership is fluid) discussion of deep personality dynamics is held to a minimum. Many conflicts are transitory and can be resolved with a minimum of group involvement. Present plans call for setting up one more student airmen group as well as developing group process workshops for squadron commanders, as a means of providing them with an opportunity to get to

know themselves and each other better while offering them insight into the dynamics of group formation and maintenance.

### Hospital Consultations and Field Visits

MCMHS professional staff members are often called upon to serve as consultants on patients at the hospital who were originally seen at the MCMHS. On other occasions professional opinions are sought on psychiatric inpatients, particularly where outpatient followups may be necessary.

A crucial element in MCMHS operations is the use of field visits. As is true in any effective community mental health effort, prevention of emotional disorders must be a primary consideration. Toward this end the following has been accomplished: (1) staff visits to squadron commanders and their staffs; (2) staff visits to base legal office, teaching branches, such as Aircraft Maintenance Tech School and Medical Service School, the base personnel division, the stockade, the dispensary, and base chaplains; (3) explanation of the functions of the MCMHS to various professional and subprofessional groups at the base hospital; (4) periodic meetings with student squadron commanders en masse. Many squadron commanders have visited the MCMHS and been invited to be observers in group psychotherapy. Instructional sessions with student leaders, themselves enlisted student airmen, have proved to be a particularly productive effort. A two-hour block held at the MCMHS facility serves to orient all these new student leaders on the history of community mental health, the functions of the MCMHS, personality problems they may deal with among their "charges," and how they can increase their effectiveness as student leaders. This orientation, occurring approximately once every three weeks, has already paid dividends. Working with the squadron commanders, their permanent staffs, and their student leaders has served to increase the quality of their referrals and has resulted in the satisfactory resolution of some situational maladjustments at the squadron level. In addition, the MCMHS staff has received referrals from student leaders, who, as a result of their brief exposure to the MCMHS, came to recognize unresolved conflicts in themselves. As was alluded to earlier in the paper, constant telephone communication is maintained with commanders through initial evaluation observations, interim progress reports, and case termination review, on all patients.

## In-Service Programs

The entire MCMHS staff meets every morning prior to beginning the work day. These meetings consist of discussions concerning: (1) dispositions of patients seen the previous day; (2) patients to be seen that day; (3) patient case terminations; and (4) exchanges of information concerning administrative and military matters, as well as any other pertinent material. Each Friday afternoon the staff devotes two hours to reviewing the group therapy sessions of the past week, focusing on group themes, individual progress within the groups, and the developing relationships of staff members as "therapists" and "co-therapists." These sessions are held in an informal atmosphere in which freedom of expression is encouraged, in consonance with the operational dynamics of the mental health team approach.

One of the highlights at MCMHS is the recently evolved Friday academic case seminar in which one of the staff presents fresh case material on an individual who poses a diagnostic or therapeutic challenge, usually a borderline or overt schizophreniac. The individual is then interviewed by the staff with the psychiatrist acting as consultant. Following the interview, the individual is requested to remain outside the consultation room while the psychiatrist documents staff observations of the man, including his own. From these observations, a number of inferences are made leading to a diagnosis, various treatment plans (e.g., outpatient group psychotherapy, hospitalization, etc.), and a final recommendation. The discussion that ensues often leads to a brief teaching seminar on a variety of related subjects.

## ORGANIZATION AND SOCIAL DYNAMICS OF THE STUDENT SQUADRONS

The purpose of this section is to acquaint the reader with the milieu from which over 90% of the individuals referred to MCMHS come. At Sheppard AFB, there are 21 student squadrons, including one for NCOs on TDY, taking various "instructor courses," and two recently formed Medical Service School (MSS) student squadrons under a separate titular organization headed by a full colonel. The 19 remaining student squadrons, including the NCO squadron, fall under the direction of another full colonel. Both colonels are directly responsible to the base commander, a major general.

Each non-MSS Tech School squadron has a commander, who is directly responsible to the commandant of troops (COT),

currently holding the rank of major, who in turn falls under the direction of the aforementioned colonel. The following is a description of the typical student squadron organizational hierarchy:

A. Squadron commanding officer (1st or 2d lieutenant): A titular leader in most squadrons unless he demonstrates an active interest in his men. It has been observed that where there is cohesive relationship between the CO and his NCO group, the squadron functions more effectively.

B. Squadron adjutant (2d lieutenant): An administrative assistant to the CO. In many instances, he is in training to be a CO. This position is not present in all squadrons.

C. First sergeant (TSgt--CMSgt): Generally, a titular NCO leader in most squadrons, unless again, he takes an active interest in the school "troops" as well as in his men. Occasionally, he functions as the "power" behind the organization.

D. Training NCO (SSgt--TSgt): The main "power" figure within most squadrons. He has a direct line of communication with all three persons above him as well as with most below him. Usually he knows more about the individual student and his problems than any of the other squadron staff and, as such, he often functions as a "screener" for the CO. In the past, he has selected student leaders to assist him in the maintenance and execution of squadron discipline, but with the evolutionary expansion of student leader school, this selection is now much more variable.

E. Assistant training NCO (A1C--SSgt): Usually, second in "power" only to the training NCO. He works directly with student personnel. If there is more than one assistant to the training NCO, each is given equal status and designated a TI (Training Instructor).

F. Administrative clerk (A3C--A1C): Functions as a secretary to the squadron staff leaders. As "low man" on the staff totem pole, he often serves as a natural target for both staff and student hostilities. Also, by geographic position in the orderly room, he is frequently the first staff member to see the "problem" student. Most squadrons have from one to five clerks, with the average being about two.

It is important to emphasize at this juncture that all personnel delineated this far are permanent party, while those described in the following sections are students. All prospective student leaders now attend student leader school and are chosen for positions in accordance with their ability and interest.

G. Shift or flight leader (red rope): In most squadrons, there are three, one for each shift (ABC). These students are delegated the authority of a technical sergeant and are responsible for the overall supervision of all students assigned to their shifts (75 to 250 men). They march students to and from school, chow, details, and formations. They inspect troops and barracks as well as conduct work call. Lastly, they supervise the activities of their barracks chiefs.

H. Barracks chief (yellow rope): Usually, one per barracks (5 to 10 barracks per squadron). These airmen are given the authority of a staff sergeant and are responsible for the overall supervision of all students assigned to their barracks (40 to 60 men). They perform the same duties as the shift leaders, with respect solely to their own barracks.

I. Assistant barracks chief (ABC): Generally, one per barracks. He is responsible to the barracks chief and carries out duties as assigned by him.

J. Bay chief: Ordinarily, two per barracks, one each for the upper and lower bay. He is responsible, housekeeping-wise, for all personnel living on his floor (20 to 30 students) and is often chosen by the barracks chief.

K. Cube chief: This position is not present in all barracks. When it is, there are six per barracks, three in each bay. The bay is divided into three sections partitioned off by clothes lockers. Each section (cube) house 6 to 10 men and thus, the man in charge is a leader of the smallest divisible unit in the student organizational hierarchy. As such, he is often the first man in a position to "spot" the incipient trouble maker or psychiatric casualty. He is responsible to the bay chief.

L. Crew chief: On an average, there are two to three per barracks, most commonly appointed by the barracks chief. These men are responsible for housekeeping duties in a particular area such as the latrine (Latrine Queen), the hallway, and the stairway.

The positions described from this point on carry no disciplinary authority but are often sought after for a variety of reasons.

M. Discrepancy chief: In some barracks, this position is filled by a man designated by the barracks chief to keep records on "status cards" which indicate the student's whereabouts as well as his job and detail assignments with respect to the barracks. This student functions as the yellow rope's "Man Friday."

N. House mouse: A valet for the flight leader and barracks chief. Usually, each "rope" has one to three house mice for shining shoes, ironing fatigues, cleaning rooms, and making beds. This individual is selected by the student leader; he serves for one of two reasons:

(1) He is staff "scapegoat" and serves as an "easy mark" for displaced hostilities. As one might expect, these men do not like their positions and frequently stimulate sympathy from the general student body.

(2) He is a "brown nose" seeking a position he views as prestigious. In many cases, such individuals are trying to earn appointments as flight leader or barracks chief. Consequently, many of those men are despised by the general student body, particularly since they are exempt from routine barracks details. The title "house mouse" may have derived from the rather furtive manner in which these students are utilized. Supposedly, the position is a secret among all squadron personnel, but like many "secrets," it is widely known.

O. Chapel guide (white rope): Formerly, three per squadron, selected by the training NCO to serve as chaplains' assistants in the barracks. This function has been in disuse for several months now. Currently, these men serve only as church ushers and are not allowed to wear their white ropes in the squadron area.

P. Road guard: A frequently ridiculed position appointed by a flight leader or barracks chief. These men are used only in marching or for blocking traffic. Because they must precede marching troops, they are permitted the luxury of being the first students to eat. As such, their position has associated with it both scapegoat and prestige elements.

Q. Right guide: Ordinarily, one per barracks. This man is selected to carry the guidon because he is considered to be the best marcher. He sets the pace for all other students in formation. Although he carries no administrative authority or responsibility, he is often admired and envied by his fellow airmen.

In summation, then, it might be stated that in the student squadron community, the lines of authority, power, and responsibility proceed from the base commander down to the cube chief in a linear vertical hierarchy, known in the "ranks" as the "chain of command." Within the squadrons themselves, the chain of command is vested in two rather heterogeneous interdependent groups, the permanent party leaders and the student leaders. Because of the numerous positions in the chain of command of both groups, there is more than ample opportunity for communication breakdown, which in itself, can catalyze the emergence of incipient as well as latent emotional problems among student airmen. In the past, some airmen experiencing emotional difficulties were never referred to those qualified to help them help themselves because of (1) failure on the part of staff or student leaders to recognize the difficulty as "emotional" or (2) a communication breakdown in the chain of command. With the use of field visits and phone consults, the MCMHS has attempted to promulgate a psychiatric education program designed to help staff and student leaders recognize and differentiate emotional problems from other types of problems and to enhance communications throughout the chain of command. The next, and final section, of this paper deals in part with the results of this education program.

### RESULTS AND CONCLUSIONS

This section will give a brief statistical summary of what has been done at MCMHS through the first four months of its operation and cite examples of some of the more salient features of this operation. We can begin by noting the total number of community contacts accomplished by MCMHS staff on a monthly basis, as in table II.

The term "community contact" is meant to convey any therapeutic, informational, or educational transaction between an MCMHS staff member and any member of the student squadron community as well as with permanent party personnel directly or indirectly connected with that community, such as tech school instructors, chaplains, doctors, and legal staff.

TABLE II

## MCMHS community contacts/month

Categories of contacts	June	July	Aug.	Sept.	Total
Individual sessions	114	280	352	366	1,112
Evaluations(new cases)	49	83	95	91	318
Re-evaluations	29	46	49	31	155
Therapy sessions	36	151	208	244	639
Group sessions	86	279	401	379	1,145
Therapy sessions	45	181	241	211	678
Marital therapy	10	16	20	24	770
Family therapy	8	15	17	8	48
Group consults	23	67	123	136	349
Hospital consultations	23	24	53	23	123
Field visits	41	281	215	507	1,044
Squadron staff	20	60	24	69	173
Nonsquadron staff	15	95	114	220	444
Students	6	126	77	218	427
Phone consultations	288	739	930	1,070	3,007
<b>Totals</b>	<b>532</b>	<b>1,603</b>	<b>1,951</b>	<b>2,345</b>	<b>6,431</b>

Percent student squadron community contacts =  $5,971 / 6,431 = 92.8\%$ .

Average community contacts/month = 1,608.

Average student squadron community contacts/month, more than 1,493.

For the sake of completeness, the term also applies to our transactions with a very limited independent community consisting of a few permanent party personnel and dependents (7.2% of total community count) referred to us by hospital physicians for individual, marital, family, or married couples group psychotherapy. It is well to note that one cannot compare different categories of community contacts with each other: e.g., one hour spent teaching 100 student leaders about various aspects of community mental health would be counted as 100 field visits whereas the same amount of time spent with one patient in psychotherapy would be registered as one individual therapy session. One can, however, compare similar categories of community contacts on a month-to-month basis, as in table II.

As the table indicates, total MCMHS community contacts have steadily increased from June through September, despite a leveling off of "therapeutic" contacts (individual and group sessions) in August and September. This may be attributed to a continuing increase during those months in "preventive" contacts as exemplified by the informational and educational transactions implicit in field visits and phone consultations. With the introduction of a "mental health block" in the Base Student Leader School in August 1966, the MCMHS began one of its most important functions. Every three weeks, our staff provides four hours of instruction to 50 to 150 prospective student leaders, stressing their role in helping us and their squadrons by early identification of potential "psychiatric casualties." Through repeated field visits and phone consultations, squadron COs, NCOs, and student leaders have become more adept in dealing with certain types of "problem" students, often resolving the "problem" at the squadron level rather than, as in previous times, referring them, willy-nilly, to the Department of Mental Health. In addition, squadron staff and student leaders have become more effective in recognizing students with serious emotional problems who may benefit from our services. In summation then, our burgeoning information and education programs, as hall-marked by continuing increases in field visit and phone consultation community contacts through September (see table II), have led to an overall improvement in the quality of referrals to us as well as to an increase in the number of "problems" satisfactorily resolved at the squadron level.

Tables III and IV are self-explanatory and deal with various aspects of "therapeutic" contact data. In table III, the term "miscellaneous" refers to those active cases in individual, family, or individual marital therapy, as well as

to those hospitalized patients scheduled for followup therapy by us upon their discharge.

As in the case of the Army mental hygiene rates quoted in the introduction of this paper, early results as recorded in table IV, indicate that the development of a Military Community Mental Health Service at SAFB has led to a significant decrease in the psychiatric admission rates of Tech School students as well as to a noteworthy increase in the outpatient visits of these students. The majority of airmen with character and behavior disorders have been treated as outpatients at MCMHS, who might previously have been hospitalized. From January through March 1966, of the 31 students admitted to psychiatric wards, 28 were finally diagnosed as character or behavior disorders; from April through June, the rate was 27 out of 30 admissions; from July through September, the rate dropped to 12 out of 19 admissions. Correspondingly, over 90% of the total number of students evaluated at MCMHS from June through September had either character and behavior disorders (most commonly, passive-dependent, passive-aggressive, and schizoid personalities or adjustment reaction of adolescence diagnoses). The remaining group fell into three broad diagnostic categories: (1) essentially normal personalities; (2) psychoneuroses (most commonly, obsessive-compulsive and anxiety reactions); and (3) psychoses (most commonly, schizophrenic reactions). It is our expectation that with the MCMHS educational program beginning to take effect, "quiet," process-type schizophrenics, some of whom may have been previously overlooked, are now being discovered and referred to us. It is interesting to note, in this regard, that for the first six months of 1966, the student schizophrenic admission rate was about one per month, whereas from July through September the rate increased to two per month. In October, at least four were hospitalized, while two others were being treated as outpatients.

Final recommendations are made by MCMHS staff to squadron commanders upon terminating students referred to us, whether it be following their initial evaluation or subsequent to a series of group psychotherapy sessions. With each passing month, we have noted a steady increase in the percentage of students finally recommended for duty and a concomitant decrease in those recommended for administrative discharge, so that by the end of September, close to 84% of all students terminated at MCMHS had been recommended for worldwide duty (see table V). Included in the 229 students terminated, were 12 who had made suicidal "gestures," the majority of which were medication overdoses. Of these, 9 were recommended for worldwide duty, representing then, a

TABLE III

MCMHS case load data: 6 June - 30 September 1966

	Closed cases	Active cases		Patients evaluated and treated	New cases per week
		Groups	Misc.		
S	229	56	6	291 (84.1%)	18
PP	28	11	1	40 (11.6%)	2 - 3
D	11	3	1	15 (4.3%)	1
	—	—	—	—	—
	268	70	8	346 (100%)	21-22

S - Students.

PP - Permanent party.

D - Dependents.

TABLE IV

Student admission and outpatient visit rates  
(rates per 1,000 students per year)

	Jan.-Mar.66 (pre-MCMHS)	Apr.-June 66 (pre-MCMHS)	July-Sept.66 (post-MCMHS)
Psychiatric admissions	10	10	6
Psychiatric outpatient visits	171(est.)	172(est.)	552
Outpatient student count (cases)	37(est.)	40(est.)	73

"return" rate of 75%, in contrast to the 20% "return to duty" recommendation on all Sheppard student suicide "gesture" cases in 1965. These figures indicate that the student airman making a suicide gesture does not necessarily get discharged from the Air Force, as some are led to believe. Rather, the event itself could be considered as a manifestation of a personal "crisis," which, if dealt with decisively, can lead to much better overall functioning on the part of the student.

Table VI represents data collected from our five student airmen psychotherapy groups from 6 June 1966 through 30 September 1966.

Data from tables III and VI indicate that of the 229 terminated student cases as of 30 September 1966, 138 had been terminated from group psychotherapy, suggesting that MCMHS staff had referred about 60% of all individually evaluated terminated students for group psychotherapy. Each student referred for group therapy attended an average of three sessions and missed one session before being terminated. At group termination time, 107 out of 138, or 78% demonstrated good to excellent improvement as measured by (1) increased effectiveness and improved interpersonal relationships in a small group setting, (2) partial or total elimination of original symptomatology, and (3) squadron feedback based on overall functioning in squadron and tech school, via phone consultation, corroborating our observations of each student's behavior. The 15 students whose improvement was listed in table VI as "not applicable" never attended any group sessions. Each was followed up either individually or by squadron feedback and was ultimately recommended for return to duty. The 16 airmen who demonstrated no improvement after a trial of group therapy represented a variety of emotional problems from severe character disorders, including sexual deviations, to process schizophrenia. The majority of them were recommended for administrative discharge or psychiatric hospitalization.

In general, the airmen psychotherapy groups have become more effective with time, primarily because of the increasing experience and maturity of the MCMHS staff as therapists in this setting. Ongoing group supervision and consultation, along with teaching seminars as provided by the staff psychiatrist, have enriched the staff's psychiatric knowledge and increased their awareness of their interpersonal transactions with patients, and have provided the psychiatrist with valuable teaching experience. To cite one example, in the first group in which one of the psychiatric clinic

TABLE V

Final recommendation data: 6 June - 30 Sept. 1966

Total students treated (closed cases)	Final recommendations	
227	Duty:	192 (83.3%)
	DDA (direct duty assignment)	26 (11.4%)
	Administrative Discharge	31 (13.5%)
	Hospitalization	4 ( 0.8%)
	Hardship discharge	2 ( 0.9%)

TABLE VI

Student airmen group psychotherapy effectiveness data

Number of psychotherapy groups		5
Total students terminated as of 30 Sept. 66		138
Total group sessions attended by these students		410
Total group sessions missed		155
Level of improvement by the time of termination		
Excellent	56	107
Good	51	
None	16	31
Worse	0	
Not applicable	15	

technicians was functioning as "therapist," with the psychiatrist sitting in as "co-therapist," the technician "began" proceedings by having everyone introduce themselves and then called for "volunteers" to express why they had come to group. When, after a few minutes, he could see that this approach was not yielding the results he desired, he selected various group members to talk about themselves. Again, the group response was minimal. So he employed a usually effective technic of promoting group interaction, i.e., that of stimulating certain group members to describe the behavior of other members. Unfortunately, the two patients he had selected for this purpose had already indicated by their sullen, depressed attitudes that they were too solipsistically preoccupied to be interested, at that point, in the behavior of other members. As a result, he got no help from them, began feeling frustrated and defeated, and "withdrew" temporarily from further group transactions. In the post-group session, this sequence of events was analyzed and it was pointed out that actually, he had been quite resourceful in attempting to deal with the anxiety and resistance to interacting in a new group, but that if he had "called upon" the group "aggressor" he may have gotten more help. He also came to realize that his "withdrawal" was not "pathologic," but merely a reaction to repeated frustrations in his attempt to be a "good" therapist in the eyes of the psychiatrist. With time, he has become a much more confident, observant, transactionally sensitive therapist, coming to rely more on himself and less on the psychiatrist.

After having had the opportunity to participate in many student airmen group therapy sessions, the MCMHS staff has observed that two of the key factors in the rather rapid symptomatic and social improvement seen in the majority of the airmen are (1) the therapist's interest in them as individuals and (2) the students' gradual discovery that they are not "alone" in their problems. Despite the wide range of symptomatology which serves as the students' "ticket of admission" to group therapy, most of them sense themselves as being unique, as suffering from problems that seem insurmountable, and which no one else could possibly understand. By promoting interaction between group members and not always focusing on "individual pathology," the group therapists subtly attack this sense of "aloneness" and self-pity that underlie the need for symptoms. The more healthy patients begin to identify with the therapists and start functioning as "co-therapists," catalyzing further group interaction until a sense of camaraderie or "group-ness" is established. Some individuals no longer feel the need for continued therapy.

at this point and drop out, while others, searching for a sense of "personal identity" or for more insight into themselves and how they affect other people, keep coming. Such individuals characteristically experience difficulty in terminating therapy, but with well-timed support, are able to do so and function quite well.

### CONCLUSIONS

The results of the first four months of work at MCMHS strongly suggest that its establishment as a potential preventive and therapeutic mental health operation has had a profoundly beneficial effect on the community it serves, viz, the Sheppard Air Force Base Technical School students, numbering anywhere from 10,000 to 15,000 men. Certainly, time and followup studies will be needed to test the long-range efficacy of the program. If such studies corroborate the initial effectiveness of the MCMHS, then expansion of the present facility by the addition of qualified Mental Health Workers should be undertaken as a prelude to enlarging the served-community to include the entire Sheppard AFB, military community with its dependent population.

### DISCUSSION

DR. PINAMONTI: I'd like to begin by saying that Lt. Myers and his colleagues are to be commended for being innovators. I was especially pleased to learn of their work with squadron commanders and their staff. I think this is the kind of reaching out that is truly our responsibility. Also, it was heartening to learn that they moved out to other key people in the base community. The establishing of contact with so many persons and units on the base speaks well of the program and its staff.

Another facet of their service that is especially worth noting is the two-hour block sessions held with all new student leaders. This use of peers as potential referral sources is something that needs more study. It certainly appears to be a rich vein needing more digging.

I was also very satisfied to note the time spent by the team each morning in preparation for the day's work as well as the time spent Friday afternoons

evaluating the week's work. Too frequently we are innovators without accepting the responsibilities that go with inaugurating new ideas. Planning and evaluation are significant parts of any service.

As I heard the paper I was intrigued with such comments as "He is often the first man in a position to spot the incipient troublemaker" or "He is the main power figure within most squadrons." At first I thought Lt. Myers and his colleagues were taking cognizance of the various social factors in an organization that can affect behavior. However, as I heard the litany of positions in the student squadron I was disappointed because their paper lacked selectivity. As a nonmilitary person I might need to learn more about the structure of a squadron if I wanted to work in this setting. For the person familiar with squadron organization I would say the profusion of positions listed lent little to the paper. Had Lt. Myers given more focus to key positions and how the mental health services worked with the persons in these positions to achieve certain objectives, I think we all would have been enlightened considerably. What I am trying to say is that for me community psychiatry takes or attempts to take into account social science knowledge and concepts. Power, authority, rank, status, etc., are items that might profitably have been examined in a report such as this. In other words, I would have liked to hear how the position of the student leader was utilized to enhance the possibilities of quicker referrals, or how the lines of communication between the student leaders such as the cube chief and the community mental health services staff were deliberately structured so as to enhance the referral process.

It is not my intent to stay with this but I do think we need to be aware that a community mental health program involves more than identifying and servicing a geographic or functional community. For me it means utilizing what the social or behavioral sciences have taught us about community and the variety of social forces in a community that can affect treatment. For example, I know that position or rank must affect confidentiality. As a student-client I would wonder how much you tell my squadron commander. I cannot but believe, as I am sure you do, that confidentiality is affected by this (rank) and other factors. You in the military are in a unique position

to study these variables. I could go on with other examples such as the effect on me if I am referred for therapy by a peer as against an officer-physician. This the study fails to touch on.

I'd like for a moment to digress. I began by commenting on the real contribution the writers made in discussing their efforts with a community mental health approach. As I listened I wondered if this paper were not really talking about two different things--(1) the community mental health approach and (2) the use of a new treatment modality (namely, the group). Here I must say I was very pleased to see the focus in groups held to the here and now. The recognition of the value of peer group treatment in that airmen feel they are not alone and that some attention is being given to them speaks well for the program. However, as a social group worker I would be less than honest if I did not express disappointment at the lack of information about such things as:

1. Group process. I found little in the paper which attempted to give the listener any new insights about the social and group processes in the various groups. Lt. Myers and his colleagues speak of "promoting interaction between group members." This is most commendable but the crux of the paper rests on the "use of group treatment." I would have liked more focus on how to work with the group. How do you decide on certain things such as ideal size of group, frequency of meetings? I was also disappointed that more attention was not devoted in the paper to criteria for group composition.

I would have wanted some interpretation or impression on the function of an open end group and how the sense of "groupness" is established in this kind of group. It is not my intent to suggest that Lt. Myers and his colleagues should give answers to all the questions I have raised. This would be unfair since social group workers don't have the answers. I am suggesting, however, that we all bear responsibility for analyzing our practices in a systematic fashion. To write a descriptive narrative about a service may motivate others to try a similar approach, but without tested ideas, we all begin at "ground zero."

2. Supervision of social workers by psychiatrists concerns me greatly. I agree this practice is not unique to Lt. Myers's program, but as a social group worker I would like to have some answers to the following questions: (a) What is the psychiatrist's background for supervising social workers' practice with social work groups? Are we using the psychoanalytic model or a social work model in our work with groups? (b) How does the social worker retain his professional identity especially when his work with groups is supervised by someone from a different discipline?

3. I was intrigued, also, that group membership averaged three sessions; yet such remarkable results were attributed to this treatment modality. If you check with my students you will find I have a strong conviction about the treatment potential of groups, but I do not see them as the only approach to treatment. I am not trying to minimize the value of group treatment--to the contrary, but I must say quite candidly that the conclusions regarding the results would be seriously questioned by a researcher. I mean by this that many variables affecting treatment were not considered. I recall that statistics of state mental hospitals in California showed that during certain periods patients returning to the community increased significantly in number. This was the result not of a new treatment program but of an administrative edict to empty a certain number of beds so that the operation could function within its budget. It seems to me that in this report administrative influences might have been overlooked. A return to duty may be no more a valid measure of the success of a program than return to the community from a state mental hospital.

Also from a researcher's perspective I would need to comment on the statistical methods used. Here again I am reminded of what used to be called the "numbers game" played by Community Chest or United Fund agencies. We would record every entrance a "kid" made into a community center as another attendee or enrollee. Eventually the agencies gave up this practice because it was not a valid accounting and also because everyone began to play the game. I am not suggesting that this report is playing the game but I do believe the figures tend to create a skepticism about success when they are weighed against the size

of staff. I must emphasize they are "honest" figures since the authors do acknowledge the particular accounting method used. Here I am referring to counting a lecture to 100 persons as the equivalent of 100 field visits. Also counting telephone calls as "consultations."

In summary, let me state my evaluation as follows: the writers are to be commended on developing a mental health program in the base community that truly seems to be "reaching out" especially to the student airman population. They did spell out in some detail in their paper how they attempted to implement their ideas in this area. I would have liked the same kind and amount of detail regarding the group treatment aspects of the program since for me this was an essential part of the innovation of service. I think a greater contribution would have been made to our understanding if more emphasis had been given to group processes and a less amount of written material on results. Perhaps this last sounds unfair but I am convinced we need to strive for greater precision in setting down results. Finally, let me repeat: innovation of services carries with it the responsibility to record as precisely as we can our strategies of practice and an analysis of the processes used.

DR. BRILL: I wish that we had a great deal of time to discuss this because so many issues have been raised that one could look into in much greater depth. But time won't permit that, and I think, instead, the best thing to do would be to look upon the presentation of the work that's been reported here as a creative effort, sort of a painting and then, after getting an impression of the total which is a good one, to focus on smaller aspects and parts of the painting and look at some of the technical aspects. I think that there is no question that a tremendous thing has been accomplished at Sheppard AFB, and I am sure that in great part it has been due to the enthusiasm and initiative of Maj. Ednie and his staff. This has all been accomplished in a relatively short time. I was at Sheppard AFB in April. The program did not exist at that time; so a very impressive thing has occurred since July or August.

One might suspect that this kind of community psychiatry program was an outgrowth of the community

mental health programs developed in civilian life, but Maj. Ednie, Capt. DeVito, and Lt. Myers were very careful to point out that this was not something they had adopted from civilian life but something that grew out of the experiences in the military. It's interesting to see how often the fact that the social psychiatry programs got their greatest impetus from the military services is not acknowledged. Social and preventive psychiatry programs in the military involved following NP rates in various units and where one particular unit had a high rate looking into what the problem was. NP breakdown rates were found to be correlated with such things as leadership, esprit de corps, adequacy of training, adequacy of assignment, etc. There were many factors that contributed to the mental health of the individuals--for example, the buddy system. The breakdown rate was much lower where two men were sent into new assignments together than where one went into a strange situation and had no buddy to look to for support. This was particularly so in sending replacements into units already in combat. If one steps aside and wonders what somebody from Mars would be impressed with as he looked at some of the figures which were presented here, he would see the possibility that this program was a wonderful way of increasing outpatient business, because this was the most impressive aspect of the statistics. The outpatient rate went skyrocketing to 500 per 1,000 per year.

What this has to do with noneffectiveness and what the end result of all of this is were touched upon by Capt. DeVito who said in his conclusion, "We need to have followup studies to see what the effect of this is." At the moment what we've seen accomplished is an awareness on the part of the psychiatric staff of the social structure of the organization and the attempt to deal with this social structure that they understood and described so beautifully in terms of emotional problems that are created. Among the highlights, some of the important and impressive things that they've done relate to the Group Therapy Program. (I have great difficulty in understanding why there isn't more group therapy done in civilian settings in private practice than there is.) The experience that I have had in observing group therapy and participating in it tangentially from time to time has impressed me that this is a most effective technic and one which is certainly more economical. So this

is, I think, something that is good. The fact that they have developed three shifts to deal with the shifts of trainees is wonderful. The fact that so much effort is devoted toward contacting commanding officers, squadron commanders, and sending reports out is terrific if for no reason other than establishing this operation on a very firm base. Some specific questions occurred to me in connection with this, and I would hope they can be covered later on in some of the discussion. One was a reference to the requirement in the past that psychiatrists examine people prior to their being given an administrative discharge. It is interesting how we have come the whole circle, because this was put into the regulations initially to protect the men. It was put in at the insistence of the psychiatrists who found squadron commanders or, in my case, commanding officers of companies discharging schizophrenics as unadaptable, unsuitable, etc., because they didn't know they were schizophrenics. There were a great many protests made at the Washington level about soldiers who had been sick and who had been discharged without recognition of their illness, and it was therefore put in as a regulation and a requirement then that no commanding officer could discharge an enlisted man for unsuitability unless the man had been seen by a psychiatrist. Now you balk at this requirement because psychiatry has become so well established that squadron commanders now probably send more people to you than you wish to see. In the past this was not the case. Another thing that has to do with the team and here I think that the military has copied civilian life and unfortunately so. The team is traditionally mentioned as the social worker, the psychologist, and the psychiatrist, and one extremely important member of that team has been left out (the nurse) because the initial team in civilian life was set up in nonmedical situations--the old child guidance clinics. One other point is the tendency to equate the members of the team as if they were all the same. In the unexpurgated edition of this paper which you didn't have the opportunity to see, I believe it was stated that members of the team were answering consultations in the hospital at times, and in other instances answering consultations outside the hospital and deciding whether an individual should be referred to the hospital or from the hospital to the clinic. I wonder whether all members of the team were really of similar competence

and able to answer consultations requested by medical colleagues. It may be that my impression was an incorrect one but the tendency to talk about members of the psychiatric team, whether they are enlisted technicians or senior officers in charge of the service as if they were all the same, poses a problem for the medical educator. If they are really interchangeable, maybe we should seriously re-examine our efforts in medical education and particularly in psychiatric education because there is no sense in exposing a man to 4 years of medical school, an internship, and 3 years of residency if 2 years in social work or 90 days in a technician's school produces the same result.

## DEVELOPMENT OF AN OVERSEAS COMMUNITY MENTAL HEALTH PROGRAM

Barry Grundland

This is a report of the development and growth of a community mental health program in an American community overseas. The report presents a description of the community, resources available in the community, steps in the development of the mental health program, and subsequent community-wide developments.

The American community in Ankara, Turkey, is a disconnected group consisting of representatives of the U. S. State Department, American military services, American civilians connected with U. S. Government agencies, and dependents of all these. This community by necessity lives on the economy except for AFBX, commissary, and medical facilities, since there is no base as such. The American community is a tenant within a host country and is subject to the host nation's laws and culture, the host nation being a Moslem country, whereas the American community is a Judeo-Christian community.

As in any American community there are a great number of mental health problems--child guidance problems, adult psychiatric problems, children with mental retardation, brain damage, etc., but the usual stateside facilities for mental health care--family service agencies, community social work agencies, psychiatric facilities for children, etc., were nonexistent. In many cases, before the initiation of a community mental health program described below, the American family living overseas would exist in a two-year vacuum. Or, what is more significant, their problems would become worse. Also missing as a source of support are the family members such as grandfathers, grandmothers, aunts, and uncles. The resources available to the community before the mental health program was initiated consisted of one psychiatrist, one psychiatric technician, chaplains, medical personnel, commanders, two school counselors, and lay personnel. Each resource worked without direction, consultation, or supervision, which are needed in dealing effectively with mental health problems.

Until the development of this program, most problems were handled on a one-shot basis with no long-range planning. To complicate matters of the Ankara community, the psychiatrist's responsibilities were not only to Ankara but to its referral area as well, an area encompassing the Middle East and the Near East. Also present in the American community is the dormitory housing which consists of 200 high school boys and girls who come from all over the referral area to attend the only high school available to them.

It was in this community that I assumed my duties as chief of the Psychiatric Service. Within four weeks it became apparent to me that outside assistance would be required if the problems presented to me daily were to be met successfully. The alternatives were referral to Wiesbaden or CONUS, denial of services, or development of available community resources so that they could function more effectively and build new resources and programs with the present volunteer personnel.

The first step in organizing our resources was to offer psychiatric consultation to medical personnel, chaplains, and school counselors. This service was made available by handling consultations from respective groups by first evaluating the patients and then having the referee present so as to discuss the case and the possibilities of treatment and disposition. This, in turn, pointed out the need for continuing consultation and the setting up of particular programs. It allowed me also to gain the experience and knowledge of respective individual work. This service was broadened to involve the detachment commanders, NCOIC's, and OIC's to gain an understanding and awareness of the military commitment and the needs of the military personnel.

The second step was the setting up of the Child Guidance Unit. Dr. David Leaverton, formerly chief of Pediatrics, presented me with a formidable number of referrals, many of which with consultation did not require psychiatric treatment but could be managed in the pediatrician's office. On the other hand, there were a number of cases which did require psychiatric evaluation and treatment. Therefore, Dr. Leaverton and I collaborated to form the Ankara Child Guidance Unit, the objectives of which were to evaluate patients, to provide a referral clinic for child guidance throughout TUSLOG, to make dispositional plans for the child and the family, and to provide consultation with groups working with children, mainly in the school system. The initial effort of the Child Guidance Unit was to evaluate patients, and it was found that in the Ankara area alone there were 3 deaf children,

16 mentally retarded children, 4 with brain damage, and many emotionally disturbed children who were being reported to the Pediatric Department primarily as problems in behavior, enuresis, school phobia, etc. Dr. Leaverton also covered the TUSLOG area as consultant in pediatrics and found that at the respective bases there were similar problems to those being experienced in Ankara. It was therefore decided that we would attempt to have only the most severe emotionally disturbed retardation problems referred to Ankara for a child guidance workup, and I would attempt to have physicians at their respective bases set up a child guidance team so that they could effectively screen certain children with capabilities at their own bases. As with the adult psychiatric work, it was soon found that resources in the community again could effectively work with certain children and that consultation, if provided to these groups, could possibly provide a certain amount of help to the families and children while they were overseas.

The third step in the program was the establishment of a consultation program within the school system. At the time that the liaison with the school system was started, there were only two counselors, no special educational program, and a large dormitory (described above) with the dormitory counselors being primarily school teachers who were custodial oriented. The program was developed initially by having meetings with Dr. Bill Schultheiss, assistant superintendent for Pupil Personnel Services for District IV (and who had a Ph.D. in educational psychology). An attempt was made to define the needs of the school system and what we could offer in the way of our help with our yet limited capacities as a child guidance unit. Dr. Schultheiss's primary need for the school system was to provide adequate and consistent consultation for teachers and counselors so that they could function effectively at their level. He also felt that there was a need for therapy. The initial effort of Dr. Schultheiss and the Child Guidance Unit was to do a survey to determine the number of children needing psychiatric assistance. This survey revealed that in the Ankara schools there were 55 children with speech problems, 31 children with emotional disturbances, and 16 children with mental retardation. A TUSLOG-wide survey was done at the same time which revealed a comparable number of children at each facility requiring similar help. It also revealed that there was inadequate personnel to provide services needed for these children.

The fourth step in the program was to then develop the relationship between the school and the Child Guidance Unit.

This was done by having Dr. Schultheiss become an active member of the Child Guidance Unit so that he could offer his assistance in evaluating children. Next, it was decided to offer consultation on a weekly basis to the school counselors to make them more available for doing treatment within their own capabilities. A system of referral to the Ankara Child Guidance Unit was worked out. In the past, a child was simply referred by the teacher to the Pediatric Clinic, no followup was undertaken and no written report was usually given. It was now decided that the child who was in need of referral would first be referred to the counselor, who would prepare a complete report of the problem, see the parents, do a complete evaluation, and then make the decision whether or not the child should be referred to the Child Guidance Unit or should be discussed during consultation sessions. Whenever possible, other resource personnel--chaplains, detachment commanders, etc. --were involved with the family of the particular child and were invited into the consultation sessions to discuss the problems of the total situation. As the counselors began to handle patients, they also began to recognize and work more effectively with the children, the parents, and with the teachers. It was noted immediately that we were only receiving, as referrals following consultation, the most severe cases, many of which could be referred back to the counselor with direct help so they could be handled within the school itself. A similar program was set up in the TUSLOG area where there were school facilities. This required the physician at his respective base to serve as the school medical officer and to discuss the cases in joint seminars with the counselor, teachers, or school principal. When the report was compiled, the child would be referred to the Child Guidance Unit for evaluation and the decision was made whether the child would be referred to Ankara or be treated within his own facility. This stimulated the development of child guidance teams within the respective bases.

Our major treating resources were coordinated and we soon discovered that the number of cases we were finding required additional services if the problems of all the patients were to be met. At this time I would like to describe the programs that were developed. It is important to realize that these programs were developed as the need arose and that there was no preconceived idea as to when they should come.

#### Public Health Nursing Program

A Public Health nursing program under the guidance of Maj. Stoll, chief of Nursing Service, Ankara Hospital, was

established. This included three Public Health psychiatric nurses to do home visits and a pediatric OB-GYN Public Health nurse to do followups on the newborns and assist parents with problems that develop within the first six months of a newborn's life.

The Public Health psychiatric nurses were recruited from nurses who were dependents of military service personnel but who were not working at the time. All of them had had some public health experience but had only limited psychiatric experience. They dealt with three major problems. One was the followup of patients discharged from the psychiatric services, mainly dependent women discharged from the hospital but having some difficulty readjusting to home life. The second area dealt with a large number of dependents suffering from "cultural shock." These were women unable to adjust to Turkey, afraid of the Turkish nationals, afraid to leave their home and, therefore, unable to adapt to living overseas in Turkey. Thirdly, the Public Health nurse functioned as a liaison between the physician and the nurses on the ward who were handling psychiatric patients. They, along with the psychiatrist, attempted to provide an in-service training program so that psychiatric patients within the community hospital could be better treated. The psychiatric nurse helped the nurses on the wards to develop more acute observation ability and also helped them to be able to interact with the psychiatric patient when anxiety situations arose.

One of the OB-GYN nurses was given consultation on a regular basis while she was seeing a pregnant mother who had recently lost her husband in an accident. This was the mother's first pregnancy and she had been rejecting the fact of delivering the child and had made no preparations for what would happen after delivery. The nurse was effectively able to follow this patient through her pregnancy, through delivery, and then through the postpartum period. She also helped the mother adjust to the newborn baby and make realistic plans.

The Public Health nursing program worked so effectively that it was decided to hire one of the nurses to work as a nurses' aid and be assigned full time to the Psychiatric Clinic. This nurse then set up on a full-time basis, an in-service training program for the ward nurses, did home visits, set up a liaison with the CHAP officials, served as consultant to the school nurse, and began to do intakes on new patients coming into the Psychiatric Clinic. She also saw patients in brief psychotherapy with consultation.

### Retarded and Brain-Damaged Children's Program

Following evaluations of the number of mentally retarded and brain damaged children within the community, it was found that a large number were unable to attend school because of their difficulties and because the school system was overcrowded and did not have the facilities to handle the children. The Psychiatric Clinic held a conference with one of the mothers and a teacher who had some training in handling retarded children. They then set up a program which works in this way: Each child is assigned a volunteer who is not a parent of one of the children in school, and under the tutoring of the special educational teacher a special program is handled in relationship to the child's capabilities. This class of six children meets three half-days a week. The program first started with a summer recreational program in 1966 and is presently functioning as a full-year program with plans being made to secure funds for a full-time teacher. At the present time all the teachers are volunteers. The parents of these children formed an organization and they meet monthly to discuss mutual problems. The parents also joined the National Association for Retarded Children. The Child Guidance Unit provided initial evaluation and help in planning for the child on return to the United States.

### Emotionally Disturbed Children's Program

It was found in the school system that there were a number of first graders who would have been discharged from school to wait an additional year before being brought back into the school system. These children were evaluated and it was found that many of them were emotionally immature. Six children in the first grade were placed in a group play session which met one hour biweekly during school hours. A teacher volunteered to run the group and she simultaneously ran a parents' group which met at night. This program was started in January 1966 and at the end of the school term each child was able to be advanced to the second grade. The teacher received consultation from the Child Guidance Unit as to managing the children within the play session. The thing noted here was that initially the children, who had not had any peer relationship within their own large class, began to form a peer relationship within this small group which was then transferred to the larger class.

### Special Education Program

It was noted in the survey mentioned above that a large number of slow learners and mentally retarded children were

within the school system, and these children were being held back and were holding back their classrooms. The Child Guidance Unit assisted the school in developing a special educational program within the elementary school in Ankara. A special educational teacher was hired with school funds and the class started in the fall of 1966.

### Counselor Program

In the past there has only been two counselors in the Ankara school system, senior high school and junior high school, but now it was pointed out to the school that a full-time elementary counselor was needed. In the fall of 1966 the school was able to secure four full-time counselors, one in the elementary school, one in junior high, and two in the senior high school.

### Day and Night Care Center

Many of the dependent personnel, as well as the military duty man, when becoming acutely anxious or depressed, were in need of full-time support. And so, with the nurses becoming more sophisticated and with the help of the Public Health psychiatric nurse, day care and night care centers were set up within the hospital itself. This allowed for the dependent wife to be hospitalized during the day if her husband was on duty and then be discharged at night, or vice versa.

As the community became more aware of the work that the Psychiatric Clinic was doing, the leaders of the community became interested. It was recognized by the Psychiatric Clinic that there would be a need for funds and buildings for programs, etc. It was also becoming clear that the community as such was not integrated, that there was poor communication because of the fact that radio and television were not allowed within the city for American military personnel, and that many people, on arriving in Turkey, were poorly briefed, had heard numerous rumors, and therefore were not prepared for Turkey at all. It was felt that many of the problems being seen within the Psychiatric Clinic during the first three months of the patient's arrival in Turkey were directly related to anxiety associated with coming overseas. The opportunity to have the community leaders' support came when the Honorable Parker T. Hart, American Ambassador to Turkey, and Gen. Sam Byerly, TUSLOG Commander, upon hearing of our work, encouraged us to prepare a long-range program proposal so that the program would continue in the American community after our departure. Therefore, in April 1966 we prepared a proposal which

would include a permanent child psychiatric unit and paid community mental health personnel as a three-year grant proposal. The outgrowth of these talks with the community leaders developed the idea that a community council was needed which would have as its members the cross section of the community so that problems other than mental health needs-- Turkish-American relations, problems of Americans living overseas, how to provide adequate communication to Americans living in the area, etc. --could be discussed.

In October 1966 the Ankara Community Council was established and included the American Ambassador, TUSLOG Commander, head of USIS, head of AID, school system, TUSLOG Surgeon, and Turkish representatives. The council immediately began to discuss the problems of the American community living overseas and several things took place. When visiting dignitaries came to evaluate the needs of Americans overseas, the council would meet and have them participate with us. This allowed Deputy Assistant Secretary of Defense Lynn Bartlett, Gen. Jenkins, and Gen. Bohanan to gain an understanding of our community problems. Another outgrowth of the community council was the establishment within the Ankara TUSLOG paper (bimonthly) to establish a section on Host Nation News. The goal here was to provide news to the Americans in Turkey which was hard to obtain; for example, how to get tickets to the movie, ballet, and opera, and general information for housewives. It is also planned to have a column for letters inquiring about certain problems faced in the daily life in Turkey. As can be seen, there are unlimited possibilities for the community council and the direction in which it moves.

I have alluded in this paper to the fact that the affects within the Ankara community have been attempted throughout the TUSLOG area. I can only briefly summarize the fact that each base has an adult psychiatric team working and at three of the bases there is a child guidance team functioning. There is one speech therapy program in operation in Izmir, one special educational program operating in Adana, and one special educational program being set up in Istanbul on a voluntary basis. There is a complete functioning Child Guidance Unit at Crete with evaluation and treatment of children going on at the present time. The physicians at each base are attempting to set up a community mental health program and Public Health nurse and school nurse programs. There has been a continual in-service training program for general medical officers dealing with psychiatric problems, and on December 6 and 7, a two-day psychiatric conference was held which brought together 30 physicians from bases within

the TUSLOG area. During this two-day conference, one day was devoted to adult psychiatric problems and the second day was devoted to child psychiatric problems. The chief of the Guidance Unit in Wiesbaden was invited to participate in the child guidance section as well as the adult section, and the chief of psychiatry at Wheelus Air Base was asked to be on the panel for both sessions. They were able to report to the physicians that there had been a 90% decrease in referrals to Ankara, which meant that the majority of problems were being handled by the physicians themselves. This conference allowed the physicians who had been working with psychiatric problems to discuss their own problems in dealing with this area as well as to present their ideas about improving the present program. The outcome of this conference and of the work of the past year and one-half has resulted in certain ideas for improving the present program and in providing more services.

It has been felt by our office and the physicians throughout the TUSLOG area that what is needed is the setting up within the Ankara referral system of a child guidance unit led by a child psychiatrist. A social worker and psychologist on a full-time basis are indeed needed and would be invaluable. A speech therapist and pathologist would be excellent to have also. It would be important to set up, as satellite units, a psychologist and social work team at several of the bases; these teams would evaluate, diagnose, and do limited treatment and utilize the Ankara referral center for consultation services. It was also suggested there might be the incorporation into any of the units a community services worker who would function in the role of developing community resources and setting up programs such as the one described.

In conclusion, I would like to bring you up to date. At the present time the Ankara Psychiatric Clinic has a functioning child guidance unit, a full-time Public Health psychiatric nurse, a volunteer social work consultant and a volunteer psychology consultant, a volunteer speech therapist, and pathologist consultant. The programs listed above are functioning and have a wide basis of support.

#### DISCUSSION

DR. BALSER: Gentlemen, I don't have to tell you much about Barry Grundland. I first saw him in October 1965. He had been on the job for seven or eight months and he was certainly active. I was astounded by his energy

and understanding and his appreciation of not just his job but also of how lucky he felt to be there. The man who had preceded Barry Grundland, named Melville, was the first U. S. Air Force psychiatrist in Ankara, Turkey. Before then, there were none. When I was there in 1959, an internist was doing the psychiatry. I recommended then that a psychiatrist be sent to Ankara to cover the territory from Pakistan to Ethiopia and to Greece. Melville was the first. Nothing much happened until Grundland came along. The thing that is fascinating to me is the man. If he's got it, he will put out and you see the results. All the help he had assigned to him was one technician. He perked up everyone else around the place. I remember meeting Leaverton who was a pediatrician. He was almost as fired up as Barry. The other internists were the same way. It was a matter of what Barry was able to give. You have heard Capt. deVito give his and the other groups' material. Capt. deVito has a lot of this same stuff but I think it is a matter of quantity as far as the difference is concerned. Dr. Grundland has a wife and two children. Obviously it takes time to get around and do all this work, and he knew he would lose his wife unless he did something about it. Fortunately, his wife liked to ride so he bought her a horse and that solved that problem. He is friendly, he knows everybody, no matter where, through Wiesbaden, Turkey, the entire European Theater.

Let me be a bit more serious about this whole concept--namely, community mental health centers. This is the modern psychiatric revolution, the establishment of community mental health centers. It is as important as Pinel was when he removed the restraints, Kraepelin with his development of a nosology, Freud with his introduction of a dynamic basis for human behavior and misbehavior, and the great, great revolution brought about by drugs and physiologic therapy. Earlier this week, on Wednesday, there were two papers presented. Burstein presented one and Graller and Crabtree presented the other on psychotherapy. If you recall, Crabtree and Graller's paper discussed their training as psychiatrists. Their concept was that one gets patients for long-term therapy, keeps eight patients a year for three, five, seven years and that is it. During military service they were alert enough to realize that something happens to patients without three years of therapy and they described it very thoroughly in their paper. The community mental health center goes

back and picks up the stresses or causes for the disturbance in the patient who comes for help and tries to relieve them. In deVito's report he did not tell you how much of a job they were really doing. I was there on Monday and Tuesday of this week. He did not tell you how much he, Myers, and Ednie get around to the people in their entire community. It isn't just going out to the 12,000 men who are there for training in the mechanical aptitudes or whatever. They not only get to them but reach the leaders and discuss this material with them. They get out to the chaplains and discuss problems with them, the JAG, the Air Police, as well as teachers. This is where they give a great deal in terms of insight, so much so that Capt. deVito mentioned the astuteness of referral from a lay person and I saw it. It was like having one psychiatrist refer a patient to another psychiatrist and describe the patient's complaints and symptomatology. Of course, Capt. Grundland got around a little bit more than deVito, Myers, and Ednie. I know Capt. Dave Berry, psychiatrist at Wheelus AB. Dave is a quiet guy, a very nice fellow, but it took Grundland to get Berry moving and Dave is as excited as can be. There is an internist by the name of Toronto at Karamursel AS. He was all fired up and was setting up a program at Karamursel which is a little 36-bed unit across the Sea of Marmora in Asia Minor. He is medically responsible for 12,000 personnel and dependents. He is doing a great job psychiatrically.

When you have no psychiatrists in an area as big as the United States, except Barry Grundland, using anybody to help out is right, under these circumstances. He uses nurses and there is no question about the quality of their activities and efforts. I think that I want to endorse Dr. Brill's, Capt. deVito's, and Grundland's appreciation of the contribution of nurses.

Lakenneath is establishing a program of this sort. Who is doing the work? A fellow named Miller, a social worker who is very much interested and is moving. He and the pediatrician are actually getting the community mental health program going but the psychiatrists are giving support much the way Capt. Grundland did.

Let me give you one example of a civilian program. At St. Luke's Hospital we service 168,000 people.

The population is made up of Puerto Ricans, many of whom are on welfare, colored or white. We also service 30,000 Columbia University people.

One of our psychiatrists worked with the police and the Puerto Ricans. He got them to try to understand each other. They began to give lessons in Spanish to the police. The Puerto Rican population, this lower income group, raised money to send eight policemen to Puerto Rico to give them a chance to see what the culture was like and where these people had come from. I want to just bring this up in terms of going out in the community and working it just as Dr. Grundland has been doing.

Finally, I want to tell you about Eli Bower. He is a psychologist with NIMH and is a brilliant capable man. He was hired to make a consultant study by an assistant of the Secretary of Defense of the D.O.D. school systems throughout Europe and all the way over to Pakistan. This is all of Barry's territory plus Europe and Great Britain. He wrote up his report and was scathing as it should have been. But, in all of this, there was one bright light. He describes what Dr. Grundland is doing and has been doing in the most laudatory terms--the only note of this sort in all of that report.

A RESEARCH DESIGN FOR ASSESSMENT OF PERSONALITY  
CHARACTERISTICS OF AIR FORCE PSYCHIATRIC  
CASUALTIES IN SOUTHEAST ASIA

Vincent Wallen

The research proposal entitled "An Objective Study of the Personality Characteristics, Traits, and Self-Concepts of Air Force Psychiatric Casualties in Southeast Asia," was approved by the Surgeon General's Research Review Committee on 14 October 1966.

It is concerned with the identification and measurement of the personality characteristics, personality traits, and self-concepts of psychiatric patients in SEA. Its main purpose is to investigate those personality factors which are the most conducive to emotional stress and breakdown in personnel in a basically guerrilla warfare zone. There are no pertinent or related objective Air Force or military studies on this subject.

This investigation represents a joint study between the USAF Hospital, Tachikawa, and the USAF Hospital, Clark AFB. Specifically, a sample of 100 psychiatric casualties are in the process of being identified for this study. Fifty patients will be selected at Clark and fifty at Tachikawa. Similarly, a control group of 50 airmen will be selected, 25 from Clark AFB and 25 from Tachikawa. Twenty-five subjects have been identified and tested at the USAF Hospital, Tachikawa, and 18 subjects have been tested at Clark as of this date.

The subjects for this study are being administered a battery of psychologic tests consisting of an intelligence test, a projective personality test, and a self-assessment instrument known as a Q-Sort. The tests employed are: (1) Otis Mental Ability (Adult Form), (2) Rorschach, and (3) the Q-Sort. In addition, an attitude questionnaire which was specifically designed for this study is being administered.

The special Q-Sort test which was developed for this investigation consists of a large number of self-referent statements (76) (appendix A). These statements which have

been elicited from psychiatric patients about themselves have been categorized into seven personality trait areas according to the instructions contained in appendix B and the criteria contained in appendix C, employing Carl Rogers's theory on personality and behavior.

The self-referent statements were categorized by five senior USAF Medical Service psychiatrists and ten USAF clinical psychologists and the results were tabulated (table I). The designated trait areas and the average percentage of agreement were as follows: (1) self-acceptance, 78%; (2) independence, 84%; (3) good emotional control, 77%; (4) self-rejection, 78%; (5) dependency, 84%; (6) poor emotional control, 82%; and (7) withdrawal, 95%.

In addition, the following vital information is being recorded for each patient: age, length of service, rank, Air Force specialty, marital status, I.Q., highest school grade completed, total years in AFSC, and total months spent in the war zone.

The Rorschach test is being administered to each patient and the results will be scored and tabulated according to the Klopfer method. The following personality correlates will be measured: (1) introversion-extroversion, (2) emotional maturity, (3) stereotypy, (4) emotional balance, (5) spontaneity, (6) dependence-independence, (7) identification with service, (8) depression, (9) egocentricity, and (10) self-extension.

It is assumed that all of the test data are quantifiable and can be treated statistically by means of correlation formulas and tests of significance.

It is also recognized that the personality qualities observed may be the result of experience rather than the predisposing qualities leading to the difficulties in adjustment.

The general purposes of this study, restated, are as follows: (1) to identify those personality traits and characteristics which are the most prevalent in Air Force psychiatric casualties evacuated from the Southeast Asia theater of operations, (2) to quantify and correlate the levels of congruence of the self-perceptions and the self-concepts of USAF psychiatric patients as measures of personal and social adjustment, (3) to examine morale and attitudes, ex post facto, of the psychiatric casualties toward their assignment, Air Force specialty, peers and supervisors, and toward the Air Force in general, and (4) to recommend on the basis of objective test

findings and statistical data a number of methods for the prevention, detection, and treatment of psychiatric disorders which may be indigenous to USAF personnel in Southeast Asia.

TABLE I

Categorization of Q-Sort Traits

Self-acceptance Item	Independence		Good emotion- al control		Self- rejection		Dependency		Poor emotion- al control		Withdrawal	
	Item	%	Item	%	Item	%	Item	%	Item	%	Item	%
1	5	92	3	100	24	92	19	77	7	92	6	92
12	17	92	13	70	29	70	20	92	14	77	15	92
18	42	100	22	92	31	70	30	100	25	77	38	100
26	70	100	56	70	33	84	73	84	40	77	45	92
36	74	84	58	70	54	100	75	92	51	77	65	100
47	2	61	23	61	61	77	69	61	52	100		
50	62	61			68	84			53	77		
55					11	61			60	100		
57					16	61			67	92		
59									76	100		
63									9	61		
72									71	61		
10												
AV. %				77		78		84		82		95
score		84										

59 items classified into trait categories  
17 items not classified

77.6% items classified  
22.4% items not classified

Average of (+) items of 3 categories = 9

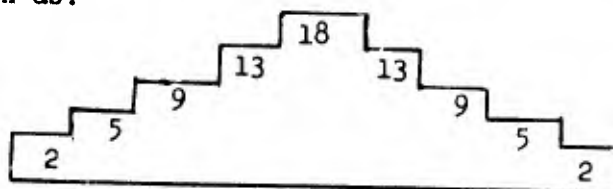
Average of (-) items of 4 categories = 8

### Instruction Sheet

Each subject will be handed a pack of cards containing seventy-six self-referent statements. He will be asked to sort them into piles according to how well each statement categorizes him. He will be required to distribute them like this:

	<u>Least like</u>					<u>Most like</u>				
No. of cards	2	5	9	13	18	13	9	5	2	
Scale value	0	1	2	3	4	5	6	7	8	

The cards will be distributed in a forced-choice quasi-normal distribution as:



By quantifying the self-description arrays it will be possible to correlate each subject's separate self-sorts and to correlate the self-sorts of both experimental and control groups.

Each subject will perform three sorts: (1) Actual-self (as I see myself), (2) Ideal-self (as I think I would like to be), and (3) "Other-self" (as I think others see me). The personality trait responses will be derived from the Actual-self sort. The self-sorts will be quantified and correlation coefficients will be computed based upon an adaptation of the Pearson-product-moment correlation formula,

$$r = \frac{NEXY - K_1}{K_2}$$

where

$$K_1 = (EX)^2$$

and

$$K_2 = NEX^2 - (EX)^2.$$

Although  $r$  correlations will represent the basic data of this study, a transformation of them to Fisher's  $z$  will be made so as to correct for the sampling errors of  $r$ .

APPENDIX A

CATEGORIZATION

<u>Category (trait)</u>	<u>Self-referent statement</u>
_____	1. I enjoy sports.
_____	2. I like responsibility.
_____	3. I hardly ever get upset.
_____	4. I look forward to new places and to meeting new persons.
_____	5. I like to be independent.
_____	6. I daydream a lot.
_____	7. I blush easily.
_____	8. I worry about catching diseases.
_____	9. I am more sensitive than others.
_____	10. I enjoy parties.
_____	11. I am not like other people.
_____	12. I think that I am just as good as any airman.
_____	13. My feelings are not easily hurt.
_____	14. I worry a lot.
_____	15. I prefer to be left alone.
_____	16. Life is a chore for me much of the time.
_____	17. I believe that a man should fight for his rights.

- \_\_\_\_\_ 18. I usually feel that life is worthwhile.
- \_\_\_\_\_ 19. I feel lonely and homesick when I am  
in a strange place.
- \_\_\_\_\_ 20. I depend on others.
- \_\_\_\_\_ 21. I have thought of suicide.
- \_\_\_\_\_ 22. I am calm and undisturbed most of  
the time.
- \_\_\_\_\_ 23. I am happy most of the time.
- \_\_\_\_\_ 24. I feel inferior to others.
- \_\_\_\_\_ 25. I sweat very often.
- \_\_\_\_\_ 26. I am a good mixer.
- \_\_\_\_\_ 27. I like being an airman.
- \_\_\_\_\_ 28. I like to talk with others.
- \_\_\_\_\_ 29. At times I have felt that life was  
not worth living.
- \_\_\_\_\_ 30. I like to ask the advice of others.
- \_\_\_\_\_ 31. I feel weak much of the time.
- \_\_\_\_\_ 32. Life is usually exciting.
- \_\_\_\_\_ 33. Many times I feel alone and unimportant.
- \_\_\_\_\_ 34. I feel lonely a good deal of the time.
- \_\_\_\_\_ 35. I have trouble making friends.
- \_\_\_\_\_ 36. I like to meet people.
- \_\_\_\_\_ 37. I feel at ease in most social situations.
- \_\_\_\_\_ 38. I tend to withdraw from others.
- \_\_\_\_\_ 39. At times I feel superior to other  
persons.

- \_\_\_\_\_ 40. I do not sleep well.
- \_\_\_\_\_ 41. I usually try to hide my feelings.
- \_\_\_\_\_ 42. I can usually solve my own problems.
- \_\_\_\_\_ 43. I am a friendly person.
- \_\_\_\_\_ 44. I adjust quickly to new situations.
- \_\_\_\_\_ 45. I like to daydream.
- \_\_\_\_\_ 46. I usually find it hard to get started  
on a new task.
- \_\_\_\_\_ 47. I make friends easily.
- \_\_\_\_\_ 48. I like to join in many different  
activities.
- \_\_\_\_\_ 49. I can adjust to just about anything.
- \_\_\_\_\_ 50. I feel equal to my friends in intelli-  
gence and emotion.
- \_\_\_\_\_ 51. At times I feel like breaking things.
- \_\_\_\_\_ 52. I sometimes feel that I am about to  
go to pieces.
- \_\_\_\_\_ 53. I am high-strung person.
- \_\_\_\_\_ 54. Things are always wrong with me.
- \_\_\_\_\_ 55. My judgment is as good as it ever was.
- \_\_\_\_\_ 56. In the morning I usually wake up  
feeling fresh and rested.
- \_\_\_\_\_ 57. I think that I am a well-adjusted  
person.
- \_\_\_\_\_ 58. I hardly ever worry about my health.
- \_\_\_\_\_ 59. I am confident of my abilities.
- \_\_\_\_\_ 60. I cry easily.

- \_\_\_\_\_ 61. Deep down I feel unsure of myself.
- \_\_\_\_\_ 62. I can be depended upon.
- \_\_\_\_\_ 63. I am self-confident most of the time.
- \_\_\_\_\_ 64. I feel uneasy most of the time.
- \_\_\_\_\_ 65. I prefer to be alone.
- \_\_\_\_\_ 66. I do things slowly and without worry.
- \_\_\_\_\_ 67. Some days I'm nervous all the time.
- \_\_\_\_\_ 68. Life is a mistake for me.
- \_\_\_\_\_ 69. I feel that other people do not understand me.
- \_\_\_\_\_ 70. I think that I am quite independent.
- \_\_\_\_\_ 71. I am a nervous person.
- \_\_\_\_\_ 72. I have no real problems.
- \_\_\_\_\_ 73. I need friendship and understanding.
- \_\_\_\_\_ 74. I like to be the leader in sports and other activities.
- \_\_\_\_\_ 75. I like to tell others about my problems.
- \_\_\_\_\_ 76. Many times I feel weak and dizzy.

## APPENDIX B

### INSTRUCTIONS FOR JUDGMENTS OF PERSONALITY TRAITS (CHARACTERISTICS)

The statements contained below are self-referent verbalizations elicited by persons undergoing psychotherapy. I would like you to categorize each statement into one of the listed personality trait areas (characteristics), according to the definitions of the traits which lie within the theoretical frame of reference contained below.

The judgments are to be based upon Carl Rogers's theory of personality and behavior. This theory is basically phenomenological in character, and relies heavily upon the concept of the self as an explanatory construct. It pictures the end-point of personality development as being a basic congruence between the phenomenal field of experience and the conceptual structure of the self.

Rogers postulates that every individual exists in a continually changing world of experience of which he is the center and that the only person who fully knows his field of experience is the individual himself. According to this proposition, the person is the best source of information about himself and the best vantage point for understanding the behavior of the person is from the "internal frame of reference" of the individual himself.

The major portion of the personality trait areas listed below are derived from the postulations of Rogers's theory of personality. The balance of the trait areas are those selected by this writer on the basis of homogeneous characteristics of the item population.

Please read the definitions of the personality traits contained on the attached page. After you have completed this step, briefly peruse the list of PSYCHOTHERAPY PATIENTS' SELF-REFERENT STATEMENTS.

You are now ready to categorize the statements. Read each statement, then decide into which category or categories you think it should be placed. Place the category designation

that you have selected in the space provided immediately to the left of the item. For the purpose of brevity each trait category may be designated according to its numerical placement on the list of "Definitions of Traits," as

Self-acceptance = 1

Independence = 2

Self-rejection = 4

Examples:

Statement

- |          |  |
|----------|--|
| <u>1</u> | 1. I am a generous person.               |
| <u>2</u> | 2. I do not depend on others for advice. |
| <u>4</u> | 3. Things are always wrong with me.      |

## APPENDIX C

### DEFINITIONS OF TRAITS

Favorable adaptations to life situations:

1. Self-acceptance = Viewing oneself and reacting to the field of experience as a person of worth, worthy of respect rather than condemnation. The perceiving of one's own feelings, motives, social and personal experiences without distortion of the basic sensory data and being comfortable in acting in terms of these perceptions.

2. Independence = Viewing oneself and reacting to the field of experience as being more self-governing, self-regulatory and autonomous and away from control by external forces. The perception of one's own standards as being based upon his or her own experience, rather than upon the attitudes or desires of others. The behavior of the organism is more spontaneous, the expression of attitudes are less guarded. The individual feels he or she is his or her "real" self.

3. Good emotional self-control = Viewing oneself and reacting to the field of experience as being competent to cope with the affective aspects of life. Most of the relevant sensory experience is present in awareness. Sensory impulses are accepted and channeled by the self-structure without undue strain or anxiety.

Unfavorable adaptations to life situations:

4. Self-rejection = Viewing oneself and reacting to the field of experience as an unworthy person, dissatisfied with oneself, worthy of condemnation or disrespect and characterized by feelings of unpleasantness and dejection, concomitant with a lowering of the vitality and functional activity of the organism.

5. Dependence = Viewing oneself and reacting to the field of experience as being influenced, sustained, or subjected by external forces for regulation and support. The behavior reflects a lack in autonomy and spontaneity.

6. Poor emotional self-control = Viewing oneself and reacting to the field of experience as lacking in competence to cope with the affective aspects of life. Much of the relevant sensory experience is not present in awareness. Reactions to sensory impulses and external forces are characterized by tension, strain, or anxiety.

"Other" adaptations to life situations:

7. Withdrawal = The retreat or moving away of the organism from what is perceived as a threatening or anxiety-provoking object, force, or experience. Also the gratification of the organism's needs and the reduction of tension by vicarious experience, as substituting fantasy for reality.

## AIR FORCE PSYCHIATRY IN VIETNAM

Larry Morris

Air Force psychiatry in Vietnam began in mid-February 1966 at the Air Force hospital at Cam Ranh Bay only 4 weeks after its historic inception as the first Air Force hospital in a combat zone. Until this time, all psychiatric casualties were treated by the Army in Vietnam and by the hospitals at Clark and Tachikawa Air Bases. The arrival of a single Air Force psychiatrist marked the beginning of an in-country Air Force treatment program. The hospital facilities at Cam Ranh Bay were primitive with simple tents used for wards, and any shady and secluded place serving as an office for interviewing; there was no trained psychiatric staff. Not until 6 months later were air-conditioned Quonset huts, clinics, and psychiatric staffs available. With these inauspicious means, the department provided support for all Air Force facilities in Vietnam having a body of 45,000 men and, in addition, support for the 15,000 Army engineers and logistic men in surrounding area.

This paper describes our observations of 300 inpatients and 990 outpatients evaluated during the first 9-month period. Those of us who went to Cam Ranh Bay in December of 1965 expected the hospital there to be like the hospital at Clark. We found the tents too hot for interviewing and there was no office space; so we worked outdoors under a beach umbrella or in any shaded place where there was a breeze. Quonset huts were built in August; now there are about six air-conditioned Quonset huts, the dispensary, the BOQ, and the Officers' Open Mess.

From the outset our purposes and therapeutic goals had to be well outlined. In keeping with the principle of managing mental casualties within the theater of operation, all patients were scheduled for treatment on a "here and now" basis. What would our goals be? In this setting of war, the principal aim of treatment centered on the welfare of the military unit, and the therapist had to regard the needs of his patients as secondary to the needs of that man's outfit. Disposition to duty was of paramount importance if there was any reasonable hope that a man could fulfill his

12-months commitment in Vietnam. At the same time, psychotic patients whose illness offered little or no hope for return to military duty would have to be identified, stabilized, and evacuated. Among nonpsychotic patients, however, this meant that a man might be returned to duty whether or not he had completely recovered from his illness; yet an early discharge could cause an exacerbation of his illness. The problem of deciding how long a man should be hospitalized before making a final disposition was simplified by considering the normal 12-month tour. Essentially a patient's treatment would be continued until he was judged fit for completing his tour or, if this was seriously questioned, until no further improvement was to be expected and then he, too, would be discharged for a trial of duty. In short, nonpsychotic patients would be given every opportunity to complete their tour even if this required prolonged hospitalization, a change in assignment, transfer to another unit, or readmission to the hospital. Whenever there was reasonable hope, the urge to evacuate the acutely ill nonpsychotic patients would be resisted until all forms of therapy had been exhausted. This philosophy had further implications when considering the man's family, his career, his financial basis, and his honor, to say nothing of his mental health which was already compromised. Furthermore, this policy made clear to his peers on duty that the psychiatric escape hatch did not exist, and this in turn closed the flood gates against a group of poorly motivated men and who otherwise might have become casualties.

As we went along, it was remarkable to discover the extent to which our policies became known throughout the country. So often we found patients evacuated to Cam Ranh Bay with a foreknowledge that their problems would be met immediately. Even before seeing the therapist, the patients had, in essence, initiated their own treatment and taken the first steps toward recovery. What caused these men to become casualties? While it is generally known that shell shock, battle fatigue, or what is referred to now as gross stress reactions, are not seen in large numbers in Vietnam, it is not fully appreciated that equally acute and severe psychiatric problems do occur and that by and large they are adjustment problems. A few of our patients were exposed to hostile fire and suffered gross stress reactions, but for the most part they were noncombatant. While it is easy to recognize the stresses inherent in exposing a man to enemy fire, it is at times difficult to understand the stresses encountered by a noncombatant in the same area of operation. The stresses peculiar to Vietnam are those inevitably present

in the wake of a rapid mobilization of men and materiel in an underdeveloped tropical country; particularly, these men bore the hardships of tropical heat and humidity, rain, mud, filth, noise, overcrowding, fatigue, and the more subtle stresses of disorganization, privation, inconvenience, delay, unpredictability, and monotony. Moreover there were the exacerbations of being shifted about, of being poorly assigned, or of having no assignment at all. There were dangers which required constant vigilance and alertness. Finally, there was the frustration of family separation, of having to cope with marital, financial, legal, or other family problems that run afar. Some emotional adjustment was required of each man, for almost nothing could be done to alter the environment and escape, of course, was impossible. We were constantly impressed with the remarkable capacity of the men in Vietnam to adapt to these stresses, but we wondered in what way those who became casualties were predisposed--perhaps having a lowered resistance to stress or having a so-called breaking point. However, we observed that many patients showed little or no evidence of predisposition, and many apparently neurotic or unstable personalities never became casualties.

Rather than rely on broad generalizations, we explained our patient's illnesses more successfully by individualizing and paying attention to the specificity of the traumatic episode. Our efforts to be specific with cause-and-effect mechanisms were eventually rewarded for the various neurotic and characterological problems began to manifest themselves in unique etiologic patterns to which short-term specific therapy was easily applied. Some of these patterns of illness and their treatment will be discussed shortly. What were our findings? Among 300 inpatients, two-thirds were Air Force personnel and one-third, Army; 85% Caucasian and 15% Negro. As one would expect, most of our patients were young Army draftees or airmen with less than 4 years' active duty. Yet it is interesting to note the proportion of NCO's. Correspondingly, a number of men in their 20's, 30's and 40's in the supergrades of 4 E-8's were seen but no E-9's. A small number of officers were seen; about 9 of these were pilots or other crewmembers. This small number of flying personnel bespeaks the excellent screening, training, and morale of these men. About half of our patients had 8 or more years of active duty. There are some interesting findings to be examined. The chart shows the number of months patients had spent in Vietnam at the time of their admission; no month in a man's 12-month tour is completely free from psychiatric problems; even in the last

few weeks, but there are peaks of increased incidents during the first month, the 4th to the 6th month, and the 9th month. The first peak corresponds to the initial adjustment period when large numbers of characterologic problems result from failure of early adaptive mechanisms. For example, passive-dependent patients found family separation intolerable; compulsive individuals often reacted violently to the disorganization of their life in Vietnam, and persons with schizoid traits often found that they could not escape the ever-presence of other people and withdrew. During the first phase, emotionally unstable individuals were vulnerable to the entire range of stresses, and those who volunteered for duty in Vietnam to escape personal problems often found their dilemma compounded. The next critical phase in the tour is the period just preceding the half-way point-- particularly the 4th month where there is a high incidence of those individuals who effected an initial adjustment but seemed to despair at the prospect of fulfilling their tour. Unable to see the end, they develop profound depressions which are often shared by their spouses at home. Once the 6th month mark is reached, they can finally see over the hill or emotionally accept the fact that Vietnam is not forever and their symptoms, along with those of their spouses, are resolved. We dubbed this phenomenon the four-month syndrome, and a more detailed description will be given later. The second half of the tour is much less perilous. A small curve centered on the 9th month is noted; this time corresponds to the admission of a few pilots, gunners, and a few other flying personnel who are reacting in a variety of ways to their accumulated stressful experiences.

Before discussing treatment and results, a cross section of the type of problems we met needs to be presented. One-third of our patients were diagnosed as having a primary characterologic or behavioral problem. These patients were commonly reacting with sleep disturbance, loss of appetite, innervation, anxiety, and depression and were referred by their supervisors because of their inability to function and because the basis of their problem appeared to be psychiatric and not administrative. Although the neurotic symptomology may have been prominent, a character disorder clearly underlay the clinical picture and needed to be distinguished from a true neurotic reaction. Because they were incapacitated, early discharge meant certain administrative separation in Vietnam; thus they were treated in the hospital as full-fledged psychiatric casualties but with the clear understanding that disposition to duty would follow. Psycho-neurotic reactions comprised 22% of all patients, and these

cases were largely depressive reactions or acute aggravations of chronic anxiety states. Three conversion reactions along with several dissociative reactions were seen. Over 9% of patients were chronic alcoholics with an unusually high incidence of acute alcoholic hallucinosis; 15.7% of the cases were psychotic reactions--mostly cases of an acute schizophrenic process which had not been observed before, although we admitted at least 5 Army patients with a past history of an acute psychotic break; 11% of the patients were diagnosed as having an adult situational adjustment reaction; and only 2.3% had a gross stress reaction. A few organic brain syndromes, psychophysiologic reactions (most of these being neurologic problems), and miscellaneous problems comprised the remaining cases. Besides the department's extremely limited resources of personnel, structures, drugs, supplies, and recreation facilities, a simple and effective treatment program was begun. Essentially, the major factors were removal from the stressful environment, rest, sleep, work therapy, heavy reliance on medication, and at times, a slight improvement in physical comforts. At times, of course, there was a decrease in the physical comforts that affected the individual's psychotherapy. Every effort was made to individualize and concentrate on the etiology of each man's illness, allotting time for each patient according to his needs. This time varied from one hour per week for most patients and to as many as three hours weekly in a few cases.

The use of short-term individual psychotherapy allowed specific conflicts to be identified and attacked. Among patients having characterologic or behavioral problems, we discovered that however sick they appeared on admission, almost all could be salvaged for full duty. The most challenging subgroup was that of the passive dependent or clinging personality who presented with acute anxiety and depression immediately upon arriving in Vietnam. The primary vulnerability in Vietnam seemed to be family separation which frustrates a lifelong pattern of clinging in an infantile manner to wife or parents. These patients viewed their problem as their family's desperate need for them to be home when in reality this was a projection of their own profound need to be with their family. Most of them were career airmen or NCO's with outstanding records and high levels of skill who had never before faced the trauma of family separation. Many of these men had 8 or more years of active duty; 6 had over 14 years and 2 had over 16 years of active duty. Most patients were admitted during the first six or eight weeks of their tour in Vietnam and a few scattered out

in the rest of the tour. Some patients spent as long as 60 to 70 days in the hospital.

The following case demonstrates the severity of this reaction and the emotional adjustment which can be made if hospitalization is continued. The patient was a 32-year-old married Caucasian technical sergeant with 14 years' active duty and 11 days in Vietnam. He was admitted for treatment of severe anxiety and depression. Shortly after his arrival in Vietnam he developed sleep disturbance, headaches, loss of appetite, weight loss, and progressive symptoms of hyperventilation, dizziness, syncope, tremulousness, and maudlin episodes. He could offer no explanation for his symptoms but stated that his family needed him and that he was completely unable to function. Past history revealed a reversal of the usual husband-wife relationship. On examination he appeared pale, thin, withdrawn, anxious, and became tearful in response to questions about his family. Severe anxiety, depression, and marked passive dependency were evident. He was treated with sleep medication and a variety of other medicines, but there was no improvement. The simple mention of his wife's name would provoke a lengthy crying spell and a desperate appeal to be evacuated. Severe weight loss and persistent anxiety prompted the use of sub-shock insulin, and at the same time he was interviewed frequently in an effort to bring out his passive dependency and to get him to accept the reality in the tour. He was motivated to return to duty, and after 36 treatments with insulin and 10 weeks of hospitalization, he was returned to his unit where he functioned adequately according to a report received 3 months after discharge.

Emotionally unstable individuals who are vulnerable to the ordinary stresses of everyday life at home, not to mention the hardships of Vietnam, show little potential for improvement in the hospital and, once identified and stabilized, they were all discharged to duty. Less than a half dozen of these men were recommended for administrative separation as many could effect a borderline adjustment. Strongly compulsive individuals often had a difficult tour as there was little they could do to control or alter their environment. Those who became our patients usually required extensive treatment to promote some growth in insight before they could accept the inconsistencies of their life in Vietnam. Among all admissions, 20% presented with symptoms of alcoholism, and about half of these patients were primarily chronic alcoholics. They were generally in an older age group and were career men. Of those admitted, 8 presented

with acute alcoholic hallucinosis and 3 had D.T.'s. Following detoxification these patients were treated with psychotherapy for 3 or 4 weeks and then discharged. An Alcoholics Anonymous program was established at Cam Ranh Bay, and this group was in large part responsible for the fact that the relapses were few in number. Only 3 out of 28 alcoholic patients were readmitted. The four-month syndrome is a depressive reaction occurring around the fourth month and is apparently related to the length of the tour and to a concurrent depression of the wife. The spouse seems unable to recognize that the loss of her husband is temporary and prepares herself for permanent loss by writing letters alluding to divorce and separation. Once the sixth month is reached, and both partners have the end in sight, divorce talk and depressive features disappear. It is important to carry the patient in supportive therapy during this period and to resist the demands the patient makes to go home immediately to save his marriage.

Depressive reactions also occur during the other peaks of admission. Only one patient with depression was evacuated--but four were sent home on emergency leave--which fact supports the contention that these patients had some basis for their illness and state of affairs at home. Throughout the year only about 6 patients out of 300 were granted emergency leave while they were inpatients, and 4 of them were profoundly depressed patients. This is the four-month syndrome at this point. This comprised approximately 18 out of 36 patients or about half of our depressive reactions. To get some idea of the incidence of predisposing factors in our patients, we examined the past histories and the personality characteristics of our depressed group. We discovered that 40% had no particular predisposition but that 60% did have some character disorder traits; 15 patients or 40% displayed either obsessive-compulsiveness or passive-dependency which again demonstrates a vulnerability of these individuals to the stresses in Vietnam. Anxiety reactions comprised 10% of all cases and occurred at any time during a man's tour. Usually these men suffered from a degree of chronic anxiety, but about one-third were dog handlers and other security personnel whose illnesses were clearly provoked by fear, a free-floating type of fear which they did not particularly relate to the obvious dangers of their jobs. Again it was important not to give in to their wish to be evacuated or reassigned for after a period of psychotherapy, all but one overcame their anxiousness sufficiently to be returned to duty. Among all patients having anxiety reactions, only 3 were eventually evacuated. Three with conversion reactions

were treated with short-term psychotherapy and Amytal interviews resulted in the complete disappearance of their symptoms. Early and vigorous treatment was thought to be the main factor in the rehabilitation of these men.

Forty-four patients with psychotic reactions were treated. They were comprised of 39 schizophrenic reactions, 1 manic depressive psychosis, and 4 psychotic depressions. As mentioned before, 5 Army men had previous psychotic reactions. Our psychotic patients were too sick to be evacuated quickly, especially Army personnel whose illnesses were not called to our attention until psychotic symptoms had been present for weeks or months. It was our policy to stabilize all of these patients over a 3- or 4-week period prior to evacuation. Management of hallucinating or agitated patients was difficult in an open ward tent hospital, but no serious instances occurred. Situational adjustment reactions seldom presented any management problem, but with removal from the environment alone, most of these patients became asymptomatic in a number of days. The gross stress reactions which occurred in our pilots were not caused by any single traumatic episode but rather by the accumulation of their stresses over a long period of time. The primary presenting symptom was anxiety. Time, rest, and removal from the environment by themselves had a very beneficial effect; nevertheless, some loss of self esteem remained, and it was important to carry the patient in therapy for at least 4 or 5 weeks in order to restore his confidence in his flying ability. What was our salvage rate? Among psychiatric inpatients, 80% were discharged for duty; 17% were evacuated; and 3% were recommended for administrative separation. Because of the lack of communication in Vietnam and the short time left for lengthy followups, the true percentage of salvaged patients is not known; but judging from a few long followups and the absence of readmissions, the true rate should be very close to 80%. The average length of hospitalization is about 30 days, but a large number of patients required 60 days and occasionally 70 days. Fifty-one patients were evacuated--21 Air Force, 29 Army, and 1 Navy patient. Among evacuees, 80% had schizophrenic reactions, the Army contributing the larger share. Six patients had psychotic depressive reactions; 3, anxiety reactions; 1, gross stress reaction; and 1, organic brain dysfunction. Of all Army inpatients, 29% were evacuated, and among Air Force inpatients only 10.2%. Thus Army patients were evacuated at a rate three times that of the Air Force patients. Among 990 outpatients, the same pattern of early adjustment problems, later depressions, and anxiety reactions were

observed. Patients were seen weekly or less often as long as necessary.

An astounding number of "Dear John" type letters from sweethearts and wives prompted the visits of many of these men. The director of the local Red Cross stated that 5 or 6 of these letters arrived daily at the base at Cam Ranh Bay alone, and this high number was also reflected in our consultations with base chaplains and unit commanders. Another important morale factor was mail; its delay caused outpatient visits to increase. Administrative evaluations performed were 174 in number, of which two-thirds were from the Army. Going down the list, we find, in order of frequency, the emotionally unstable, the antisocial, the passive-aggressive, the homosexual, those having enuresis, the alcoholic, those with adjustment reactions, inadequate personality, passive-dependency, schizoid-compulsive traits, etc. If we examine the disposition of these patients by profile, we see that approximately two-thirds of Army men were given an S-4 profile which is equivalent to recommended for administrative separation while only one-third of the Air Force personnel seen were given this profile. Army patients unfit for duty outnumbered their equivalent in the Air Force by a ratio of 6 to 1--again demonstrating the superior emotional maturity and screening of Air Force personnel.

#### DISCUSSION

DR. HARPER: Mr. Chairman, ladies, and gentlemen, I found this presentation fascinating because it awakened many poignant memories of World War II and the day when I was the first psychiatrist in the Southwest Pacific. You could always tell the difference between the closed ward and the open ward, because a sheet hung right in the middle of the corridor; so you could see that there was no difficulty in determining on which side of the sheet or where the disturbed patient should be. I admired their approach to the treatment. It was the immediate--the here and the now. In light of Capt. Morris's experience, I am reminded of Barbara Hutton's seventh husband, who said, "I know what I am supposed to do, but the problem is how to make it interesting." We note that they did look very carefully, determined the magnitude of the problem, and decided what to do. They decided to treat people right away and return them to duty. There has been an interesting history so far as treatment of NP casualties, as we used to call them,

is concerned. You know, we learned about this in World War I, but we forgot it completely.

When I first went to Australia I remember very well an old Aussie telling me his experience in the trenches during World War I; he encountered a young buckaroo coming back. He was tremulous, speechless, retching, bespattered with mud. This old Aussie said, "Good heavens, man! What's happened to you?" He answered, "Aye, sir, it's been a bit of a botch."

The Aussie said, "Have you been under fire long?"

"Not at all, sir."

"Any of your comrades killed?"

"No."

"Well, damn it all, what do you think you ought to do?"

He said, "I say, sir, I ought to go to the hospital."

"But we have no vehicles; we can't take you back. Do you think you could walk back to the hospital?"

He said, "Aye, sir, that I do."

He said, "Well, stone the ruddy crows! It is a shorter distance to the front lines. So you walk there, and you are going to no hospital."

Well, you know in World War II we started out assuming that everybody who became emotionally disturbed should be discharged, and we got to the untenable position in August of 1943 of discharging more people because of neuropsychiatric difficulties than we were inducting into the Army. Someone decided this was a foolish way to run a war; so the trend was reversed. Then came the Korean war and Col. Peterson, Col. Al Glass, and many others were instrumental in setting up a very definite project--treatment program, rather. They treated these individuals immediately; the psychiatrist was right behind the front line and, indeed,

he was almost a part of the outfit. The soldier who was disturbed was brought there. He was kept comfortable by being given primarily clean clothing, hot coffee for 24 to 48 hours, and then somebody sort of reviewed life with him and pointed out that life is strife, and there is only one place to go and that's back to the front because it's a long, long swim back to Tachikawa and nobody's going there by boat. Now they returned practically every man back to the front lines in Korea, as many of you know, and a fascinating study was made by Dr. Al Glass and his colleagues. They took a large group of these individuals who had become frightened and distraught from an emotional point of view and compared them with a control group--those in the front lines--and they compared their efficiency rating. You could almost superimpose the curve of those individuals who had been treated for 24 to 48 hours over the curve of the men who had not been returned because of an emotional episode at all. In other words, with reassurance, with some rest, with encouragement, they were able to perform perfectly well. Evacuating an individual is often attended by a sense of guilt, as many of you know.

There was a different kind of cold war in Europe. I remember making a trip for the Surgeon General of the Army about 8 or 10 years ago. A tremendous number of peptic ulcers had developed at that time. Col. Palmer, an internist, an excellent gastroenterologist, felt that these were very largely brought on because of stress and the more attention that you paid to them, the more difficult it was to treat them; so when an individual would come in with a peptic ulcer, they would say to him, "Gee, you got some trouble with your stomach?"

"Sure have."

"What would you like?"

"Got some medicine, doctor?"

"All kinds of medicine. What kind of medicine would you like?"

"Anything that is good for me."

"Well, all kinds of things are good for you. Here, I'll give you a bottle of this."

"How should I take it?"

"Oh, take it by mouth."

"How often?"

"Oh, as often as you want. It doesn't make any difference."

"Should I come back to see you?"

"Good heavens, no! Loads of people have a peptic ulcer. Away you go."

So he felt better, and interestingly enough, a tremendous number of these individuals did not return; they did not have gross bleeding of the ulcer and did not perforate; so here was a different kind of problem in the cold war, as it were, and the way it was treated. I think here that the results were excellent and that 80% were returned to duty. In light of the experiences of the past, I would not hospitalize many of these people at all. I would treat them very quickly by reassurance. I would certainly give them a very limited amount of medication. I think the more one puts an individual in a very comfortable, quiet setting, the more difficult it is to return him to duty.

Mr. Chairman, I had the undeniable reputation of being one of the worst psychiatrists in the Southwest Pacific area because the 4th General Hospital was set up in Melbourne. Each new hospital that came over was located farther and farther north. So by the time I got some of these individuals back from New Guinea, everybody else had passed them over, and I think I returned some, but less than 10% to duty. The consultant, on one occasion, took me to task for this, but fortunately I did not take his evaluation too seriously; I wasn't unstrung by it.

The individual who attempted suicide repeatedly reminds me of an experience two years ago when I made a trip to Europe for the Army. A young captain in Nuremberg was completely undone by the repeated admission of adolescent people and young people because of suicidal gestures. They were coming with their wrists slit, with scratches on the neck, and going out with bandages and with return to the OPT for followup.

Well, he finally got tired of this, and he said, "I've seen the last of these characters. The next guy that comes in with his arm slit, if it is just dangling, don't admit him. If it is off, then bring him in, but I am sick and tired of it." He had been admitting about one a day--more than 30 or 40 a month. Curiously enough, they stopped coming; so I think that one can be much too permissive.

I think, however, your idea of trying to individualize each person and determine what it is that is going on environmentally is excellent. I would question the statistical significance of those peaks because, as I saw that curve, the slope was pretty definitely downhill. True, they did occur in your depressive patients at the fourth month, but as an overall group it seemed to me that slope is pretty definite. So I wonder whether or not you could validate those peaks at the fourth and sixth months statistically. Another interesting thing about psychiatric difficulty during the war (although your figures did not bear this out) is that the psychotic rate remained pretty much the same. Several years ago, we did a study on this problem. Dr. Brill and Dr. Balser remember the committee; from 1916 right through the Mexican Campaign, World War I, peacetime, throughout World War II, on through the Korean Campaign, the number of psychotic individuals remained essentially unchanged for a given number of men in arms. I think that your figures here might be a bit misleading because of the small sample, but I would certainly agree that the grossly psychotic person should be evacuated, but I think personnel in each theater have to determine how to manage their own problems.

It sort of reminds me of that little waitress in San Francisco a few weeks ago who had been working her head off trying to take care of everybody coming in. She was working topless, of course. As the early hours of Sunday morning came, she saw this gray streak of dawn. She said to herself, "I'm going over to the little Catholic chapel and have mass, and then go home and be done with this noise and fury." So she did. She very quietly went in the side door, and here was this old Irish priest.

He said, "You can't come in that way."

She said, "Well, I have a perfect right."

He said, "Aye, that you have, lass, and a beautiful left; but you can't come in without your hat."

I think you do have to determine first of all, what the problem is, whose it is, and what you are going to do about it. I would certainly agree as to the maturity and solidarity in the fighting men of the Air Force; but Col. Tiffany, who is chief of Psychiatry in the Office of the Surgeon General of the Army, assures me that their psychiatric casualty rate is lower now than it has ever been--including Korea. How do you explain these things? How do you explain the differences in diagnoses and the kinds of problems that people develop during wartime? I think it is most difficult. But one can emphasize the efforts of fighting as they are doing in Vietnam now, with a definite cutoff time. You say, "You are here for 12 months, bucko, and you are going to stay." He knows that his time is very clearly spelled out; he knows that if anything happens to him, he'll be helped--for example, in case of serious wound, a chopper will be there to move him out. I think these things are all much more supportive. I myself do not feel that excessive permissiveness helps the fighting man when he becomes emotionally disturbed. I think you can help him in a much more constructive way.

## ASPECTS OF COMMUNITY PSYCHIATRY

Donald E. Newman

Although the program states that I will talk this evening about "Community Psychiatry," I think it would be more accurate to say that I will speak about "Psychiatry in a Community." The community to which I refer is on the peninsula immediately south of San Francisco. It lies within San Mateo County which borders San Francisco County and has a population of half a million people. There are a number of small cities and 60 psychiatrists on the peninsula which extends for some 25 miles. The majority of the psychiatrists are located on two parallel streets extending over four blocks in the central portion of the county. There is another smaller group of psychiatrists concentrated at the southern end of this strip of land close to Palo Alto, and a third group working in two private sanitarium in the south central portion of the county. The psychiatrists are divided within this community into three separate groups: private psychiatrists seeing patients in their office, the county psychiatrists working in a variety of programs, and the psychiatrists working in the two private sanitarium. A large number of the county psychiatrists also have private practices in the evenings and on the weekends, and their private practice generally follows the pattern of other private practicing psychiatrists in the community; that is, they saw patients almost exclusively as outpatients until the development of the first psychiatric unit in a private general hospital in San Mateo County in September of 1964.

I left the Air Force in 1964 to go to work for Peninsula Hospital, a 375-bed general hospital for private patients. My job was to develop an inpatient service as a pilot program and work on the possibility of expanding that to a 48-bed facility at a future date. When I left the Air Force, I imagined that my work would be quite different in civilian life. After working at Peninsula Hospital for several months, I recognized that in a way I was right back in it again. Instead of getting together every morning for coffee and listening to the other physicians complain about the Air Force and the colonel, I was now getting together

with them for coffee and listening to the complaints about the hospital and the administrator which I later came to realize was another name for colonel. Our hospital is only a few blocks from San Francisco Airport, and instead of getting patients flying in from Korea via Air-Evac, I was seeing civilian patients found wandering about the airport or being brought in from commercial work assignments all over the Far East. It was most painful when after having managed to avoid all hospital alerts in the Air Force, I had my first hospital alert within one month after leaving the service.

It gradually became apparent to me as I worked in the hospital community that the overwhelming majority of all emotionally ill people cared for in our community were being cared for solely by nonpsychiatric physicians. In most cases, the emotional content of their illness went unrecognized, was ignored, or was treated with medication and reassurance. Oftentimes these people were severely disturbed emotionally and usually entered with a disguised diagnosis such as FUO, which I had learned in my medical school days meant fever of unknown origin, and which now had undergone a transformation to fatigue of unknown origin. When the nonpsychiatric physician called for help, he often had great difficulty reaching a psychiatrist who had time available without running through a list of three or four names of people he did not know. While the psychiatrist often felt that the request for his services was delayed until an emergency arose, he saw the physician as wanting only to be rescued and had little genuine interest in the patient's emotional welfare prior to this time.

When I arrived on this scene, I was not exactly welcomed with open arms. I recall when I first sat down for lunch at the doctor's table how each man in turn said I was the first psychiatrist to eat at that table in the ten years the hospital had been in existence. What the tone of his voice said was, "We've gotten along fine for ten years without you, and what are you doing here?" In time this progressed to psychiatric jokes and laughing innuendos as to psychiatrists making something out of everything. I assiduously avoided making something out of the remarkable hostility I seemed to be experiencing at every turn. Meeting notices were often confused or not sent out. Rooms reserved were often ignored. In such a situation to avoid discouragement, I found myself relying increasingly on attempting to understand the feelings involved with my entrance on the hospital scene. I felt that the Air Force had prepared me

well for this assignment by exposing me to the extremes of passive aggressiveness in a syndrome often referred to as "The Sergeant."

My first consultations were not as I had naively imagined--a call for professional help by a humble physician. Rather it came in the form of an invitation to disaster. Each man in turn brought forward his most difficult and impossible case with not only no anxiety but with a great deal of enjoyment. Again, survival called for understanding, and I was gradually able to recognize my initiation into the fraternity. I came to greatly respect the ability of many physicians to work with psychiatrically crippled people with little or no help.

There was little dialogue between the nonpsychiatric physician and the psychiatrist, especially if the psychiatrist worked for the county and had only a very limited number of hours available for private patients. If a patient required hospitalization, he was referred to one of the public or private facilities. These facilities all have a closed staff with little communication going on between the referring physician and the hospital psychiatrist. The fact that the referring physician might be a psychiatrist would be of some help; however, communications continued to be difficult. This often appeared to be the case even within the county organization where two psychiatrists were working for separate divisions within a single organization. Thus, the barrier between the inpatient psychiatrist and the outpatient psychiatrist was consistent throughout the community.

As I worked within this community, I became increasingly aware of the extent of the isolation of the medical and psychiatric communities. Vested interests, protection of professional areas, and theoretical commitments were apparent with each move in planning and developing a psychiatric program within the hospital. This was even more apparent with nursing personnel than with the physicians. We were clearly the new-born child with a host of jealous siblings. The hostility of the rest of the hospital made it difficult to avoid the pull toward isolation and protection, the newly constituted psychiatric staff feeling, "If this be war, why not fight."

We were most fortunate in having on the plus side a number of major assets. There are a large number of excellent physicians and excellent psychiatrists in this community.

Many of the psychiatrists in private practice have previously worked for the community agency, and many of the members of the community agency staff are involved in private practice. The hospital at which the psychiatric facility was to be developed was an institution with an administration that was willing to pioneer medical advances and had a clear commitment to the development of a psychiatric facility at the hospital.

Despite everyone's having a little different frame of reference, each of the major groups involved in the medical psychiatric community wanted a facility for psychiatric patients at Peninsula Hospital. Of course, everyone had his own idea of what that facility would accomplish. The internists saw it as moving psychiatry closer to organic medicine and 24-hour medical responsibility. The private psychiatrists saw an opportunity for good inpatient psychiatric care for their patients where they could continue to follow the patient with ease while, at the same time, beginning to break down the stigmata that had been associated with private sanitarium and public psychiatric facilities. The Community Mental Health Services Division of the county saw the move as the private man taking more responsibility for patient care and an opportunity for future decentralization of their own now crowded facilities.

Our first task was to develop an inpatient psychiatric unit of 12 beds. We did this by converting a 20-bed medical unit, using the extra space for occupational therapy, lounge, dining, group therapy, and office space. This was to be a pilot program so that for the skeptical ones among the staff, we would have a test of the feasibility of such a unit in the hospital. For others it meant a trial run so that we might better understand how to plan a facility and program that would meet our needs in this particular setting and in this particular community.

We were fortunate enough to have certain aspects of the unit over which we had no control. I used the word "fortunate" intentionally and not as a slip of the tongue, for these accidental happenings proved to be of great help in our goal of integrating the psychiatric facility into the hospital and the mainstream of the medical community. The first of these accidental occurrences was our sharing of a floor with Pediatrics and Convalescent Medical Care with one nursing station for Medicine and Psychiatry, and no possibility of a door or other physical barrier between psychiatry and the other wings. We jokingly spoke of our having a "no door policy" rather than just an open door one.

The accidental openness of the unit and the sharing of one nursing station with Medicine on that floor led to a great deal of medical traffic. We were from the beginning, literally if not figuratively, in the mainstream of the hospital. At first, despite this physical proximity, most physicians did their best to ignore us. It was only when one of their patients became disturbed that they approached the unit and our staff and then with great reluctance. I can recall one physician who illustrated this discomfort in a most visual way. For several months after we opened the unit, he spoke disparagingly of the unit, its ability to succeed, and the general worth of psychiatry. On the weekend while he was signed out, a patient of his who was grossly disturbed was admitted to the unit. It took some 4 or 5 minutes before he was able to acknowledge that she was on the Mental Health Unit and not on the medical side of the floor. When it appeared clear in his mind, he arose and walked down the medical side in search of his now psychiatric patient. We eventually got him headed in the right direction, and he found his patient and a whole new way of dealing with people who came to him in emotional turmoil. The ease with which many physicians now work on our psychiatric unit led to some embarrassment the other day when a very disorganized young student of ballet put in a page for a Doctor Reagan, an internist on our staff. He came to the floor and inquired about the patient trying to figure out if he knew the patient or the patient's family. He cnecked with his partner who was there at the time, and he couldn't recall the name either. Despite our head nurse's suspiciousness, Doctor Reagan went off down the hall to an interview room to talk with the patient. He came back about 5 or 10 minutes later with a beet-red face and a rather large smile. It seems our adolescent student of ballet wanted a physical examination by a relative of our governor since she knew he was going to become the next President of the United States.

Of course, there are still many physicians who are uncomfortable in this setting, but proximity to Medicine and Pediatrics has given us a rare opportunity to come in contact and influence a large number of physicians.

The second fortunate occurrence over which we had little control was the difficulty in getting trained psychiatric personnel. We had two trained psychiatric nurses who are excellent and around whom we built our staff pooling both good and interested people from other parts of the hospital. This greatly reduced the initial hostility and discomfort of the nursing staff of the hospital to the

psychiatric nursing personnel. It also made the doctors in the hospital quite comfortable to have nurses they recognized from other parts of the hospital on the psychiatric unit. I can't tell you how many points we scored when we were able to provide good surgical nursing in the form of changing surgical dressings on a patient who had experienced a post-operative psychotic reaction. We found that with an active training program we were able to develop our own psychiatric personnel who were comfortable working in a general hospital setting and with whom the general hospital was most comfortable.

The third fortuitous policy was less of an accident. The internists stacked a planning meeting and insisted that they be allowed to admit a patient to the psychiatric unit and care for that patient without the help of a psychiatrist or psychiatric consultation should they choose to do so. This was designed in order to maintain the separateness of Medicine and Psychiatry and was at first seen as an unfortunate policy by the psychiatrists. It worked out in the opposite direction from that originally imagined. Out of over 400 patients thus far admitted to the psychiatric unit, we have had fewer than 6 who have not had a psychiatrist on the case, and this usually occurred because the patient left before a psychiatrist could be called in consultation.

What happened here is what happens in general in an open therapeutic community atmosphere. That is, we were not able to substitute a rule or regulation for a relationship. And as can be expected, the relationship had so many extra benefits in addition to the fact that we have psychiatrists on all our cases. We never have a situation where a physician dumps a patient on the unit and leaves it to us to care for that patient. We have established many working relationships between psychiatrists working with the county and in private practice, and the private practicing internists, general practitioners, and surgeons. These have allowed for a much easier referral in both directions. In many cases much sooner than would have ordinarily occurred, and in many cases there was referral where, without the relationship having been established, there would not have been any referral early or late. The physician is assured that he is not going to be left out, and by not leaving him out, we gain an excellent resource for continued care for many more patients than just those admitted to our unit.

It is always difficult to assess a change, especially when the object to be tested is as complicated as the practice

of medicine in our community. When we started our pilot program, our first major concern was the isolation of Medicine from Psychiatry and Psychiatry from Medicine. It was clear that over these two and one-half years some of this isolation was broken down. Psychiatric beds and psychiatrists were introduced into the medical community. There was a far greater number of psychiatric consultations within our hospital; medical men had become exposed to psychiatrists, psychiatric patients, and in many cases psychiatric knowledge. On their part, psychiatrists became comfortable working in a hospital setting and were able to care for their patients who needed hospitalization without having to turn their patients over to an inpatient doctor in an isolated facility. When we first opened the unit, two-thirds of all of our patients were admitted via the nonpsychiatric physician. These were patients with a variety of somatic concerns. There was much lab work, a psychiatric consultation, and a brief stay on the unit. These were the safe patients. No one expected or wanted us to treat the really emotionally ill patient. Our patient population has gradually shifted over the past two and one-half years. They have far less money, more insurance, come from a lower socioeconomic background, and are usually psychotic on admission. The length of stay has increased with many remaining 3 to 6 weeks. We find we have not developed the revolving door phenomenon, having a readmission rate of just under 10%. Close to 40% are depressed though EST is used in less than 5% of admissions. The vast majority of patients are now admitted by psychiatrists having had the patients referred to them by a physician as an outpatient and prior to the admission to the Mental Health Unit. There is now far less need to use the unit to negotiate the consultation contract.

It is also apparent that after two and one-half years a number of things have not happened. For the most part, the nonpsychiatric physician continues to look for the organic explanation when the psychogenic origin of the illness is all too evident. Observation skills, attitudes, and the need to do and give have changed little with the nonpsychiatric physician. The communication and confrontation have allowed our differences with medicine to come to the fore in open discussion, but it remains far from resolved. Our feeling is that the resolution will have to come with changes in the training of a medical student, or even before that, in the selection of those people we choose for medical training.

Along with the difficulty of frequently being caught in the crossfire between medicine and psychiatry,

administration and doctor, I found that the psychiatrist can have the rare opportunity of influencing the organization for which he works. Much has been written on the conflict between the bureaucratic and professional spheres. I recall the warning as I entered the military service and again when I went to work at my present position. The concern is that the goals of the organization would dictate the goals of the profession. What was left unsaid, was that the goals of the profession could oftentimes, in a profound way, affect if not always the goals, certainly the methods, procedures, and life within the organization. At first when I entered the hospital, many people froze when they found out that I was a psychiatrist, like at a cocktail party only more so. I found the best way to combat this was to join them at coffee or lunch, and so I made my morning rounds on the first floor of the hospital. My rounds included Administration, Nursing, Hospital Volunteers, and a whole host of people who were involved in running the hospital. I recall that though I was comfortable eating lunch with the physicians, it took me several months to work up courage enough to enter the surgery locker room for coffee and a fast round of bridge. My fears in the latter case were not unwarranted. I am still good for a lot of laughs, but now they accept me with far less anxiety, and therefore far less hostility.

The psychiatrist is trained as a listener and as a confidant. He is trained in the understanding of behavior and motivation and has learned several technics to bring to others awareness of this understanding as it applies to them. It is but a short move in theory and practice to now apply this ability to listen, understand, and impart knowledge about the organization and its effects on the people who work in it to people who can produce changes in that organization. The psychiatrist, in order to accomplish this task, must remain as much as possible an observer rather than an interested party. People at various levels within the organization can readily see the psychiatrist in this role, provided he has no axe to grind nor significant territory to defend, and provided he takes no sides. I really should add here that one must also develop an almost infinite capacity for coffee and always be aware that this is work. As in group or family therapy, the psychiatrist must rigidly eschew playing favorites, for not only does he lose his therapeutic position with the dis-favored side, he raises a good deal of anxiety in the object of his favors. This is not an easy task. The neutral position in an organization or community setting is tolerated no better than sometimes occurs in world politics. Everyone

will do his best to maneuver the neutral psychiatrist out of his neutrality. I found that neutrality can be a very lonely position, and there were many times I wanted to move in close and become a part of a vested interest with all its support and warmth. I found that this countertransference feeling to working in this setting difficult to deal with. I imagine that the thing that helped me the most was being able to identify with the concerns and difficulties each group or individual was experiencing with the others. In this sense they had become consultees, and without fully realizing what was happening I had become a consultant. Though this "inside consultant" role falls short of Caplan's outline of the more formally structured consultation, it does allow for effective consultation informally where formal consultation is not yet possible. In short, the influence of the organization, military as well as civilian on the psychiatrist, is not a one-way street, and movement of knowledge and awareness in this other direction can have profound and far-reaching influence. This informal consultation at our hospital played a role in the resolution of interdepartmental conflicts, the conflict between physician and administration, and in our recently avoiding embittered feelings over a threatened nurses strike. Integrating psychiatry into general medicine includes exposing Medicine, Nursing, and Administration to the psychiatrist and not just his patients. It is easy to say when the medical model changes we will join it. It is much more difficult to help bring about that change. I find the most difficult task is to not want to retreat into an office to work comfortably with patients in a very protected and secure atmosphere. Perhaps psychiatry has had difficulty in giving up the locked and closed door on the psychiatric ward, not just for the protection of our patients and the community, but perhaps for our own need to work in a comfortable and protected atmosphere.

In continuing to assess the changes that occurred during our two and one-half years experience with a pilot program, we found that we had come a good deal farther with our second major concern, that is, the fragmentation of the psychiatric community and the conflicts within it. A pattern of professional involvement has been substituted by the psychiatrists for the now given up defense of isolation. The vast majority of psychiatrists in private practice and those working for the community agency are active members of the hospital staff. Over half of them met for the first time at hospital psychiatric staff meetings. They all admit patients and continue with the inpatient phase of treatment on the psychiatric unit. They meet regularly, discuss cases,

and share call to the Emergency Room. They now work effectively with a team of other professional, and perhaps most important of all, they are now turning toward the development of a program for a community mental health center in which they will participate. The county psychiatrist and the private psychiatrist are involved together in the planning of the expanded facility.

When it came time to think of expansion of our pilot program, applying for money, and building of an enlarged mental health facility, we found ourselves caught up in a ground swell. Suddenly Congress had appropriated millions of dollars, and everyone seemed to be rushing around trying to spend it. It seemed as if a faucet had been turned on in the nation spewing forth money and that we now all found ourselves frantically constructing a pipeline to contain its flow.

It was clear that bricks were to come before brains and that far less attention was being given to training people, researching methods, and developing programs, and more and more attention was given to architecture and construction. Thus, it was that we suddenly found ourselves after a series of moves with a community mental health center as part of our hospital. In thinking of a community mental health center, we continued to think of the nonpsychiatric physician as an important resource, not only for early recognition and referral, but for continued care and support of his patients, and here we refer to all his patients. This brought us into apparent conflict with the trend toward moving away from the medical model with respect to psychiatric illness.

I said apparent conflict for we can no longer afford to limit our concern to those people who are labeled as the emotionally or mentally ill. By attempting to move toward other models without bringing the rest of the medical profession with us, we condemn to the chronic use and abuse of drugs, multiple surgery, and crippling somatic dependency, a whole host of people whose major difference is that their anxiety or depression has a somatic component. If we then add to this those people whose somatic difficulties have an emotional component, the chronic medical patient in particular, we have an infinitely greater number of people that we cannot afford to abandon by retreating, consolidating, and then defending our carved out domain.

An analogous and perhaps more controversial situation occurs with our continuing to label some criminals as ill and therefore not bad without concern that this very act labels so many more people in prison as not ill and therefore bad. Looking at our own experience, we recognize that there are always more people in psychic pain with a whole range of subtle to quite overt psychologic illnesses in far greater numbers on the medical and surgical services than on our psychiatric unit. In many instances these people were later recognized, labeled, and treated as psychologically ill. We had the feeling how much better to have seen these people a year or so before.

A nationwide survey by the Joint Commission on Mental Illness and Health reported in 1960 that 88% of persons seeking help because they feared an impending "nervous breakdown" went to their family doctor. Only 4% consulted a psychiatrist, while 3% consulted the clergy.

After securing the money and plans for the building, I discovered we had a sort of a "Rashomon" effect, that is, three groups of people each seeing the proposed facility functioning in three very different ways. I recall that at the time I felt like a real estate salesman who had sold the same house to three different families, and I envisioned myself being run out of town on a rail. Now I had a personal stake in private medicine and private and public psychiatry in our community merging their aims and goals. The pilot program at the hospital had already set this process in motion. We felt we could function as a community mental health center if we could broaden our programs and our work with the individual psychiatrist practicing in the community. To accomplish this, we thought we should develop a greatly enlarged team of professionals at the community mental health center who could, as with the inpatient pilot program, help and support the efforts of the attending psychiatrist with those patients who could not respond or be treated solely with individual psychotherapy. This would allow the private psychiatrist to better deal with problems of alcohol and drug addiction, dependency, and chronically disorganized or somatically ill patients. The internist and general practitioner had heretofore been dealing with the same problems without a great deal of help. We therefore felt that he might greatly increase his exposure to the team approach which he was now learning to work with. In addition to patient care, we felt that the private psychiatrist could be incorporated into a consultation program as has already been done in many other

communities so that the essential difference between the private psychiatrist and the community psychiatrist would be hopefully greatly diminished in our community.

Of course we were going to be deficient in one area, and that is the area of control with respect to working with individuals in private practice rather than a closed staff of paid professionals. However, again we looked to our experience in our pilot program and felt that developing good working relationships might well be substituted for external controls.

It was at this point however, that we began to experience the pressure of accepting administrative and therapeutic models that were now being codified into law and backed up with contingencies on the appropriations of funds. The mutual distrust of the private and public psychiatrist, each knowing exactly what the community needed and how it should be done, led to a good deal of lively and often animated discussion. Unfortunately, it appeared that a wide range of experimentation and research in the area of developing programs and relationships could easily be frozen out by an exclusive preoccupation with concepts and directions decided upon by a growing bureaucratic structure. To avoid this, private medicine and psychiatry will have to develop an awareness of and responsibility for illness in their community and not just in their patients. This means applying a whole host of newly learned concepts of prevention and consultation, of working in terms of populations as well as people. This is occurring at a moment when the general movement in psychiatry is away from the long-term large numbered institutions for custodial care toward community mental health centers providing a broad range of short-term and immediate psychiatric treatment within the home community. This means it will fall to the home community and in large part to the private sector of psychiatry and medicine to provide a broad range of care and treatment to a greatly enlarged number of people that heretofore had not had the responsibility. The public is demanding that second class education, jobs, homes, legal aid, and medicine be swept aside. Charity institutions will no longer protect private medicine and psychiatry by providing care to a population that has until now been given the leftovers. This expectation of the public can easily lead to disillusionment; however, the fact that we have not in the past addressed ourselves to problems of groups or communities or of prevention does give us some hope for at least doing a lot more than we have ever done before even if we can't do as much as might be expected of us.

By now you gentlemen recognize that the process I have just described as occurring in our community is hardly a new one. It probably occurred first in the military setting during the Second World War. You might wonder why we had to repeat this process and could not learn to greatly shorten the time and difficulties and thus profit by prior experience. My feeling is that we cannot attempt to transform this process into a formula or codify it into an inflexible administrative arrangement. To avoid this process with an organization or community makes about as much sense as setting a patient down and explaining to him the oedipal conflict he undoubtedly must have with the expectation that now we won't have to work with him. Our greatest tools in working with a community or organization are the same as working with patients--we have to ally ourselves with the healthier part of the community's or organization's ego and go to work on the pathology. The strengths and weaknesses will vary with the type and character of the organization. The setting may be a hospital, a prison, school system, military organization, or element of government.

In or out of uniform, we now cannot afford not to be aware of a very important patient--The Community.

## THE MULTIPLE IMPACT APPROACH

Alberto C. Serrano

I want to share with you the experience of treating families of disturbed youth with a team, family-centered approach. This report reflects the work of members of mental health disciplines working together in Galveston. We were enriched by attending meetings such as this one, getting inspiration, thoughts, experiences from other people, and by working with many disturbed families. I would also like to place Multiple Impact Therapy with families in the field of family therapy along with other family approaches and share with you at the end of the presentation some of our current experiences.

Multiple Impact Therapy is a family-centered psychotherapy approach that was developed in Galveston by the Family Psychotherapy Research staff of the Youth Development Center at the University of Texas Medical Branch. The Youth Development Center was an adolescent outpatient clinic that served the entire state of Texas. Most of the referrals were very complex cases. The individuals had been seen by other professionals before and came to Galveston frequently from long distances.

Our intensive short-term therapy was conceived in 1956 when it was noted that many parents were unable to participate in traditional treatment plans because of time, distance, and economic factors. The research staff thought, after experimenting with different approaches, that these obstacles might be partially removed if arrangements could be made for the adolescent, his immediate family, and other significant members of the family and also of the community, to meet for two days of intensive therapy with a multidisciplinary team of psychiatrists, psychologists, and social workers. A pilot project supported by the Hogg Foundation and later by a NIMH grant for a demonstration project gave us the opportunity to study and to treat families having a crisis.

These crises centered around an adolescent who was referred to us because of possible hospital commitment, or placement in a training school, and where frequently the

breakdown of the family unit was imminent. The method was at first an expansion of a clinic intake procedure. Colleagues and supervisors were brought into these initial sessions so that the patient and family could benefit from the kind of healthy group processes--review and discussion of relevant dynamics--that go on between colleagues. Early in these family contacts the staff communicated to the family its theory concerning psychopathology and therapy. The staff conveyed the attitude that treatment is really not underway until the behavior complained of in the referred patient is seen as an understandable strategy for dealing with the family or the community under the circumstances they describe. These procedures gave the family members a much clearer idea of what the team needed to know about their problems. Other ways were developed to enlist the family in a project which appeared to them at the beginning as only diagnostic, but which was later perceived as the mobilization of self-rehabilitative efforts.

Before I give you more details about Multiple Impact Therapy, I would like to talk a little about the background of family therapy. For nearly two decades we have experienced the development of a new approach to the relationship of the individual and the family in the genesis, the diagnosis, and the treatment of mental illness. These changes have largely taken place within the framework of psychoanalytic fields, but they attempt to avoid the aspects of theory and practice which have proved to be unsatisfactory and inhibiting. In these approaches the attempt is to find broader focus including both the individual and his family. Ackermann is a leading exponent of this orientation. As many others do, he feels that the conventional approach is to see the individual isolated from the continuous operating network of interpersonal forces and to reduce the environment to a vague background of human behavior. It becomes then, inappropriate to study only a part, a fragment, of the family or even to diagnose only in terms of the child's inner processes or, perhaps, only in terms of the mother-child relationship. No longer is it adequate to treat the individual as if he existed independent of the family, as if the therapy were the only force operating on him, and as if therapy alters only the one or the two individuals seen. To do so frequently results in a partial view of problems and often in failures in treatment.

Furthermore, we should pay attention to the network of relations between the family and the community. Spiegel and Kluckhohn have postulated that the events involving the sick individual and his family occur within several subsystems of

interdependent systems, any one of which (individual, family, or community) may become temporarily a focus of a crisis. This is the transactional approach which attempts to integrate the structure and processes of events in the individual with the structure and process of events in the family and in the culture. In this approach then, the technic of therapy, as well as methods of inquiry, is directed not only at the isolated individual but also toward the disturbed person embedded in a pathologic family and cultural setting. As a consequence, the goal is not to find isolated causative factors, not even an overdetermined etiology, but to assess the interplay of homeodynamic mechanisms which have broken down.

I like the phrase family homeodynamics, even when it is very popular to talk about family homeostasis (1). We are dealing with human beings who continuously grow, who develop, who change, who are continuously experiencing new relationships with each other and with the world at large. Nothing is static about this; they are continually undergoing processes of new adaptations. This is why I think homeodynamic is more fitting than homeostasis. Thus, treatment will involve the repair of homeodynamic controls across cultural, social, psychologic, and somatic boundaries. Special mention should be made here of Lindemann and Caplan's work and their contributions to the understanding of crisis. Many workers are studying and formulating concepts about family pathology and family therapy. I want to describe four kinds of family approaches, following Zuk and Rubinstein (2).

In one group we have theorists who have been especially concerned with the relations, levels, and meanings of verbal and nonverbal behavior. Gregory Bateson and Don Jackson are perhaps the best representatives of this group. In the second group we find the role theorists who have explored the effect of role development and assignment in the personality formation. Parsons, Lidtz, Fleck, and Wynn are representatives of this group. Then, in the third group we have the intrapsychically oriented ego theorists who have investigated the levels of ego integration and development. They attempt to define such concepts as self, non-self, individuation versus symbiosis, and so on. In this group we include Bowen, Zuk, Framo, and others. Fourth, we include the game or strategy theorists. One of these, Eric Berne, in his work "Games That People Play," has become very popular. The strategists look for the network of relationships in which human beings place themselves and their reciprocating behavior in the network. Actually it would be unfair to say that these theories are disconnected. There is a great deal of overlap. Most

workers in the field of family therapy utilize a blend of most of these theoretic notions.

After this sketchy overview of family-centered concepts, let us go back to Multiple Impact Therapy. Let us discuss some of the central ideas and the standard procedures that guided the research team's efforts in designing a team family technic. It has been observed that certain patterns of parental interaction seem apt to produce and maintain certain types of childhood disturbances. The disturbed behavior in the offspring is thus seen in a familial interactional frame of reference. We found that the therapeutic goals for each family are more or less determined by the nature of the arresting forces in the parents and the stage of developmental arrest assessed in the child. The arrest in the child appears to reflect a level beyond which his parents do not seem to be able to facilitate growth. It is also known that childhood and adolescence are periods of very quick change. Many investigators have observed that brief psychotherapeutic intervention at that point frequently unfolds health. The diagnosis and treatment of emotional disorders of children and adolescents was known to be almost impossible apart from their family environments since those environments are molding the child's personality by current family experience.

Another central idea that was used stresses the participation of a multidisciplinary team in the treatment of families in crises. The team appeared to serve as a model of interaction and communication--a model that a family may identify with in its problem-solving efforts. In its model role, the team strives to behave in a manner opposite to that of a sick family. Aside from being qualified in their various disciplines and experienced in individual and group therapy modalities, the team members try to be conscious of their personal impact on the family, spontaneous in self-criticism and self-correction, flexible and open to all points of view, but incisive in their expression of what appears to be of value, earnest and good-humored in debate, firm and kindly in their confrontation of themselves and the family with significant issues. The interaction between team and family differs from the conventional individual and group models in that it communicates by extended example, making concrete the give and take process that promotes recognition and resolution of intrafamilial difficulties.

Another important notion relates to the message of respect from the team to the family concerning the family's predicament. They (the family) are in a crisis; they feel

miserable; they may abuse one another. Yet we (the team) believe that the family functioned the best they could under the circumstances. What is to blame, then? The thing that seemed to matter is that "here and now" they are in a crisis. The team can help define the dynamics of the family functioning. The goal in Multiple Impact Therapy treatment is primarily to evoke health by facilitating the opening of patterns of close defensive functioning, helping the release of growth processes rather than trying to suppress what seems undesirable. The therapists communicate respect for the assets and the normal potential of the child and the overlooked worthwhile aspects of the spouses. There is continuous circular feedback through a Multiple Impact Therapy procedure.

In the final and closing session of the two-day procedure, the team challenges the family members by emphasizing that the insights which may have been gained in the two days of therapy will have no value unless each dares to implement them through developing new and more meaningful patterns of relating. Insights that are acted on in the presence of the family while treatment is in progress serve as a stimulus to family members to alter their stereotyped responses to the person who is changing. The team-family rapport at the conclusion of therapy is an important dynamic force in the homework that the family does on their problems in the interval between returning home and the time of the scheduled followups. Communication and sharing of affect frequently is a deeply gratifying experience for the family and for the team. Though frequently this is short-lived at that level of intensity, it remains a point for reference. In the cases where this level was reached, prognosis was hopeful. Let us describe now the original technic.

I mentioned that there was an intake process in Multiple Impact Therapy and it included several team-family contacts and individual interviews. All of this is in two or three hours during which we explore the possibility of a later two-day workshop with the family, and we make a basic assessment of the referred patient's pathology and of the family's reaction to the crisis. Before the Multiple Impact Therapy sessions start, the team reviews all pertinent information from referring agencies and the data from the group intake sessions at the clinic. In contrast with the more traditional child guidance clinic procedures, in this approach the treatment team, including psychiatrists, psychologists, and social workers, undertakes to work with the family group for a full two days, about six to eight hours a day. At the conclusion of this time the family is discharged after arrangements have

been made for proper followup studies, which were, according to the research design, started at six months and then again at eighteen months. In some cases followups became as frequent as once a month, or several times in addition to those required by the research design.

The family to be seen typically arrives at the clinic in the morning, about nine o'clock, and is invited into the first family meeting conference. The family includes all members living in the household: parents, patient, siblings, and frequently some other significant person or relative living in the home. The team is often expanded to include community representatives such as a probation officer, a teacher, social workers of other agencies, a clergyman, and other professionals. During the first team-family conference that lasts about one hour, the family is invited to describe their understanding of the problem in their own words. Almost invariably one person acts as the spokesman for the family group. The team very strongly encourages and supports the participation of the others. Most families are not used to this much interchange, and they experience a rapid buildup of tension and discomfort which is relieved when they are invited to individual sessions that follow immediately after. These individual sessions are used to facilitate the discussion of their own private understanding of the problems of the other family members and of themselves--to assess the defenses, to deal with their grievances and rationalizations. This time is also used to obtain further historical material concerning family and social background.

At the end of one of these individual interviews and most particularly, after seeing the nominal patient, we start making use of a technic which we have called the "overlapping interview." Part way through an individual interview, one team member is joined in his session by another. The therapist whose office he enters summarizes the interview to this point, makes general commentaries, clarifies issues, and points up tentative conclusions. The family member is invited to participate in this recapitulation and to make needed corrections. The overlapping therapist responds to the summary by reflecting, when pertinent, the possible meaning of this material in relationship to his own experience with the family members he has interviewed. The technic is designed to facilitate communication within the family and create new bridges of communication. Longstanding barriers to communication and resistances often disappear during these overlapping interviews. The team members become, for a while, a part of

the family system, and they give the family some experience in functioning as a more open system.

At the end of the first morning the staff meets with consultants and at this time formulations are proposed concerning the role of various family members and their dynamic interaction. The attitudes and reactions of the team members to the family are also discussed and their distortions are looked into. Tentative treatment plans and the afternoon schedules are arranged. The team member that saw one parent in the morning usually sees the other one. This we call "cross ventilation." The siblings are also frequently seen as a group.

From this time on, overlapping of interviews by therapists becomes quite frequent and plays an important role. Within these overall procedures there is considerable room for variation appropriate to the family dynamics and the pathologic condition of any one person. By the afternoon of the first day the family usually has already developed appreciation of what the current situation and crisis is about, some problem areas have been identified, and areas of unrealized potential for emotional growth have begun to emerge. Family discomfort in many cases has been increased because barriers of communication maintained by collusion by family members can no longer be invoked without some awareness of their force.

The second day usually begins with a brief team-family conference, followed again by individual and joint sessions. Typically, there is discussion about the previous evening's feelings and interactions. In some instances the apparent lack of impact is brought up. Suggestions as to future plans and forgotten memories, frequently dreams, are often supplied at this point by the family. This new information is enlarged in the following individual and joint sessions. On the afternoon of the second day the contents of the various interviews begin to be directed to the family's concern with their immediate and anticipated background problem. Each member is encouraged to criticize or formulate his new understandings. Overlapping interviews and multiple therapy situations in various combinations facilitate therapeutic convergence. This movement does not stop until a high degree of understanding and resolution is reached. The final team-family conference summarizes therapeutic movement and, as a result, issues are recapitulated. Plans for followup are formulated. The team assures the family that neurotic and characterologic difficulties do not disappear overnight, but rather, that the family

members, through their own continuing self-revisory functions, can change in their way of relating to each other which will facilitate a shift in their overall adaptation. The team also advises that the alteration of the family balance of forces will stimulate one or more of them to test the reality and the durability of the changes. They are invited to take special note of how they deal with this new crisis and then to call us. This is the immediate material discussed at the scheduled or at the emergency followups.

Let me say a few words about results. When we examine the results of the demonstration project that included a total of sixty-two families that were studied during a four-year period, we have to consider the several headings of its objectives. The use of Multiple Impact Therapy as a method of research observation yielded a new typology. We have described four diagnostic categories or syndromes in youth related to four types of family constellations. These data are described in detail in several publications (3,4). We also have found these procedures suitable as a method for supervised learning of psychotherapy. Not only is this student of psychotherapy sitting in a team able to observe in situ the many distortions and feelings of the family members--the impact and significance of one family member to another--but he can also participate and observe the activities of senior therapists, free from verbal reports or the isolation of the one-way mirror screens. The team interaction facilitates cross-monitoring (as Gregory Bateson describes it, during a visit he made to the project). Cross-monitoring permits supervision of less-experienced team members.

I will briefly mention the outcome. Difficult as it is to quantitate improvement in psychotherapy, we could find favorable outcome in 49 out of the 62 research cases. We should emphasize that although 62 cases are not a big sample, it is important to stress the severity of most cases. Favorable results were described in 14 of 22 cases where the nominal patient had serious characterologic difficulties of psychopathic nature and borderline quality. I will not dwell on the sample nor on the results, because much was learned while in the process of testing the technic. Each family was a new source of learning. For example, as we became more aware of regularities between symptoms in a child and a type of family constellation, the Multiple Impact Therapy procedures could be better tailored to the level of ego-development and integration presented by the individual and his family.

This was more clear as the basic Multiple Impact Therapy technics were modified during the past few years to a number of situations. New dimensions and possibilities were explored. For example, the adolescent outpatient clinic where Multiple Impact Therapy was developed became in 1962 the Division of Child Psychiatry of the Department of Neurology and Psychiatry. The team-family centered approach became a standard in one-day diagnostic evaluations, which included team-family sessions at the beginning and at the end of the day with individual and overlapping interviews, neurologic and psychologic testing, and multiple-therapist situations in between. This format was also utilized in the project "Middle-Class Delinquent Youth" (5) in which the diagnostic categories and the training possibilities were explored. Most of the cases in this project, completed last year, came from the Martineau Juvenile Hall in Corpus Christi. A juvenile officer brought a case and a family to Galveston for an evaluation and recommendation procedure of two half-days. The juvenile worker joined the team and took back home with him recommendations tailored to the case under study. This training aspect was found, at the end of the project, to be the best asset as the workers became much more effective in looking at the delinquent symptoms of their cases in the larger context of the family and the culture. The Wylwick School for boys, the Eldora School for boys in Iowa, and a number of community mental health clinics have also adapted Multiple Impact Therapy technics. At the Community Guidance Center of Bexar County, the use of modified Multiple Impact Therapy for diagnostic, treatment, and training purposes has added a new dimension to the entire clinic operation.

To close I will say the Multiple Impact Therapy was developed on the strong assumption that families in crises are capable of carrying on self-rehabilitation after brief intervention. Experience has indicated that Multiple Impact Therapy is a highly flexible procedure applicable to a variety of clinical and training situations. Considerable work is still necessary to explore in full the limitations and the special indications of this approach. Success with a good number of delinquent youths and their families, who have poor motivation for traditional procedures, invites further study with this group. New insights from other investigators in the field will continue enriching our understanding of healthy and pathologic family dynamics.

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## THE FAMILY CRISIS OF ENFORCED SEPARATION

Robert C. Bonovich

We, the psychiatrists, psychologists, and social workers of the Air Force, have been delegated the responsibility of supporting the Air Force mission by fostering mental health through the prevention and treatment of the mental, emotional, and social dysfunctioning of members of the military and their families.

Because of the sheer magnitude of the problem, I think it safe to say that few single problems affecting the functioning of the military man and his dependents ought to command our attention and competencies more than the frequently critical conflict between the need of the military to send men off to isolated duty and the need of families for home-bound husband-fathers.

It is the twofold purpose of this presentation, first, to examine the phenomenon of enforced separations of husband-fathers from their families by military order in terms of the variability of the crisis-precipitating potential of and response to that event and, second, to examine our collective role in the prevention and treatment of family disorganization when enforced separation creates or precipitates a pathogenic family crisis state.

You need only be reminded that on any day, these days, thousands of Air Force families and probably hundreds of thousands of families military-wide are in some stage of the crisis of enforced separation. Some families are preparing or attempting to prepare for the husband-father's departure. Others, one out of four military families according to Department of Defense figures (1), are living that separation. Still others are attempting to reintegrate the husband-father into the family system in what has been characterized as the not-infrequent "disillusionment of reunion" (2).

It is our hypothesis that enforced separation by military order will induce a state of crisis of greater or lesser intensity and of greater or lesser duration in nearly all military families. It is our collective challenge as

members of society's welfare institution and its military institution to minimize the crisis-precipitating potential of enforced separation for military families while continuing to support the Air Force mission which, by the nature of its societal mandate, requires enforced separation.

While our collective long-range goal might be the minimization of the demoralizing and disorganizing effects of the temporary dismemberment of military families, it is my short-range goal merely to participate in the formulation of the notion, family crisis of enforced separation, and, thereby, to contribute to the development of a theoretical underpinning for our long-range goal.

The family can be examined from any number of vantage points. The frame of reference from which our leading crisis theorists view the family has been called the "psychosocial frame" (3) and has been described by Parad as utilizing psychoanalytic insights in combination with selected social science concepts. This framework is basically a synthesis of the psychoanalytic, interactional, structural-functional, and social psychologic orientations.

The family is one of the basic institutions of society. We shall not debate the issue as to which created which. While society represents a superordinate system composed of many interrelated social subsystems, including the family and the military, the family represents a social system of two or more interrelated, interdependent personality subsystems. The personality systems are arranged in a structure or set of relations and are, at the same time, actors and social objects to each other (4).

System theories rest on the postulate that personality systems and collectivities of personality systems, that is, social systems, strive to maintain for themselves a state of equilibrium through a series of adaptive maneuvers and characteristic problem-solving activities through which basic need-fulfillment takes place (5).

The principal characteristics of the family as a social system are its differentiation, organization, boundary maintenance, and equilibrium-tendency (6).

By differentiation is meant that the members of the of the family occupy differentiated status and perform differentiated roles. Members of families function largely in terms of the expectations which other members of the

family place upon them. A family succeeds as a family pretty much in terms of the adequacy of the role performance of its members and the concordance of role-expectations among its members.

By the characteristic of organization is meant that there is some organized pattern governing the relationships of the members of the family and describing their rights and responsibilities. Families in our society are organized variously. Some families are matriarchies; in these, the father's role in the family is restricted to providing a paycheck. Some families are modified matriarchies in which, in addition to providing a paycheck, the father is occasionally asked to participate in the decision-making processes of the family. Other families are patriarchies in which the father is the ultimate authority and the mother functions as the administrator of his decrees. Still other families are modified patriarchies; in these, the wife is generally autonomous in relation to the children and a participant in the decision-making processes. The decision of the father is always final. Sociologists have found that in many instances this organizational pattern is developed at the insistence of the wife who wants to be bossed. The husbands, in these situations, are unwilling dictators. Many families are oligarchies and others are democracies. Whatever the organization of the family, the patterns are reinforced through a set of common norms, values, shared cultural objects and symbols.

By the family-system characteristic of boundary-maintenance is meant that there exists a greater organization within the system than between the system and its environment. While each member of the family may play several roles outside of the family system, his greater commitment is to his role performance within the family system.

By equilibrium-tendency is meant that the family has built-in mechanisms which operate to hold it in some sort of steady state, either a static or moving stability, over a period of time.

The family is a "boundary-maintaining system which is under various internal and external pressures toward boundary dissolution and maintenance" (7). Anthropologists and sociologists (8) are quick to point out that the modern American nuclear family operates under a variety of threats to its equilibrium. Conflicts in role definition between husbands and wives and between parents and children as well as conflicts in the valuational priority of the man's role as

father and worker have increased the family's vulnerability for dysfunctioning. As the modern family has become disengaged from its kinship system, highly mobile, and ecologically and emotionally separated from kin, neighbors, and friends, as it has decreased in size and as it has become transformed from an instrumental-affective role to an almost totally affective role, it has become poorly structured to survive the stresses of crisis.

Crisis has been defined by Caplan as "an upset in a steady state" (9). Burgess described a disorganizing crisis as "any decisive change which creates a situation for which the habitual behavior patterns of a person or group are inadequate" (10).

Throughout the life of all families, there are many events which disturb the homeostatic state of the system and create a state of disequilibrium. The system may not always possess adequate adaptive or problem-solving mechanisms to counteract the events; it may be inflexible or unstable. It may be beset by role-conflicts or fluid system boundaries. The hardships of the event and its attendant hardships may exceed the resources which the family possesses. The personality systems within the family may be manifesting chronic or acute physical, emotional, or mental symptoms.

The less organized the family is as a system and the less adequate its adaptive mechanisms and its problem-solving activities and resources, the less able will the family be to reorganize in a state of crisis. The degree to which any crisis disturbs a family's functioning depends on the balance between the crisis-precipitating event and the resources of the family. Hill indicates that a third factor is involved-- "the definition that the family makes of the event, that is, whether family members treat the event as if it were or as if it were not a threat to their status, their goals and objectives" (11).

The crisis of enforced separation by military order falls within that species of family crises which the crisis theorists call dismemberment (12). Enforced separation, along with death and hospitalization, creates a situation in which, to quote Hill, "the amputated one's roles must be reallocated and a period of confusion and uncertainty ensue while the members of the family cast learn their new lines" (2).

As a result of enforced separation of the military man from his home, the family must redifferentiate the system's

roles, reorganize the pattern of relationships among the remaining family members and between them and the separated member, and redefine the family's boundaries either by pulling in those boundaries or by expanding them through the accession of new personality systems into the family system.

A new equilibrium for the family system, while its goal as a system, is not always achieved. Enforced separation may come at a time of hardship; it may be accompanied by hardships; it may precipitate new hardships. These additional hardships may prolong the period of family dysfunctioning making recovery and reorganization difficult or impossible. Transactions between the remaining family members may become severely imbalanced, and the negative feedback to the family and its members may further affect their coping mechanisms.

On the other hand, the coping mechanisms of some families may be adequate for the crisis of enforced separation and any accompanying hardships. The crisis may bring forth latent abilities and new mechanisms which serve to increase the family's functioning to a new level in relation to its wider milieu and its personality subsystems. Individuals within the family may come forth to make an even greater contribution to the maintenance of the system than they did when the husband-father was in the home.

Hill (2) found, in his study of war separation during the forties, that some families suffered only the obvious minimum hardships of the absence of husband-father from the home. Others suffered a pile-up of all kinds of troubles not directly related to the husband's departure but increased in their intensity by his absence. He stated, "the hardships of separation and the jolts of reunion . . . (were) . . . disintegrating in their effects on many families. In the absence of the father, it was difficult for the family to continue operating as a family . . . It was their social-psychological condition which was threatened by the fracture of their ranks. Children experienced insecurity in the withdrawal of a major source of parental authority and were less amenable to guidance when they needed it most" (2).

In Hill's study, the families which made good adjustment to the separation of the husband-father from the home were those in which there was a swift closing of ranks, a conscious shifting of the responsibilities and activities of the husband-father to other family members, continuance of the pre-separation pattern of family routines, maintenance of the husband-wife and father-child relationships through

meaningful correspondence, utilization of extra-family resources and reunion goal-orientation.

Families which made a good readjustment to reunion of father and family were those which opened their ranks to let the father re-enter the system, realigned the power and authority in the family, reworked the division of labor and the responsibilities of the system, shared the home and their activities with the father, renewed the husband-wife confidences and intimacies, re-established the balance in the relationships between husband-wife, mother-child, and father-child and reviewed, and if necessary, revised the pre-crisis goal-orientation of the family system (2).

The family type which most frequently made a quick readjustment and a satisfactory reorganization was the democratic family in which "the whole family . . . (sat) . . . around the council table and the resources of each individual . . . (were) . . . put to best use" (2). In this family type, the sharing of decisions and responsibilities made role redifferentiation and boundary reorganization much easier.

The families which suffered most from the crisis of enforced separation were the patriarchies in which the wife had little latent ability and the matriarchies in which the wife-mother, though the decision-maker, was extremely dependent upon her husband emotionally.

In our own experience in the outpatient psychiatric service at March AFB Hospital, we are frequently confronted with families in the crisis of enforced separation. We have managed to intervene into family systems in every stage of the crisis. The crisis has occurred, occasionally, while we have been dealing with other family problems. Families have sought our service or have been referred to us during the pre-separation preparational stage, during the immediate reaction stage, during the readjustment stage, during the reorganization stage, during the reunion stage, and during the transitional periods between these stages.

We have seen the variable effects of the crisis of chronic separation on the families of the SAC alert force and this in combination with certain longer-term acute separations by temporary duty orders to other bases. We have seen the effects on families of acute separations by permanent change of station of the military member for duty in Southeast Asia and for duty in safer isolated assignments.

We have seen the effects of the crisis of enforced separation on noncareer military men and their families; on career military families; and on the families of career military men. We have seen families of two and families of ten in the crisis of enforced separation. We have seen families who were insular and gregarious; families who attempted to reinstitute kinship-system ties and families who did not. We have worked with families in which the crisis of enforced separation was accompanied by financial problems, child-discipline problems, adolescent adjustment and discipline problems, housing problems, marital problems, in-law problems, and illnesses on the part of the wife or the children.

We have seen the crisis of enforced separation interpreted by families as an overwhelmingly intolerable blow or as a fact of life of military life or as an overwhelmingly joyful solution to a totally unworkable family situation.

We have seen the crisis of enforced separation result in a higher stage of family organization than existed prior to the departure of the husband-father. We have seen families in which the crisis of enforced separation by military order precipitated a final voluntary dissolution of the family system by divorce.

We have entered the life situations of those families who have come to our psychiatric clinic adversely affected by the crisis of enforced separation and have attempted, as Parad (3) says better than I, "to alleviate the impact of the crisis-inducing stress and to help mobilize the resources within the family and within the family's social orbit."

We have afforded these families an opportunity to ventilate the anxieties precipitated by the threat of, fact of, or reunion after enforced separation. We have offered assistance in role-reassignment, pattern-reorganization, and boundary realignment and, in so doing, have attempted to help the families, as systems, re-establish their equilibria. We have intervened into the superordinate military system where possible; we have involved the family service people, the Red Cross, the chaplains, the Air Force Aid Society, and civilian resources.

Our successes as therapists have less frequently been a function of our knowledge and skills and more frequently a function of the family's previous successes in handling crises, its pre-separation role-structure, the wife's abilities in home and child management and the positive

correlation between the particular hardships associated with the crisis of enforced separation and the availability of resources outside the family to meet the family's needs.

As we have engaged in crisis therapy, we have not been noncognizant of the tremendous imbalance between our theoretical base and our therapeutic endeavors and between our collective therapeutic resources and the magnitude of the problems precipitated by the crisis of enforced separation.

Collectively we must become military family crisis theorists and preventionists. We need to know the military family better. We need to know the attributes of personal, marital, and family organization and role structure which are more frequently associated with success in dealing with the crisis of enforced separation. We need to know the processes of readjustment most frequently associated with recovery from the dismemberment and reunion of military personnel and their families. We need to know the long- and short-term effects of chronic and acute separations on military family life.

We need to apply this knowledge in widespread programs of education and prevention aimed at the minimization of the disorganizing, disequilibrating, and demoralizing effects of enforced separation. We need to be able to identify and speedily treat those families for whom our educative and preventive measures will be of limited value and for whom, despite our efforts, enforced separation will result in a pathogenic family crisis state.

In performing our functions as family crisis therapists and preventionists and in reserving our already taxed therapeutic resources for families who, despite us, are demoralized by the enforced separation of military husband-fathers from the home, we will more effectively fulfill our dual institutional roles as promoters of mental health for the military man and his family and as manpower conservationists for the Air Force.

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#### DISCUSSION

DR. MALONEY: It is a pleasant opportunity to discuss this paper on "The Family Crisis of Enforced Separation." Capt. Bonovich puts us in the main stream of current concern in therapeutic endeavors by focusing on the family group. Psychosocial treatment of the family has been receiving increasing attention occasioning a burgeoning of conceptualization to guide treatment technics. This development has brought forth in some instances, an almost cult-like commitment to work with the family as the only way to help people who are

experiencing trouble in their lives which causes them to behave in socially maladaptive ways. This tremendous interest in family group therapy leads me to remark in the jargon of the day that, "to make the therapeutic scene," you have to work with the family group. This particular goal is not the motivation for the family therapy program that Capt. Bonovich has been instrumental in developing at March Air Force Base.

It is not remarkable, however, that social workers would find this trend compatible with their professional orientation since, historically, work with the family has been with us since we began to professionalize our activities. However, to be accurate, I would have to admit that we participated with other therapeutic disciplines in fostering the period of the eclipse of the family as the unit of concern by working with only one member. Even now, agencies carrying the name with "Family" in it to denote a particular service still tend to admit people one by one. Nevertheless, our professional roots provide us with a certain ease in moving into the arena of family work which now we find bolstered by tremendous quantities of information about the family in a variety of states of social and emotional ease and dis-ease.

With our behavioral scientists teammates, we are extracting and ordering the accumulating knowledge toward fashioning a theoretical base to guide our treatments. We are in the enviable, though frustrating, position of investigation while in the helping role. We are action-researchers, and thus we are constantly questioning and questing for more precise knowledge to guide us in our work. The paper we have just heard is an effort in this direction.

Capt. Bonovich has selected two conceptual developments to guide his examination of the family under the stress of the military order of the enforced separation of the husband-father. These are crisis theory and social systems theory. He postulates that such separation will be experienced as a hazardous event and will induce a state of crisis which will vary in intensity and duration depending on the special circumstances of a particular family.

The social system conceptualization of the family group gives guidance to our analysis of the meaning to the family as a unit and to each member of the family of the departure of the husband. Such analysis helps us understand the resultant coping behavior which may or may not be maladaptive. Studying the family group as a system of patterned interacting role relationships which are developed over time and derived out of biologic ties also gives guidance to our therapeutic interventions.

Capt. Bonovich presents us with a special challenge to engage in programs to prevent family breakdown which can occur when there is enforced separation. He charges the military therapists with the task of becoming family crisis theorists and preventionists. He claims that Air Force psychiatrists, psychologists, and social workers can support the Air Force mission of "fostering mental health through the prevention and treatment of the mental, emotional, and social dysfunctioning of members of the military and their families" by directing their concerted attention to the problems posed for the men, their wives, and children by the military necessity of requiring the Air Force husband-father to leave his home for periods of time.

In briefly reviewing his experience in working with families who are in the process of coping with the stress of separation in the different stages of the crisis this produces, Capt. Bonovich offers us a variety of opportunities to fashion questions to guide investigations which will provide us with knowledge needed to undergird our helping skills.

The Air Force has several different time periods of enforced separation which require special attention. Maintaining the family system in a "steady state" when the husband-father is gone for brief, though regular periods of time requires particular kinds of adjustments which could pose special threats to family breakdown. This, it seems to me, is an area for investigation. Study of the family functions which are the most difficult to perform while the father is absent from the home is another potential area. Does the wife-mother experience the greatest difficulty in the task of child rearing--care and socialization of the young--or in home management, or in

her relations with the wider social environment, or is the vulnerability more likely because of the interrupted companionship with her spouse.

From the research reviewed by Capt. Bonovich, we have clues as to the families most likely to succumb to long periods of enforced separation. There must be Air Force families who would fit the description of those families identified by Hill as the most likely to break down during the separation. Are such families also likely to break down when the enforced separation is for short periods of time? Certainly investigation of questions like these is needed in order to determine the kind of preventive programs best suited to the Air Force community.

## CRISIS AND SUICIDE

Norman L. Farberow

May I express my gratitude for having been invited to participate in the Fourteenth Annual Behavioral Sciences Symposium of the Air Force, and my pleasure at being here? In my remarks today, I shall focus on some of the theoretical aspects of suicide, its relationship to the general area of crisis, especially the much more explored topics of disasters and catastrophes, and then follow this with a discussion of some of the clinical aspects of suicide and suicide prevention.

The suicidal crisis is a particular event in the general area of crisis, characterized especially by the potentiality of an abrupt and irreversible final ending, and therefore colored by the heightened tragedy laden impact of death. I consider it the epitome of crisis having, in addition, some of its own special features in the impact of the death upon the significant others, the family, the relatives, friends, therapists, hospital, neighborhood, all of society in general. It encompasses all of the fundamental ethics of life and of living and is a vital area of concern for the community.

Crisis, disaster, and suicide are all characterized by a violent disruption of the functioning of individuals and of society as a result of the impact of both external and internal events. There are a great number of similarities and some critical differences. It is useful to examine some of these to see where the relationships are. Crisis theory began to emerge in the late 40's and the early 50's as a result of a gradually increasing sophistication and awareness of mental health in the general public, a resultant increase in demand for such services by the public, and along with the constant increase in knowledge and feasibility of brief psychotherapy and crisis therapy. This period also saw the rapid development of social psychology and social psychiatry which is best expressed today in the growth of the concept of the community mental health center and in the involvement of the community in its own mental health. It was Eric Lindemann, in 1944, who pioneered in this area with

his study of bereavement after the Cocoanut Grove disaster. It was followed shortly by the extensive work of Caplan at Harvard. In 1948 Lindemann and Caplan initiated the Wellesley Human Relations Service by developing a series of experimental investigations in the whole area of crisis and its management.

The word crisis is defined in the dictionary very simply as a crucial or a decisive time. It refers to a time of heightened emotional stress requiring some kind of change. Caplan has defined crisis as an upset in the steady state, or an upset in the homeostasis. I prefer his earlier definition in which he postulates that an obstacle to life goals has arisen which does not yield to the ordinary methods of problem solving already developed by the individual. Bloom analyzed all the components in crisis, using a number of experienced judges, and found a consensus that there were two main elements. The first and most important was that there was a known precipitating event, something having occurred to kick it off. The second was that there was no readily available solution. If there was no known precipitating event, it was more likely to fall into the general heading of a psychiatric disorder than being considered a crisis. Rapoport emphasized that crisis is self-limiting and temporary. Incidentally, this is a remark we make frequently in our work with suicidal people. It helps them to know that the distress of the situation they are going through is time-limited.

Caplan distinguishes four phases in a crisis. These are: a gradual increase of tension; this is followed by disorganization of behavior; which stimulates a number of problem-solving actions; (which are already within the general armamentarium of the individual and which may solve the situation causing the crisis to subside); when they do not, the crisis develops to the fourth stage, that is, a major disorganization characterized by feelings of helplessness, cognitive and perceptual confusion, disorientation in time, space perception, delusions, hallucinations, and others. When the suicide state is reached, one sees the added feelings of worthlessness, feelings of inadequacy, agitation, magical thinking, heightened fantasy, and cognitive constriction. Dichotomous thinking appears, characterized by loss of alternatives, leaving only such choices as life and death, love and hate. It should be emphasized, incidentally, that crises also have positive results. In a crisis, the individual is ready for a great change. The usual defenses have dropped away, and the person is open to influence. This is especially true in suicidal crises when we try to take

advantage of the opportunity for a restructuring of the cognitive field allowing some awareness of the intense feelings and appropriate verbalization of them and some return of feelings of mastery. Occasionally we use it to develop a pattern of seeking and using help from institutions and agencies and persons in the community.

Disasters have also been studied intensively. Many of these studies are reported in Baker and Chapman's Man and Society in Disaster. Disaster may be defined as a man-made or a natural catastrophe, such as floods, tornadoes, or the explosion in Texas City. All of these have been subjected to intensive examination with classification of the several stages that occur, the various affects that are aroused, and the kinds of remedial procedures most appropriate. We find the reactions in both suicide and in disaster are very similar producing an exhaustion of inner resources, overwhelming feelings of dread, and accompanying feelings of helplessness and hopelessness. One of the most terrifying feelings in disasters occurs with separation, with the feeling of being alone and abandoned, and with the disruption of familiar bonds. This is also the most frequent characteristic of suicidal persons; that is, they feel alone, deserted, abandoned, and rejected. Panic has been described in both situations, disaster and suicide. Baker and Chapman point out that, contrary to popular myth, panic occurs infrequently in disaster. One of the best known exceptions is the panic which occurred at the Cocoanut Grove fire which has helped to sustain the myth, but nevertheless it is still an infrequent event. In suicide, however, one finds much more often the feelings of panic along with an almost uncontrollable rush toward the wild impulse of self-destruction. In both disaster and suicide there is also a fragmentation of the social scene, again with a complete disruption of normal ties. The disaster victim feels deserted and alone and, as a result, he experiences a rush of warm feelings for the rescuers when they appear. The suicidal person, too, feels alone and deserted, especially when no one appears to rescue him. It is when the rescue does not occur that the suicidal acting out most frequently appears.

One also finds the same terms used to describe the affective reactions in suicide and disaster. I will not go into detail about this but will refer you, instead, to a most thorough book by Martha Wolfenstein entitled Disaster which describes very completely all the dynamics of disaster. The biggest difference for the catastrophe victim and the suicidal victim is that the former experiences the violent

destruction of his world and its restoration when rescuers appear. The suicidal victim does not experience this unless there is a specific rescue action just for him. The obvious lesson, of course, is that we need to provide the opportunity for recognizing and responding to the cry for help, the suicidal cry.

What is suicide, what is it like, and what are some of the things which we have learned in our efforts to prevent it? First of all, to view it in an appropriate framework, it is one of several kinds of death, taken from the classification formally established by international conference, which lists death in four main categories-- natural, accident, homicide, and suicide. All deaths which occur throughout this country, or throughout the world, have to be fitted into one of these four categories. In most instances, it is relatively easy for a death to be classified as natural, or accident, or homicide. If you are invaded by terminal cancer, your death is listed as a natural death; if you crash your car against an abutment on the highway, it is an accidental death; or if you are penetrated by a stray bullet during a bank hold-up, it is homicide. But with suicide, medical examiners face a very particular, specific kind of problem. Suicide can be certified only when the medical examiner is certain the person killed himself with awareness and intention--that is, he intended to die by his own actions. Obviously then, the medical examiner needs to know the psychologic state of the individual. If you visit any medical examiner's office, except perhaps for the Los Angeles County Office, you will find many trained persons to help in the task of deciding the most accurate articulation of death--toxicologists, autopsy surgeons, physical and biological scientists--but you will not find a social scientist. It is our firm conviction that unless there is a social scientist in his office, the medical examiner is faced with a great number of almost insoluble problems when he comes to the specific task of determining whether or not a death is suicide.

I described the first three deaths as relatively easily ascertainable. Actually, even this is not so. There are a number of instances of natural death, accident, and homicide which raise questions. For example, what shall we call the diabetic who flaunts his medical regimen? When he dies his death is recorded as natural. And what shall we call the person who drives his car at unsafe speeds on unfamiliar twisting roads? There are speculations in some cases of homicide that the murderer committed his act so he

could get the State to kill him--he could kill someone else but not himself. As you can see, the role of the person in his own death, his contribution to his own demise is, in our opinion, one of the most important aspects to be determined in the mode of death.

Suicide is not a universal phenomenon. We know, for example, from anthropologic studies, that suicide has never appeared in a number of places on the globe such as a small section of the South Sea Islands, the Andaman Islands, an isolated area in the middle of India, the Kafirs of Hindu Kush, and Tierra del Fuego in South America. If we go back into recorded history, we find four suicides reported in the Old Testament: (1) Samson pulling down the pillars of the Temple; (2) Saul, defeated on the battlefield, and rather than face capture and the ignominy of defeat, threw himself on his own sword; (3) Abimelech, who laid siege to a city and while walking around the walls, was hit by a stone hurled by a woman (rather than let it be known he had been mortally wounded by a woman, he killed himself); and (4) Ahitophel who, as a counselor to the king, saw his advice refused and felt that his life had lost all meaning.

Varied attitudes toward suicide have appeared in history. In Greek and Roman history, for example, we find that Socrates, the best known example of suicide, actually wrote against it but did qualify his statement with "unless there was a visible necessity for dying." Plato and Aristotle condemned it; Seneca, Cicero, and Epictetus felt it was man's right. Variations in religions evolved with Judeo-Christianity developing a severe condemnation of suicide while Buddhism and Hinduism indirectly encouraged it through the attitudes toward life they fostered. In law, one finds that there are still nine states in the United States which have specific statutes on their books against suicide. It was only in 1961 that the law making it a felony to attempt suicide was repealed in England. Whether or not a law against suicide deters it is a moot question; my own conviction is that it does not. There are, in addition, 18 states that consider aiding and abetting suicide a felony.

Suicide is an important public health problem with about 22,000 to 24,000 listed annually in the Bureau of Vital Statistics. This is probably a marked understatement of the true number, but how much of an understatement is unknown. We also don't know the number of suicide attempts, and much less than that is known about the number of times

that suicidal activities, behavior, threat, and talk appear in the community. An investigation in Los Angeles County yielded a ratio of about eight to one attempts to deaths. A rough estimate is that there are at least five suicide threats for every attempt. It becomes apparent that there are at least 500,000 suicidal events occurring in the United States every year. It is at least tenth in the list of adult killers and ranks as high as sixth as cause of death in one state. It is third as cause of death in college students and armed forces. The sex ratio shows approximately 70% men and 30% women among the group that kill themselves, and exactly the reverse for those who attempt, approximately 70% women and 30% men. It occurs about five times as frequently among Caucasians as among Negroes. All of these statistics may be readily found in a book by Louis I. Dublin called Suicide: A Sociological and Statistical Study.

There are three main characteristics of suicide. The first refers to feelings about death. Suicide involves death, and anybody who becomes concerned with the area of suicide must come to some kind of awareness of his own feelings about death and be prepared to accept the fact that at any time there may be a tragic mistake in the therapy he initiates. Second is the factor of ambivalence, a term which refers to two contrary or opposite feelings present in the person at the same time. Third is the aspect of communication. This may be one of the most useful ways of understanding what goes on in suicide, that the suicidal person has been going through a series of maneuvers, activities, manipulations, gestures and so on, and has now arrived at the point where he feels he can be heard only if he gives a desperate, loud, and frequently disguised cry for help. Sometimes the behavior becomes a statement, a declaration of the end of hope, in which the suicidal action is the process of giving up. The communication aspects can be seen in terms of direct and indirect, verbal and nonverbal behavior. For example, a direct verbal statement would be, "I'm going to kill myself"; an indirect verbal statement, "Nobody loves me, I'm no good." A direct nonverbal activity would be to go out and buy a gun while an indirect one may be seen in the situations when the person begins to give his possessions away, or when marked changes in behavior occur, or when the physical signs of the depression syndrome appear. One of the most pressing educational needs is to inform the general practitioner so that he will be sensitive to the depressive syndrome in the middle of all the complaints the individual may be expressing--the sleep loss, the anorexia, marked withdrawal, habit changes, etc.

The continuum of motivation has been most useful for understanding the wide range of suicidal activity. This may be expressed in the amount of interaction occurring between the suicidal person and his significant other(s). At one end of the continuum would be entirely interpersonal behavior, and at the other end would be intrapersonal behavior. In the middle of the continuum would be mixed motivation consisting of both inter- and intrapersonal behavior. With these three main classifications along the continuum, it becomes possible to delineate modal personalities for each by filling in various rubrics such as age, sex, precipitating circumstances, method, provisions for rescue, etc. All of the various characteristics which are of concern in understanding suicide can be put into this rough framework. At the interpersonal end is the young female with a precipitating quarrel, separation, or loss of a loved one who will ingest pills usually of a nonlethal amount, and who will call or even take the pills in front of the person she is angry with so that rescue is certain. Such behavior is almost always nonlethal. At the intrapersonal end of the scale is the older white male who may have a physical ailment, who feels alone and lost because his family has moved away, or his wife has died, or who has lost his job because of his physical disability. This person will get in his car, take his shotgun, and drive up into the hills off the road to shoot himself so that there is no possibility of any kind of rescue.

The middle group may well be the most interesting. This group is represented by the person, middle aged, male and female, who takes a lethal dose and then calls for rescue. This person leaves it up to chance as to whether or not he will survive by putting his fate into the hands of destiny and pure luck. There are some extremely interesting theoretical implications in this particular group which cannot be explored in this presentation especially in terms of risk-taking, compulsive gambling, etc.

It may be of interest to detail the population which calls the Suicide Prevention Center in Los Angeles and the steps we follow in working with them. In age and sex, the greatest number of those who contact us are females between 20 and 35. It is infrequent that the older, more serious group calls. An important problem for those concerned with suicide prevention is to evolve the innovative procedures necessary to discover, identify, and intervene in this high suicide-potential group. The persons who do call us, however, are also more potentially suicidal than the general population. However, the initiation of preventive therapeutic

procedures heightens the probability that they will not appear on the coroner's rosters at a later date.

The worker at the Suicide Prevention Center follows an established procedure in his interaction with the caller. In general, he goes through five consecutive, but frequently overlapping, steps. The first is the establishment of rapport and maintaining contact. The people who call are ambivalent. But they are calling, and the significant fact is that they are reaching out for help. At the same time they are still considering killing themselves, and unless they are made to feel that they have reached help with understanding and possible solution, they will hang up. The telephone is infrequently used in the traditional, long-term, rehabilitative therapy; but it has become the most important significant therapeutic tool for working with persons in crisis. Over 95% of our first contacts with suicidal persons is by telephone. Only 10 to 15% of these people need to come into the Center for face-to-face interviews. It is possible to work with and treat patients by means of the telephone. The second step the worker follows is to clarify and to focus the array of problems for the person and to help him see the primary difficulty. The most useful thing that a worker can do for a suicidal patient is to say, "It is true there seem to be a lot of problems, but the most important one to solve right now is this problem. We will look at the others later on." In the third step, the helper is (at the same time he is talking with the patient) checking off in his own mind a number of criteria that have been developed to evaluate the suicidal potentiality. He is concerned with the lethality of the suicidal person--that is, how close he is to acting on his impulses to kill himself. Sometimes the person is actually in the middle of an attempt. He will call and say he has just taken a bunch of pills, and in that case there is little to do in terms of psychotherapy. The immediate effort must be to get the person to some kind of medical emergency care; the psychotherapy can occur afterward. Most often we are called by persons who are thinking and threatening suicide, and the problem is to decide how close they are to acting on their impulses. Among the criteria are age and sex. A call from an older white man is immediately assumed to be serious until determined otherwise. We are concerned with whether or not the person has a specific suicidal plan, and we ask very directly, "How are you thinking of killing yourself?" The question is how detailed, and how well thought out are his plans. The more vague, the more one can relax; the more specific and concrete, the more concerned one must be. Another criterion is character. Is this an acute

situation, or is this a chronic repetition of what has occurred often before? Past suicidal history is always inquired for. A history of self-destructive behavior in the past raises the suicidal potentiality.

The fourth step is the evaluation and marshalling of resources. It may be the person's own family, or his relatives, or any of the personal attributes which may be used in assisting the patient. The last step calls for initiation of the treatment plan usually designed not only for the suicidal person but involving his significant others. The last is important in working with suicidal persons for the behavior is frequently in relation to another (or to others), and they are, therefore, a vital portion of the total suicidal picture. The suicidal individual has succeeded in alienating himself from these significant others, and he feels alone and separated. By involving the important other people again, it re-establishes the fact that relationships are still available and that some meaningfulness and purposefulness yet exist in his life.

One of the most important aspects in working in the area of suicide is a sense of humor. Unless it is present in the worker, he is not comfortable and is not able to function well in helping the individual to work out of his depression. Within the suicidal individual, the appearance of a sense of humor is very encouraging.

In relation to the worker, there are two complexes which we have found to merit particular concern. The first is called the Jehovah complex, a feeling which usually appears after the first or second successful case, when the worker begins to feel that it was he and only he who saved the patient. It is certainly a very gratifying feeling to know that you have been able to help someone and that he is still alive because of your actions, and it carries with it a tremendous feeling of power and of accomplishment. We must make certain, however, that the person doesn't get carried away by this feeling.

In the past few years we have used very successfully a group of nonprofessional volunteers. Inasmuch as these persons' services were given in the daytime, they have all been women. We have found them to be extremely effective but have also found it necessary to guard against the second complex which is the Magna Mater complex. This is the impulse to meet all the needs of the suicidal individual and to fill all his demands, a virtually impossible task.

What remains impressive, however, is the effect of meeting the crucial needs voiced both directly and implicitly by the suicidal person--that is, a search for self-significance, a cry for understanding and help. In such situations the crisis is real, and attending to the crisis prevents unnecessary personal and social loss.

## A MILITARY ALCOHOL REHABILITATION PROGRAM

Donald R. Seidel

Alcoholism today is generally rated as the fourth most prevalent illness in the United States. It is a disease of unknown etiology and one of uncertain acceptance both by society and by the medical profession. Whether, however, it is of physical, psychologic, or psychophysiologic etiology, or whether it is considered a disease or a behavior disorder does not change the physical, mental, and social sequelae or its prevalence in the nation as a whole. Thus, it is a condition which cannot be totally ignored by the medical profession.

The prevalence of alcoholism in the United States ranges in figures from five million cases upward according to various studies. There are no statistics to indicate the incidence of this condition among military personnel. Owing to the difference in average age group, screening procedures upon enlistment, and retirement procedures for those personnel found to have prolonged or debilitating illnesses, I do not feel we can take the civilian incidence of this illness as the incidence among military personnel any more accurately than we can apply the civilian statistics for cancer, heart disease, or diabetes to a military population. But despite these factors which decrease the incidence of prolonged illness in the military, either the illness arises while a person is in the military service or a person enters the service when the illness is in an early, undetectable phase.

Since alcoholism does not respect a person's status, experience, or intelligence any more than any other illness respects these factors, we can anticipate, and in fact do witness, that it can strike men with many years of experience and great knowledge; knowledge and experience which are valuable in the everyday functioning of the military and cannot be completely and instantaneously replaced by the drafting or commissioning of new troops. It would therefore be a feasible plan to investigate the rehabilitation potential of those personnel who have drinking problems and, also, have such knowledge and experience. It is on this premise that

a preliminary rehabilitation program has been established at USAF Hospital, Wright Patterson.

It should be noted, however, that it is not on theory alone that such a program is being undertaken. For several years federal, state, and local governments, either directly or indirectly through grants, as well as private institutions and university centers throughout the country have been involved in research on alcoholism. Part of this research has been involved with trying to determine prognostic signs and symptoms. The majority of these studies, including those at the Alcoholism Treatment and Research Center in St. Louis where I spent part of my residence as a staff psychiatrist, indicate that the retention of employment status and retention of marital status are two positive prognostic signs. Fortunately, for the purpose of this study, alcoholics found among the military population usually still have these two factors in their favor.

For the purpose of the study, admission and referral criteria are necessarily selective. First, the patient must be an alcoholic and willing to admit his drinking poses a serious problem to him. Second, as far as the referring physician can determine, the patient should be free of underlying emotional illnesses such as schizophrenia, manic depressive psychosis, or other serious mental illness. He should also be free of clinically detectable chronic brain damage. Third, he should be a person possessing sufficient knowledge and years of experience that his rehabilitation would be of considerable direct benefit to the military; he should have at least two years retainability so adequate followup can be obtained. Fourth, since it is our intention to adapt the man to his illness and not adapt the man's environment to the patient's illness, the patient will be accepted only on a temporary duty basis so that he may return to his original base and his primary career field.

The treatment plan is divided into two phases. The first can be considered a detoxication or "drying out" phase combined with a phase of evaluation. This phase covers approximately the first three to five days of hospitalization. During this time, any withdrawal symptoms are dealt with by the use of chlordiazepoxide, phenothiazines, anticonvulsants, magnesium sulfate, multivitamins, and fluids. If the patient has already gone through a withdrawal phase prior to transfer to this unit, or as soon as the withdrawal phase is passed, the patient is evaluated by means of clinical psychiatric interviews and psychologic testing for affectual and

organic disorders to assure that he is primarily an alcoholic and not suffering from other mental illnesses of which drinking may be only a symptom. At the same time the patient's physical status is assessed by routine physical examination, urinalysis, serology, and chest x-ray, and blood chemistries including liver profile, serum amylase, and blood sugar.

Part of the initial psychologic evaluation consists of the Halstead Battery which was designed by Halstead of the University of Chicago and modified by Reitan at the University of Indiana. The Battery is administered during the initial phase of admission to help determine the presence of fine organic brain involvement. It is also administered at the end of the patient's hospitalization to furnish data for a secondary study on the organic changes which occur due to abstinence.

During the initial phase of admission, the patient is asked to fill out a questionnaire which is designed as a self evaluation of his drinking. If his spouse is available, she is also asked to fill out the same questionnaire and thus have a comparison between the patient and the spouse's views of the drinking problem. At the end of the patient's hospitalization, he is again asked to fill out the same questionnaire. Theoretically, we expect to see some changes in the answers if our treatment program has endowed the patient with any knowledge and insight.

The second phase of treatment is considered the rehabilitative phase. During this phase, the patient will remain in the hospital and will be exposed to individual and group psychotherapy and will be strongly encouraged to attend Alcoholics Anonymous meetings in the local community. The psychotherapy will be directed at helping the patient to understand how he reacts to stress and explore with the patient new methods of dealing with the stress. The patient will also be given some didactic lectures on alcoholism, its stages, and its sequelae. The philosophy behind these lectures is that any patient with a chronic illness is in a better position to adjust to his illness when he knows more about the stages and the problems of that illness.

The total length of hospital stay, including both phases, is four weeks. The patient will be on closed ward only if warranted by a medical condition such as delirium tremens or hallucinosis. Otherwise, he will be on an open psychiatric ward. It was my personal observation, while working at the Alcoholism Treatment and Research Center in

St. Louis, that a patient who is allowed to leave the hospital in less than ten days has a very high probability of returning to drinking within a few days. Therefore, in the treatment program, passes, other than those granted for the specific purpose of attending Alcoholics Anonymous meetings, are not granted until the last weekend of hospitalization. When the patient is granted passes to attend Alcoholics Anonymous meetings, he is accompanied by well-stabilized members of Alcoholics Anonymous.

Since the majority of the patients will be coming from bases other than Wright-Patterson, the followup studies will be done by questionnaires sent to both the patient and the referring physician. As a guide to the referring physician, a copy of the narrative summary will be sent to the referring physician. Included in the narrative summary will be recommendations for the physician to encourage the patient in the use of Alcoholics Anonymous and also recommendations on the transient periodic use of tranquilizers when indicated by the patient's condition.

It is our hope that this program involving only four weeks of hospitalization will be able to salvage 30% or more of knowledgeable and experienced personnel who are rendered, at least partially, ineffective by alcoholism. If such a successful rehabilitation rate can be demonstrated, the knowledge and experience salvaged for the military would more than compensate for the four weeks of hospitalization.

## HUMAN RELIABILITY PROGRAM: ANNUAL REPORT

Monard D. Weems

It's really a pleasure to be here today to discuss the Human Reliability Program. This program is very close to all behavioral scientists, and you should all be proud of it because it was born and nurtured by behavioral scientists in the Air Force. The program was conceived back in '59 and '60. Gen. LeMay, who was then Chief of Staff of the Air Force, became quite concerned about accidents happening to people working around nuclear weapons and aircraft missiles. He decided that his staff should look into this matter and come up with a program to screen these people and be sure that we get the proper man, a reliable man for these jobs. The purpose of the program is to establish the requirement and responsibility for the screening and selection and evaluation of personnel that are assigned duties involving nuclear weapons. The program, since its implementation, has been adopted by the Secretary of Defense for all services. Also the Royal Canadian Air Force has adopted it. In addition, some 17 steel companies have considered the implementation of these procedures.

The program is implemented in three phases. The first phase is the selection for training and this is the phase where we get the airmen as they come into the service here at Lackland. We screen these people and ensure that they are the type of men we want in weapons duties. This year we were very fortunate to come up with a new unit which we call the Central Assessment Unit. Initiated in February with a few people on board, they now have a full complement of interviewers and are doing a wonderful job. Maj. Strimple, chief of the Assessment Branch, will follow me and describe this procedure and the unit in detail. Also throughout the year we've had to split our personnel and screen people at Amarillo owing to the meningitis epidemic. In addition, we've had a tremendous increase of people that have been included in the program so there's been quite a burden on these people.

The second phase is the screening for assignment, and this phase is also accomplished here and at the various units. This takes into consideration the medical service personnel,

the security people, the personnel people, and of course the commander must make the assignment decision.

The third phase, which is one of the most important parts of the program, is the continuing of evaluation during assignment, and this is everybody's responsibility at all commands--disqualification, reassignment, and separation of personnel. First of all, we temporarily disqualify a man and then try to use him as a man on the job; if we can't do this, we disqualify him permanently and endeavor to use him within his career field; if not, then we have to retrain him. If this is not possible, separate him from the service.

A research program is being conducted to improve our guidance in the Human Reliability Program. One such study is the Georgetown University suicide study. We have gone through two phases of this study, and in the present phase we are looking into suicidal gestures. We hope to have it completed by the coming summer. Also, expanded background investigations are being conducted by the Personnel Research Laboratory, whose personnel have done a lot of work on this and have included some of the procedures in our Central Assessment Unit. Through screening and selection in the Central Assessment Unit we are doing further study into the proper selection and screening of personnel. Roughly, I'd like to describe the three categories of positions in the Human Reliability Program. The critical position is one in which the individual has the technical knowledge and also the access to complete nuclear weapon systems. A limited position is one in which he can obtain those two positions. Then, of course, the normal position is one in which the man doesn't have direct access to but has support in this area. The position requirements under critical investigation must be completed prior to the assignment--that is, a background investigation. In the normal position, the background investigation is not required but the position has to be subjected to all other provisions of the regulations. We have one exception to this requirement: Under emergency conditions we can place a man on the job provided he has a completed National Agency Clearance, a background investigation is initiated, and access is approved by the commander. We list results showing what the program has accomplished since its implementation on 28 February 1962 through 31 December 1966. We have 544,390 records reviewed by the commander and individuals interviewed by the commander. The medical service has interviewed 101,889 so we can see the tremendous workload that is involved in this program. We have approximately 100,000 people in the Human Reliability Program--that is, 1 out of every 8 individuals in the Air Force. We've

had 10,445 individuals disqualified of which there were 9,999 airmen; so you see the greatest problem is your airmen because of the enormous numbers of personnel involved. Another listing shows how many were disqualified, by commands. The No. 1 position is SAC because they have most people in the program. They have had 5,335 disqualified. ADC is second and ATC is third going all the way down to your National Guard and the Continental Air Command. There are more people coming into the program in the reserve outfits, too, by the way. This presents a problem for the National Guard and the reserve people of not having the medical records to screen because the individuals are available for a limited time. The third listing shows the disqualifications by AFSC. You notice the Air Police are leading the pack with 5,707. Of course we have a large number of Air Policemen in the program and therefore should have more disqualified. The number of people being disqualified in the Air Police has reduced from a rate of about 800 to 1,000 every 6 months down to 400 every 6 months so this is an indication that we are getting more reliable people in the Air Police field and we are having fewer disqualifications. In the officer career field, the navigator leads the pack here with a 97 with the missile operations officer running a close second. Causes of the disqualification are given in the fourth listing. The No. 1 cause was character and behavior disorders and the No. 2 cause, neurotic tendencies. Notice that the psychosis is down to 6% and this a very good situation. When we first

Overall results from 28 February 1962 to 31 December 1966

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	<u>Officers</u>	<u>Airmen</u>	<u>Total</u>
A. Number of records reviewed and individuals interviewed by commanders:			
	123,871	420,519	544,390
B. Number of individuals interviewed by Medical Service:			
	25,441	76,448	101,889
C. Number of individuals permanently disqualified under AFR 35-9:			
	446	9,999	10,445

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Human reliability program results by commands  
from 28 February 1962 to 31 December 1966

Command	Officers			Airmen		
	Records review and interview by commander	Medical interview	Disqualified	Records review and interview by commander	Medical interview	Disqualified
SAC	47,290	6,115	269	143,935	25,406	5,335
ADC	13,477	2,684	33	60,962	13,441	1,510
ATC	12,403	6,640	57	52,794	5,806	748
USAFE	7,167	1,812	32	36,862	8,234	758
PACAF	6,995	916	13	44,482	3,986	595
TAC	19,235	4,424	15	44,540	11,671	507
MAC	11,254	1,052	19	12,731	2,177	181
AFLC	472	384	3	3,859	2,382	124
AAC	1,287	213	2	6,917	829	113
DASA	306	134	0	1,764	321	62
AFSC	470	97	0	2,729	440	42
CONAC	1,939	756	0	3,633	1,052	6
NG	1,400	141	3	5,122	611	17
AFCS	176	73	0	189	92	1
Total	123,871	25,441	446	420,519	76,448	9,999

AFSC disqualifications and causative factors, from 28 February 1962 to 31 December 1966

Career field	AFSC	Group I- Character and behavior disorder	Group II- Psychosis	Group III- Neurotic tendencies	Group IV- Disciplinary	Group V- Medical	Total
<u>Airmen</u>							
Missile Elct Maint	31XX	258	34	131	73	11	507
Armt Sys Maint & Opr	32XX	213	33	116	50	22	434
Nuclear Weapons	33XX	97	19	60	26	14	216
Aircraft Maint	43XX	160	18	48	67	29	322
Missile Maint	44XX	159	25	74	54	7	319
Munition & Wps Maint	46XX	636	87	340	165	70	1,298
Facilities	54XX	254	33	128	98	26	539
Air Police	77XX	3,049	305	1,163	905	285	5,707
All others	XXXX	344	35	142	106	30	657
		<u>5,170</u>	<u>589</u>	<u>2,202</u>	<u>1,544</u>	<u>494</u>	<u>9,999</u>
<u>Officers</u>							
Pilots	12XX	25	2	6	5	2	40
Navigator	15XX	56	3	13	24	1	97
Missile Opn Officer	18XX	54	4	22	8	7	95
Missile Officer	31XX	19	2	18	4	5	48
Armt Officer	32XX	27	4	15	5	1	52
Air Police Officer	81XX	6	1	4	3	1	15
All others	XXXX	56	4	17	11	11	99
		<u>243</u>	<u>20</u>	<u>95</u>	<u>60</u>	<u>28</u>	<u>446</u>
Total		5,413	609	2,297	1,604	522	10,445

Number disqualified by causative factors from  
28 February 1962 to 31 December 1966

Group	Diagnosis	Number disqualified			
		Off.	Amn.	Total	Percent
I	Character and behavior disorder	243	5,170	5,413	52
II	Psychosis	20	589	609	6
III	Neurotic tendencies	51	2,202	2,253	21
IV	Disciplinary	104	1,544	1,648	16
V	Medical	28	494	522	5
Total		446	9,999	10,445	100

started the program, that percentage was up around 20%--from 17% to 20%; through the Human Reliability Program this percentage has gone down, which is an indication that the psychotic person is not getting out in the field and this is the purpose of the program--to keep these people out of critical jobs. I would like to look at the program in retrospect to see what good has been accomplished. I think we have discussed some of these results this morning. Gen. Roadman said our suicides have been going down. This is true. Until 1964 our suicide rates in the Air Force ran about 110 a year. In 1964 we had 97 suicides, in 1965 we had 98, and in 1966 we had 94. So I think we can take some credit for this rate going down because people are becoming more concerned with their fellow workers. Supervisors are becoming more concerned with their people through the implementation of the Human Reliability Program. For first-line destructive acts out on the flight line, happenings have gone down 64% since the implementation of this program; so it has accomplished a lot of good and I think it will do a lot more good in the future.

ROLE OF THE CENTRAL ASSESSMENT BRANCH IN INITIAL  
SCREENING UNDER THE HUMAN RELIABILITY PROGRAM

Blaine Strimple

Prior to 1962, Air Force programs for the selection of airmen for critical assignments were based on information obtained through aptitude testing and background investigations. These technics, while providing measures of academic potential and loyalty, failed to provide reliable behavioral information on past adjustment, emotional stability, interpersonal skills, and motivation.

With the advent of the Human Reliability Program in 1962, several agencies began programs to gather, evaluate, and utilize behavioral information in the initial classification system. As a result, the 3700th Personnel Processing Squadron at Lackland, the 6570th Personnel Research Laboratory (AFSC), the Mental Hygiene Division of Wilford Hall Hospital (AFSC), the Office of Special Investigations, and USAF Security Service all had a hand in the selection of individuals for critical jobs. This system, while a definite improvement, was difficult to coordinate and administer. Although this system of initial screening and selection reduced human reliability failures, as shown in Lt. Col. Weems's report, studies made by the 6570th Personnel Research Laboratory indicated that technical school elimination rates remained at unacceptably high levels--sometimes as high as 20%.

On the basis of findings and recommendations of the Personnel Research Laboratory, the Air Staff directed that a Central Assessment Unit be formed at Lackland AFB which would consolidate and integrate the screening functions of the various organizations I mentioned previously. This new unit was directed to develop and implement technics to thoroughly screen and identify the best qualified basic airmen to fill annual Air Force requirements for critical assignments.

The purpose of this paper is to describe the experimental screening methods currently used by the Assessment Branch and to evaluate the results from the first year of operation.

The Assessment Branch was formed on 3 January 1966 and began screening airmen for critical jobs early in February. The unit's mission is to screen and select non-prior-service airmen for assignment in high-risk areas where human reliability and security are major prerequisites. In performing this function we asked ourselves three basic questions: (1) Will the airman's background allow the issuance of a Top Secret security clearance? (2) Does he have the academic aptitude and motivation for the field? (3) Can he be recommended for a high-risk job from the standpoint of human reliability?

If we find that the answer to these questions is "Yes," we believe that we have accomplished our final objectives which are to: (1) improve background investigation technics; (2) reduce technical school eliminations; (3) reduce human reliability losses; and (4) improve the classification function.

For several reasons our screening thus far has been confined to the following career fields:

- 46XX - Weapons and Munitions
- 463X - Nuclear Weapons
- 44XX - Missile Maintenance
- 31XX - Missile Electronics
- 99125 - Special Electronics
- 202 - Radio Intercept Analysis
- 294 - Electronic Intercept Analysis

Our screening operation consists of seven distinct steps as shown in figure 1. The circled numbers in this figure represent

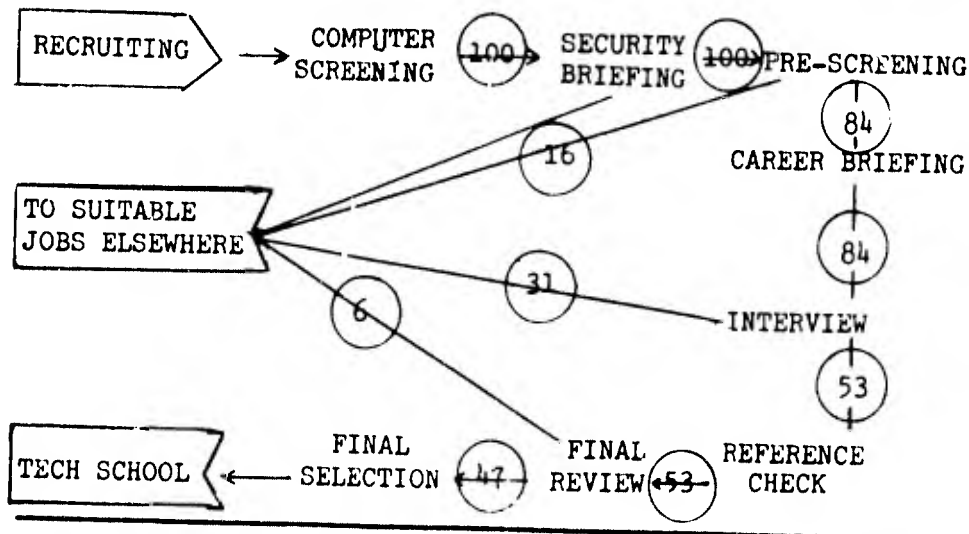


FIGURE 1. Seven steps in screening process.

a typical distribution of 100 airmen going through our screening procedure. The selection ration is approximately 2 to 1 in that out of 100 men considered for a given high-risk assignment only about one-half or 47 men are selected.

I would like to describe briefly what actually occurs at each of these seven steps. The first step in the process is computer screening, identification, and scheduling. Using the RCA 301 computer, all incoming airmen qualified for sensitive assignments are screened. The factors that are considered in this computer screening are the airman's qualifying test scores, his physical profile, his assignment preferences, and enlistment area. Qualified airmen are identified on a machine roster and scheduled for the security briefing which is the second step in the process. During the security briefing, the airman receives a briefing concerning the nature of the assessment screening process. We describe the Human Reliability Program to him as well as the technics that the Office of Special Investigation will use to accomplish his background investigation. The Statement of Personal History, DD Form 398, and a comprehensive Biographical Questionnaire that we have developed are accomplished in this step.

In the prescreening step, the Statement of Personal History and the Biographical Questionnaire are reviewed by the staff of the Assessment Branch. Airmen who are judged unqualified on the basis of information contained in these forms are released from further consideration for a sensitive position. This step accounts for about 16% of all disqualification. The major causes for disqualification at this step are previous psychiatric problems, excessive legal violations, an unstable work history, or excessive nervousness.

During the career field briefing, the airman receives, we hope, a realistic understanding of the nature of the job for which he is being considered. A booklet is provided which gives detailed information for each sensitive career field such as job descriptions, technical school policies and programs, assignment possibilities, and civilian applications of the career field for which he is being considered. This booklet is supplemented by a 35 mm. slide briefing showing various aspects of the job, unique equipment utilized, and the technical training program. In addition, films on weapons and munitions and the USAF Missile Program are shown while airmen are awaiting the interview.

In the interview the counselor will question the airman to determine his goals, interests, motivations, past school

and employment experience, his present military adjustment, and family background. The interviewer must constantly interpret this large mass of data and construct a set of notes which organizes it into a form that will aid him in making an assignment decision. Next, the interviewer decides the type and number of reference sources which should be contacted to complete the screening process. After considering the airman's overall qualifications and the requirements of the job, the interviewer assigns the airman a numerical rating on a five-point rating scale--a 1 rating being the best qualified while a 5 rating releases the airman from further consideration. This step accounts, as we see, for about 31% of the airmen rejected. The major causes for rejection at this step are lack of interest in the career field, nervousness, poor work history, weak educational record, excessive legal violations, and undesirable personality traits.

We consider the reference checks to be one of the most important steps in the screening process. Up to this point all the information concerning each airman comes from the airman and his records. To be sure that this information is complete and accurate, and to gain the advantage of several independent evaluations, questionnaires are sent to reference sources that have been in positions to observe and evaluate the airman's past performance and his character. The presently utilized battery of reference check forms contains employment, educational, credit, legal, medical, and character reference questionnaires in addition to peer ratings obtained during basic training.

The last step in the operation is the final review and selection. Approximately two weeks after the initial interview, each airman's file is reviewed by the interviewer. All returned reference checks and peer ratings are carefully checked. All leads and unanswered questionnaires are followed up by telephonic inquiries. After all derogatory information is summarized and adjudicated, the interviewer assigns a final numerical rating on the 5-point scale which I described earlier. This final rating then is used in the final selection on a best to least qualified basis. As we see, about 6% of the airmen are rejected at this step. The major reasons for rejections here are negative responses by references concerning the airman's honesty, integrity, persistence, ability, and character.

Now I would like to discuss the results of our first year of operations. Last year we processed 17,537 airmen for assignment to high-risk positions using the procedures that

I have just described (see table I). Of these, 8,788 were

TABLE I

Operational statistics

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Total airmen processed	-	17,537
Total airmen selected	-	8,788
Total tech school eliminations	-	87
Elimination rate	-	1%

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selected for assignment to tech school in critical career areas. The total number of those selectees eliminated from technical school was 87 for an elimination rate of 1%. Table II shows a breakdown of those 87 eliminees by reason for elimination. As you can see, 28 of the airmen were eliminated

TABLE II

Reasons for elimination

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Reason		Total
Medical	-	28
Academic deficiency	-	42
Human reliability	-	15
Security clearance	-	<u>2</u>
Total	-	87

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for medical reasons, over which we have very little control. This usually involves color blindness. Forty airmen were eliminated for academic deficiency, and 15 airmen were eliminated under the provisions of the Human Reliability Program.

Only two airmen were eliminated because they did not receive a security clearance.

How do these results compare with the results of previous selection procedures? Table III shows comparison data for two career fields: 31XX - Missile Electronics, and 46XX - Weapons and Munitions. We have selected these career areas because they are particularly illustrative. For one thing, these two career areas account for the largest percentage of our assignments, and they also represent opposite ends of the spectrum in several ways. The 31XX tech school for instance, is one of the most difficult academically, whereas the 46XX field is one of the least difficult. Also the 31XX field is one in which training costs per individual are highest, while the 46XX training costs are considerably lower. As the figures show, prior to Mental Hygiene Division (MHD) screening for the 31XX career field, the technical school elimination rate was 18%. In 1964, with the advent of the screening procedures by MHD, the rate dropped to 8%. During the first half of 1965 in which MHD screening continued, augmented by some experimental processes done by the Personnel Research Laboratory (PRL), the figure dropped further to 7.3%. Finally, in this past calendar year our procedures have brought the elimination rate down to 2%, and we think we can improve on this. In the 46XX field, the elimination rate prior to screening by MHD averaged 8%. In 1964, with the MHD screening, the elimination rate dropped to 2.4%, and in fiscal 1965 with both MHD and

TABLE III

Comparison data on elimination of previous screening procedures

Career field	31XX	46XX
Prior to 1964	18%	8%
MHD screening (1964)	8%	2.4%
MHD and PRL screening (1965)	7.3%	2.3%
Assessment Branch screening	2%	0.6%

PRL screening, the figure remained about the same. This past year our elimination rate in the 46XX field as you see is a rather impressive 0.6%.

Our experiences in the Assessment Branch during this past year indicates that this unit, with its revised technics, is making a substantial contribution to the Air Force Human Reliability Program. We feel that we are providing technical school and operational unit commanders with very high quality reliable, stable airmen. In addition, these screening procedures have produced savings in the hundreds of thousands of dollars in technical school eliminations alone during this past year.

In conclusion, I feel that you can all take a certain pride in the accomplishments of the Assessment Branch. This unit, as Gen. Roadman pointed out in his opening address to this symposium, truly represents a major operational achievement that resulted from the joint efforts of many dedicated clinical, research, and applied behavioral scientists.

## AEROSPACE PSYCHIATRY--RESEARCH CONSIDERATIONS

Terence F. McGuire

I find few things as humbling as contemplation of our universe. It was not until after Columbus's voyages to the New World that Copernicus rocked the worlds of science, religion, and culture by presenting data to suggest that our world was not the center of the solar system, that the earth as well as the other known planets revolved around the sun rather than all revolving about us. Even a century later, the great Italian astronomer Galileo was forced to publicly deny the results of his conclusive experimental support of Copernicus's theories, was placed under permanent house arrest, and was forced to abandon pursuit of astronomical studies because he was so injudicious as to suggest that the planet of proud man was not the center of the universe. Today we know that there are enough galaxies in that portion of the universe of which we have some vague grasp to provide each living human with at least ten complete galaxies of his own and that earth is really but a small planet orbiting a medium-sized star on the periphery of only one amongst uncounted billions of galaxies. The dimensions of this universe are staggering. Mt. Palomar's 200-inch telescope has perceived, near its visual limits, light from galaxies so distant that even at light's tremendous speed it is only now, some five billion years later, that the emitted beams strike our earth. And yet other technics have detected galaxies at distances a large multiple of the five billion light-year figure. It is not inconceivable that man's present telescopes could still be receiving light from some star that in an ancient cosmic cataclysm ceased to exist long before Homo sapiens was yet sapient. It is into this immense and unfor- giving void that man is now making his first faltering steps. Psychiatry has a role in this adventure, and today I would like to touch upon several research aspects of psychiatry's participation, more with an eye toward acquainting you with some interesting peculiarities of these areas than of present- ing a given body of completed research.

The selection of personnel is the most obvious point of departure; but in this area I will limit myself to some reflections not covered by Dr. Perry's companion presentation

on clinical aspects of aerospace psychiatry. As a prelude, it would be appropriate for me to mention the more common characteristics of the Air Force pilot population, which constitutes the largest single reservoir of trained personnel from which men for both NASA's and the Air Force's space programs are selected. Recent studies by Fine and Jennings (1) of our department indicate the average Air Force pilot to be of superior intelligence, averaging an IQ of 119 in their sample by WAIS determination, intelligent enough by this single basic measure to qualify the modal pilot for almost any professional training, including medicine. The first-born of a stable, middle-class, urban, Protestant family, he was raised in a practical matter-of-fact environment emphasizing discipline and responsibility. Typically he developed into a rather organized, pragmatic, concretely oriented, aggressive man of action who tends to be more narcissistic than his civilian peers, handles the more sensitive interpersonal relationships somewhat distantly, does not fully exercise his superior intellectual potential, and derives his major satisfaction from mastery of and competence in increasingly complex airborne vehicles. The drive to continue flying operationally exceeds his ambition for rank progression, duty assignments, or personal power or positions of public recognition; because flying is his prime military satisfaction, the flight surgeon, who has the power to temporarily or permanently ground him for adequate medical reasons, is often considered a threat. He is not truly introspective and more characteristically, if threatened, will attempt to manipulate the environment rather than to look inward and make some personal change in attitude or approach. Emotional implications tend to be denied or discounted. Generally speaking, he is a confident man. In the overview, he is well suited to his choice of careers. Military aviation meets his needs for excitement, responsibility, mastery, and achievement, while also allowing for structured relationships with other males. His need to limit close personal relationships allows him to accept much more gracefully the sudden or prolonged separations from family because of military duties than would his average civilian peer, and aids him in accepting the inevitable loss of friends in aircraft accidents and in combat.

Though the Air Force pilot has been the subject of many behavioral science studies in the past, most of them have been oriented toward guidance in assignment of personnel, such as delineating the necessary abilities for pilot or navigator training or for assignment to radar or control tower duties, rather than studying the personality characteristics

of the group as a whole. Additionally, those studies of even oblique relevance were largely restricted to the more simple and free-wheeling days of the goggles and scarf, rather than the precise, fast-moving, restricted, highly controlled, complex function of today's combat-ready pilot--and we are unsure whether these changes in the character of flying duties have in turn led to any appreciable shift in the personality structure of those now attracted to flying high performance military aircraft as a career. Therefore, research in the area of "the average USAF pilot" is continuing.

Bearing this archetype in mind, we at the USAF School of Aerospace Medicine have had a unique opportunity to investigate an important subgroup of this military pilot population, the hard-driving military "achiever." In addition to the Air Force personnel, we have also had the chance to interview and test pilot-achievers from the other military services plus a scattering of specially qualified civilians, almost all of whom were military trained pilots. The military pilots constitute a group of men who, by their day-to-day performance and by various additional special qualifications they have exhibited or acquired, have come to be identified as men of unusual achievement and potential; they represent to their line officer superiors a proved "slice off the top" of the military flying population. Because of their demonstrated capabilities they were considered "the cream" from which men were selected for military and civilian space endeavors and for various other special project assignments where a consistently excellent level of performance was mandatory. I am rather excited about the evaluation of this group. It is not a common experience for a psychiatrist to have the opportunity to investigate a group of "normals"--or "supernormals" as some have chosen to describe them--and I personally have found this group fascinating.

I am reminded of Grinker's experience with the "homoclite" (2), the name he appended to a group of "normal" or "healthy" male students of widely dispersed geographic origin who were attending a small Protestant college for specialized training either in recreation and group work or in health and physical education. But there are significant differences between Grinker's "homoclites" and this group of hard-working, achievement-oriented, intellectually very superior, men of action. In the psychiatric and analytic literature one encounters considerable variance in the concept and definition of "mental health" and "normalcy,"

this variance being tied to differences in the value systems of the individual authors. Perhaps with this study we can contribute additional information on an unusual segment of the "normal" spectrum. I say spectrum because in the absence of detectable psychopathology, there appears to be a wide range of types who are essentially conflict and symptom free, independent, flexible, productive, and positively oriented toward their fellow men--and one is hard pressed not to call them normal and mentally healthy even if they grossly lack such psychiatrically valued attributes as personal insight or introspective tendencies, more than a modicum of ambition, a sense of humor, or a broad choice of interests. This military achiever group is more than a simple distillate of our average USAF pilot group; it is a distinct subgroup, so far as could be delineated by extensive psychologic testing and by separate clinical interviews of each subject by two different psychiatrists. Each candidate was seen initially for a one-to-three hour clinical interview in which pertinent past history was obtained and present personality structure explored. This was followed by an extensive psychologic testing battery under the direction of a trained clinical psychologist. Since the psychiatric portion of the examination was done over a period of several days on an interdigitating schedule with a thorough physical, a time lapse allowed for communication of the accumulated data to a second psychiatrist whose function it was to explore as thoroughly as possible, during a second one-to-three hour interview, any potential vulnerabilities found. In the total evaluation an attempt was made to define basic psychodynamics, with special attention paid to basic intellectual assets, motivation in both the quantitative and qualitative sense, reality orientation, flexibility, defenses against anxiety, potential for somatization, sublimation of troublesome drives, ability to relate to others, function in small group process, insight and, on some occasions, potential public image. Ideally, at this point I would describe in detail our findings about this prototype aircrewman, who, because of his demonstrated performance, was given the unique opportunity to volunteer for a variety of aerospace and other special project missions--but our analysis is not yet ready for public presentation. However, we expect to report on these findings in the very near future. Lest you feel like a man who thought he had come to the theater to see a feature picture and was shown instead only the previews of coming attractions, let me add a word of explanation.

Selectees for civilian and military space endeavors and for various other special projects where the price of

human failure would be unusually high are almost universally drawn from the military pilot population; therefore, it pays to know something of the personality structure and value system of this basic group. This is true not only because circumstances dictate that those men who are allowed the opportunity to volunteer for these special duties come from this group, but also because both those who decide who the eligible achievers are and those who make the final personnel selection are most frequently senior officers or ex-officers who have evolved from this very same cultural group, ordinarily from the "achiever" segment thereof. In our experience, a volunteer labeled "unqualified" or "qualified with reservation" for psychiatric reasons has been universally eliminated and, though the correlation has in recent times been high between psychiatric recommendation and final operational selection, final selection boards can at times find more compelling selection criteria than the psychiatric distance between a subject who is barely within the "qualified without reservation" range and the more rare man who is considered to operate high in the "exceptionally well qualified" range psychiatrically. Therefore, if we are to understand the man who volunteers for challenging and potentially stressful duties, is subsequently allowed to compete for these positions, and is finally amongst those selected, we need to know more not only about the basic military pilot group but also about the achiever segment from which and by which selection is accomplished.

In terms of psychiatric considerations in the selection process for aerospace activities, one should bear in mind some significant shifts from past mission criteria in regard to crew size, crew environment, and mission duration. With the conclusion of the Mercury series we have likely, for the most part, seen the end of the single crew member phase of our national space endeavors. There were two men aboard the Gemini series and now we enter Apollo with a three-man crew preparatory to lunar probes. The change in crew size has been reflected in our increased concern with the candidates' behavior within small group process. Crew environment is altering in the "shirt sleeve" direction, with space suits not being worn unless dictated by emergency or extravehicular activity; such an environment has already been publically announced for some of our more imminent activities. Despite a decrease of immediate personal restriction in terms of individual garb, the total crew space remains very confining, and privacy for any purpose is essentially unavailable. As regards mission duration, it is a matter of public knowledge that the USAF Manned Orbiting Lab will be aloft for

thirty days at a time with a two-man crew. Once past the lunar phase of our space explorations, an investigation of Mars is the next logical planetary probe. Though Venus is somewhat closer, its furnace-like environment appears so hostile to surface exploration and its eternal dense cloud cover so obstructive to aerial reconnaissance that a Mars mission would be much more practical. But the mission duration for this endeavor will be rather great. According to a NASA publication (3), a minimum energy round trip to Mars would require 970 days, almost three years, with a large segment of time spent in Mars orbit awaiting a favorable positional relationship of the two planets for the return trip. By increasing the energy available by a factor of  $2\frac{1}{2}$ , by reducing the volume of on-board logistical support, and by abandoning some equipment after use, the trip could be cut to 500 days. This would still mean a year and a half of almost uniquely complete isolation and confinement for the crew. Consider some of the stresses involved, bearing in mind the type of men who will make up the crew. The volunteer pool for these programs is skewed toward men of action who enjoy vigorous outdoor activities, who like to control their environment, who find close interpersonal relationships more difficult, and who are not typically characterized by high levels of insight. They will be confined to a small space for a protracted period and their on-board duties, with some exceptions, will be largely restricted to that of a systems monitor, responding with corrective action only when the system state deviates from a specific mode or ground control dictates, and assuming that controlling position only as long as necessary to re-establish programmed function. Those who long for occasional solitude or privacy will be unable to find it; following the almost inevitable direct or indirect confrontations, there will be no avoiding the immediate proximity of one's antagonist and little postconflict opportunity to ventilate without hazarding a continuation of the strife and an involvement of other crew members. Additionally, personal isolation within the crew is possible in terms of the "silent treatment" for an offender, and one would expect this to be a rather threatening weapon under such circumstances, especially in this somewhat extroverted group. There will be a diminished stimulus variety because the work area, job satisfaction, and personnel with whom one has direct contact have all been greatly constricted and a spectrum of diversions for "off-hours" is not available; stimulus hunger could develop. In a gustatory sense, the menu will leave much to be desired and will have limited variety. Aside from the long separation from love objects and the lack of any heterosexual companionship, one would

expect sexual tensions to rise in the long period of enforced sexual abstinence. Exploration of itself implies unknowns, unknowns with which he hopes he can cope. One is continually threatened by a hostile external environment and pressured from within by the practical need to control his own impulses and to keep the peace amongst crewmembers. There is also the threat of ill-health, without the availability of direct medical aid--and experience would lead one to expect some somatization during the prolonged missions (4), possibly with some increased anxiety since no doctor is immediately at hand. His work-sleep schedule may well be irregular, depending on such problems as the decay in attention when monitoring duties are prolonged, the cross-training of crew members, and the like.

These considerations bring to mind some interesting thoughts. For instance, if you knew three or so years in advance who were to be crew members for a very long mission, would you suggest or offer psychoanalysis as part of their mission preparation, hoping that such training would reduce to a minimum the amount of interpersonal conflict and possibilities for neurotic malfunction during a mission of many months, especially if the mission does not go as planned? Imagine for example a highly intelligent, highly competitive, aggressive, and capable, but not insightful, man some portion of whose motivation for space activities originated in a reaction formation to a basic problem with dependency--and I have seen such men amongst special mission candidates; how great would the pressure upon him be during such a long mission if all radio communications with earth failed, if his electronic umbilical cord were cut? Aside from the assurance and guidance such communications with "guardian angel" personnel implies, it would also mean loss of any thread of communication with wife, children, and other meaningful people. On the other hand, such an increase in insight as would be expected of a successful analysis could remove some previously effective, though normally considered less desirable, defenses against anxiety and could conceivably produce some response delays in initiation of various defensive actions of a previously near-reflex nature. Also, under the influence of analysis, some men could abandon entirely their commitment to the aerospace program of which they were part, finding their original motivation faulty. There is little doubt that some men with strong motivation for the program would cooperate only to the extent of allowing themselves to become physically but not truly emotionally involved in the analytic process. The question of the advisability or nonadvisability of psychoanalysis or some

sort of uncovering psychotherapy for crews of especially long, confined, hazardous missions is indeed something with which to conjecture.

The literature on the small group process is not particularly extensive if one restricts his perusal to situations which involve hazard, isolation, and very small groups. The Air Force has studied men on isolated duty such as remote radar stations, as well as small experimental groups during protracted confinement in altitude chambers or ground-bound cabin environments. There are also largely anecdotal accounts of actual catastrophes and long-term isolation stress amongst explorers, sailors, various small military units, and analogous groups. Some of the more pertinent studies have come from the Navy, especially the investigations of group response in the setting of small Antarctic stations (5, 6). Sometimes with crews as small as five or eight, these stations can be totally cut off from outside contacts for eight or nine months at a time with personnel confined to close quarters. The methods of psychiatric screening of volunteers prior to assignment to the Antarctic were much less extensive than those currently in use by the Air Force, including only a half hour clinical interview and a Rorschach, but not only eliminated vulnerable individuals in a negative selection sense but also demonstrated a low positive correlation between predicted and reported levels of performance. Effective individual performance over a year's tour was related to the sum of three trait clusters grouped around emotional stability, task motivation, and social compatibility--mission effectiveness being scored in a global sense by both supervisor rating and peer nominations. There are gross differences between the Navy volunteer pool for Antarctic duty and the military achiever pool upon which we have drawn, but this does not discount the pertinence of their observations to the Air Force selection problem. In their studies, a pattern of affective change was identified; there was an initial period of anxiety as the mission began, followed by a long "settled" plateau and concluded by a short period of anticipated termination during which time there was a diminution of the affective repressive activity, with increased aggression and a decline in performance efficiency. With the limitations of activity and restricted stimulation of the long isolated period, there was an increase in emotional and somatic symptoms which involved a major segment of the base (or crew) population, especially as reflected in sleep disturbances, depression and irritability.

In culling the literature, one encounters the repeated observation that well-motivated crew members, especially in the circumstance of interdependence for survival, are capable of suppressing considerable levels of antagonistic feeling in the service of mission completion. Within military aircrews it has long been recognized that in normal flying operations a member is valued by his crew peers more for his technical capability than for his sparkling personality and that his eccentricities will be accepted, or at least borne, if he is competent and can produce at a high level. However, the space probe differs from the usual situation because social interaction becomes totally limited to the crew, to the complete exclusion of other outlets for prolonged periods.

There is an additional area worthy of consideration and continued investigation as regards space activities. This is in the field of psychophysiologic response. We owe a considerable debt to investigators like Mason (7) whose work has demonstrated with increasing clarity, both in animals and men, that there are potent endocrine responses to emotional stress which outlast that stress by days or weeks. Research has reached the stage with improved biochemical technics for hormonal assay where it is difficult to exclude any endocrine system as being entirely free of the influence of emotions. Long ago came the dawning realization of autonomic-adrenomedullary sensitivity under physical and emotional influences "in preparation for fight or flight." This was recognition of an acute mass response. But as is almost inevitably the case with research, basically simple concepts have a way of becoming increasingly complex as our knowledge expands and more and more qualifying circumstances become known. For the moment let me subdivide these autonomic and endocrine psychophysiologic responses into two categories in relation to space activities. On one hand, the temporally extended endocrine responses have the potential to produce compromising psychophysiologic dysfunction or even recognized "disease" during long flights where, for instance, some unexpected system malfunction is recognized as presenting considerable threat not now but at a point some days or weeks farther in the mission. Or, more likely, such a reaction could be keyed by a repressed or suppressed conflict, perhaps one repeatedly fed by an intense and inescapable interpersonal difficulty within the crew structure. The likelihood of these longer term physiologic responses significantly compromising individual function would appear remote, at least until mission duration becomes measured in months rather than days or weeks. Nevertheless,

the more we know of these physical responses to sustained intense affect states, the better prepared will we be both in terms of selection and on-board treatment by drugs or other measures.

The other more immediately pertinent area of psychophysiology inquiry is that of patterned responses to specific affect states. This concept owes much to Ax, Engel, Hickam, Schachter, Funkenstein, Mason, and others. That these affect related physiologic patterns are stereotyped as regards multiple physiologic variables has been questioned by other capable investigators such as the Lacey's (8), who feel other processes of behavioral significance additionally influence the response pattern. I have had the opportunity myself to work under controlled experimental conditions with cardiovascular stresses of a much greater magnitude than most investigators; though not physically dangerous to the subject, these graded stresses called upon his full compensatory capacity and could not be considered as neutral stimuli by any subject involved. These studies were done in the mid-fifties on military volunteers and were not reported because the project aims and some of the equipment used were classified at the time. In regard to the topic under discussion, I became fascinated by the spread, or spectrum, of tolerances manifested by a series of subjects who were comparable as to image, physical fitness, and other recognized physical parameters. For instance, in terms of time to reach objective physiologic end points within a given stress area, one man's physical tolerance could be a large multiple, as high as 60, of the next--a rather impressive figure. Repeated experiments suggested physiologic patterns evoked by peculiarities of the various stresses, with modifications imposed by genetic endowment, organic disease residua, or conditioning, plus the impact of psychic factors. A small series of individuals could be calibrated within a stress, each repeatedly giving a consistent response. Then, through hypnotic distortion of his affect state during stress, the objective physiologic performance of the individual subject could be significantly and often rather rapidly altered in predictable directions. These findings remained consistent through a series of thirty-one experiments. Additional corroborative evidence was supplied by subjective reports of emotional response to the stresses by individual subjects and correlation of these reports with their observed performance. A hierarchy of affect states, in terms of physiologic tolerance only and without reference to attendant psychomotor or intellectual efficiency, was evolved with anger-out leading the list followed by competitive or challenge responses, anger-in, and

lastly by marked anxiety or fear. There was a small group of middle ground performers who denied any conscious emotional response to the stimuli; this would appear to be either an unconscious denial or a conscious masking of an unacceptable emotion. The need for greater understanding of the psychophysiology of acute physical stress is apparent if one accepts the premise that compensatory or homeostatic physiology can have its efficiency acutely altered by strong affect states and that given individuals tend rather repetitively to produce specific affective states under threat of annihilation or mutilation. Therefore, we are once again moving in the direction of psychophysiological investigation.

I have tended to wander a bit, especially into two areas of personal fascination, psychiatric selection for hazardous duties and problems of stress psychophysiology. In the frame of reference of today's topic, the major problems of each of these will become more pressing some years hence when our space probes extend their time lengths well above current durations. But one must remember that already today, the astronaut's problems have their analogues in the small Antarctic station, the remote DEW-line radar installation, the nuclear submarine, the guerilla warfare unit, underwater demolition team training, the small group of Special Forces personnel working with a South Vietnamese unit but with both surrounded by a sea of hostile Viet Cong on a remote Vietnamese plateau, contemplated static undersea research stations, and the like. With each there is some sort of relative confinement with an essentially unchanging small group of companions, constant need to be alert against a threat of annihilation or mutilation, and being forced to deal with unknowns. The problems of adequate psychiatric selection for hazardous duty have been with us for some time and our total fund of psychiatric and psychophysiological knowledge may not be adequate for our future needs.

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#### DISCUSSION

DR. KOLLAR: I enjoy these meetings for many reasons--not only is there an opportunity to return to one of the haunts of younger days, but there is always much good fellowship and the opportunity to be serious about seemingly far-out matters. Col. McGuire's paper is concerned with sufficient far-out topics so as to meet this latter need quite adequately. I enjoyed his paper very much.

He implies that the manpower pool which has supplied our present crop of astronauts may not be the proper source for astronauts of the future. He fears that the longer trips of the future with their enforced passive inactivity in close quarters will

demand personality traits not prominent or sufficiently well developed in men making up the present manpower sources for astronauts.

Col. McGuire suggests that perhaps a selection program may solve these problems. Because only a very few men need be selected from an essentially unlimited source, I can agree on theoretical grounds that selection may be a way of meeting these anticipated difficulties. However, on the basis of past Air Force experience it is important to keep in mind some of the practical limitations of selection programs. Even if we assume that we will shortly be able to define personality characteristics in terms that will permit us to assay and measure these qualities, we cannot be sure that we can delineate on an a-priori basis those characteristics or the constellation of traits that will tend to ensure success in space ventures. In the past, the Air Force has developed and made good use of psychomotor tests for the selection of pilots. However, in spite of considerable expense and extensive efforts the Air Force has not been able to devise a really effective personality test for pilot selection. If time permits perhaps we can get Dr. Balsler to comment on the Personality Selection Study which was conducted by Saul Sells in the School of Aviation Medicine when it was located at Randolph Field during the 1950's. This project was abandoned after several years because an effective battery of tests had not resulted from their efforts and it seemed unlikely that one would be forthcoming if the study were to be continued.

Col. McGuire goes on to suggest that psychoanalysis or intensive depth psychotherapy be made available to all successful space candidates to rectify undesirable traits and to strengthen and develop desirable qualities. In other words, train the explorer in outer space with excursions into inner space. Col. McGuire does not seem to be greatly interested in such a program so I shall not take him to task for considering it. I doubt if his "military achiever" would take kindly to such a program and I would predict a degree of success somewhat less than is achieved in most training analyses. I am grateful that he does not recommend LSD training trips.

The last part of Col. McGuire's paper is devoted to the study of stress and the factors which modify individual responses to noxious or dangerous life situations. He points out, and I feel correctly so, that there is a need for more studies of the influence of such factors as motivation and small group dynamics on the individual's ability to cope with stress. He seems to be particularly interested in a psychophysiological approach, and he advocates giving a high priority to psychophysiological inquiries of patterned physical responses as correlates of specific affect states. I, too, am particularly interested in psychophysiological research, but I feel such studies should be done with a broader theoretical approach than Selye's stress constructs or Cannon's fight or flight principles. It is important to keep in mind that other than for the affects of fear and anger we cannot talk of physiologic correlates. We cannot point to the physiologic patterns which accompany the affects of depression, joy, love or, for that matter, any affect other than fear and anger. In spite of our sophisticated methodologies and the advancements in instrumentation and research technics, we have not progressed much beyond Cannon in establishing a theory of emotions. Too much of our present psychophysiology is just a refinement of Cannon and not an advancement beyond Cannon.

Perhaps I can make this last point clearer by referring to some of the simulated stress studies which we have been conducting at UCLA. For instance, we have been impressed that neither acute starvation nor sleep deprivation up to 205 hours induces Selye's stress response of sympatho-adrenal activation. However, our subjects and the staff are all in agreement that these experiences of food and sleep deprivation are stressful even though they do not fulfill Selye's criteria of stress. Neither could we find any basis for considering that sleep deprivation produced psychosis or psychopathologic changes which extend beyond the period of sleeplessness. The finding is contrary to the currently held position that sleep deprivation is a potent psychotogenic agent.

During our last sleep deprivation study in which four subjects stayed awake for 205 hours, the following unexpected event occurred which I would like to relate because it points out some of the

complex factors which must be taken into account in stress studies that simulate situations which astronauts might be expected to encounter and endure. In this study psychophysiologic measurements were taken four times each day on each subject while he was in a darkened room performing a number of tasks. One of the tasks was the tracking of patterns on the screen of an oscilloscope. After 150 hours of sleeplessness, one of our subjects suddenly went "beserk" while these measurements were being made--he screamed in terror and pulled his electrodes off and then fell to the floor sobbing something incoherent about a gorilla and repeatedly asking to be taken off the experiment.

Luckily, I happened to be in the area and when I went in to see him, I was impressed that he was behaving like a child having a night terror. I asked him if his reaction was anything like any of his previous experiences including experiences when he was a small boy. To our delight and surprise, he confirmed this and talked with much affect of his night terrors as a small boy. These consisted of seeing Humpty-Dumpty, "like in the picture books," being harassed by a gorilla. As he was tracking on the oscilloscope screen, it gradually changed and became Humpty-Dumpty, and the gorilla appeared in a corner of the room, then moved down and blended with Humpty-Dumpty to form a composite figure which then moved menacingly toward him. He then sobbed bitterly and talked about his father--"that son of a bitch, he was nice to everybody else and they liked him, but he used to beat us." Armed with this material, his reaction in the psychophysiologic lab was interpreted to him. The other subjects who observed most of this episode joined in the discussion which followed and were most understanding and helpful. They proved to be most competent co-therapists. In a few minutes he was asking not to be taken from the experiment "because of a little thing like that." He went on to tell that the Humpty-Dumpty-gorilla visions had been occurring during the previous runs, but he was too ashamed to report them then. The run following this panic episode he again pulled the electrodes and bolted from the subject room but calmed down quickly after he left the darkened room. The next run was without incident and he reported that he had whipped his problem.

There are numerous explanations which can be postulated; however, I have related this vignette from our studies mainly to make the point that one should question all previous dogma and through a broad-based approach be prepared for the unexpected in doing stress studies.

It is my hope that Col. McGuire and the Psychiatry Branch of the School of Aerospace Medicine will continue an active involvement in such studies. There are much to learn and much basic work to be done. They have my best wishes in their endeavors.

## DAILY ADMINISTRATION OF UNILATERAL ECT

Richard Abrams

### BACKGROUND

In 1957 Lancaster et al. (3) first induced therapeutic generalized convulsions by applying electric current to one side of the skull as opposed to bitemporal application as previously done. They wished to reduce confusion and memory disturbance, and they chose the nondominant hemisphere because they felt that damage there would not be as important as on the dominant side. In 21 patients receiving unilateral ECT, orientation and recall returned much more quickly than in 15 controls receiving bilateral ECT. In addition, automatic behavior, dazed expression, and restlessness were more prominent after bilaterally induced convulsions. There was no significant difference in therapeutic efficacy between the two treatment technics.

Remarkably enough, nothing further appeared in the literature on the subject until 1962 when Cannicott (1) reported essentially identical results using a larger number of patients and more convulsions per patient (an average of 6.3 treatments as opposed to 4 treatments used by Lancaster et al.).

In 1965 Martin et al. (4) reported a series of patients in which both the experimental group and the controls received 10 ECT. Examination with the Wechsler Memory Scale following the treatment series revealed that the unilateral group actually increased their score compared to a decrease in the bilateral group.

Zamora et al. (5) performed the definitive experiment of applying unilaterally ECT to the nondominant hemisphere in one group of patients and the same treatment to the dominant hemisphere in a control group. Using the Wechsler Memory Scale, they also found a significant increase in post-ECT scores in patients receiving unilateral ECT to the nondominant hemisphere and the opposite effect in patients receiving the identical treatment to the dominant hemisphere. This demonstrated conclusively that the reduction in confusion

and memory loss with unilateral ECT was due to the passage of the current through the nondominant hemisphere and not merely to the delivery of less electric current to the brain. The authors felt that the increased scores were due to improvement in ability to concentrate rather to any real increase in memory function.

The purpose of the present study was to evaluate the feasibility of administering unilateral ECT on a daily basis permitting more rapid treatment and shorter hospital stay for patients requiring this form of therapy. Daily application of bilateral ECT was tried in the past (2), but the rapid appearance of confusional states with complete disorientation was a severe drawback. As noted above, previous authors using unilateral ECT thrice weekly found a striking absence of post-ECT confusion and memory loss without any statistically significant difference from bilateral ECT in therapeutic efficacy (1, 3, 4, 5). Therefore, no attempt was made in this study to evaluate the therapeutic effect of unilateral ECT.

#### METHOD

The case material consisted of 10 patients ranging in age from 18 to 30 years who were admitted to the USAF Hospital, Sheppard AFB, Tex., during 1965-1966. All patients were acutely schizophrenic with onset of illness less than 3 months prior to treatment. After the need for ECT was determined, the patients were assigned to one of two groups by a toss of the coin. Group A (4 patients) received unilateral ECT to the nondominant hemisphere 3 times a week (Monday, Wednesday, Friday), and Group B (6 patients) received the identical treatment 5 times a week (Monday through Friday). Each patient received 20 treatments.

Hemispheric dominance was assumed to be the opposite of skeletal-muscle dominance, which, in turn, was evaluated by three simple tests: (1) The patient was asked to roll a sheet of paper into a "telescope" and, holding it in one hand, peer through it using one eye. (2) The patient was required to walk up to and kick a crumpled piece of paper. (3) The patient was asked what his handedness was and whether it had ever been different. All patients stated they were right-handed and tested right-handed on at least 2 of the 3 test items. Thus, all patients received unilaterally ECT to the right hemisphere using the method of Lancaster et al. (3).

The Wechsler Memory Form I was administered to each patient prior to the first ECT and within 8 hours after the

20th ECT. The effect of practice was assumed to be equal for both groups. For the reason previously noted by Zamora et al. (5), the visual subtest of the Wechsler Memory Form I was omitted and only the raw scores used.

The patients were pre-medicated with atropine, methohexital, and succinylcholine. A Reuben Reiter Mol-AC II machine was used, and each patient received one second of treatment at the "medium" setting.

### RESULTS

The mean pre-ECT Wechsler Memory Score for Group A was 50.6 (S. D., 7.8) and for Group B, 47.9 (S. D., 12.7). The mean post-20th ECT Wechsler Memory Score for Group A was 54.4 (S. D., 7.8) and for Group B, 47.7 (S. D., 10.6). Using the t-test for small samples, no statistically significant differences were found between the mean scores of groups A and B either before or after treatment.

Clinically, no patient in either group ever showed confusion, memory loss, disorientation, or incontinence. One patient finished a course of 20 ECT given 5 days a week and went on pass the afternoon of the last treatment day to successfully take care of some pressing legal matters.

### DISCUSSION

Although the number of cases presented is too small to yield definitive statistical conclusions, it is quite clear that unilateral ECT can be given daily without any clinical signs of impairment of mental functioning so marked in the old "regressive ECT." This may be of especial interest to the private practitioner who has often to treat patients who have a limited number of insurance-paid days in hospital or who must be treated during a vacation period.

### SUMMARY

In comparing two groups of schizophrenic patients who received ECT to the nondominant hemisphere 3 and 5 times a week, respectively, no statistically significant differences in scores on the Wechsler Memory Form I were observed after a series of 20 ECT. In addition, the author and the nursing staff did not observe confusion, memory loss, disorientation, or incontinence to occur in any of the patients treated.

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## DISCUSSION

LT. COLONEL SPARKS: I appreciated reading Dr. Abram's paper and being asked to discuss it because I've seen a definite decrease in the use of the ECT as a form of treatment by our staff members who have better training and who have a background in various other technics of treatment. At present, we treat approximately 1% of the inpatients with ECT. The figure has gone steadily down to that level. Two years ago, we had 6% of our inpatients treated with ECT, and four years ago, 10% of the inpatients were treated with ECT. At the present time, we are using a new form of treatment with the same goal in mind as expressed by Dr. Abrams in his paper, decreasing the amount of confusion and, thereby, increasing the patient's ability to return to society in a functioning capacity as soon as possible. While I can state that we have done a few of these new types of treatments and that the few patients that have returned are similar to the patient that Dr. Abrams mentioned, the only followup we have relates to one who left on a pass on the day of treatment and was able to take care of pressing legal matters, and the second one who left four days later to go home to cook a meal. All of ours were female.

I think, in general, our interest in using these organic therapies involves decreasing the patient's time in the hospital, decreasing his time of nonfunctioning posttreatment, and increasing the chances of an early return to society to work on a change in behavioral pattern or relationships which were related to the onset of illness either in his family or elsewhere. We have found, in some cases, ECT was the only way to help the patient return rapidly. I am sure this is true both here and at Sheppard.

We have used bilateral ECT only, varying machines, hoping that there would be some difference in the posttreatment confusion. We have not used unilateral treatments, but as a result of this paper, we definitely will if the effects are as indicated. I wanted specifically to locate where the electrodes were placed in the unilateral treatment. In reviewing the articles by Dr. Abrams in his bibliography, I noted a specific area mentioned that should be avoided if doing unilateral technic of treatment. The best placement is just above a line extending from the lateral aspect of the orbit on the nondominant side-- a line specifically between the lateral aspect of the orbit and the oracle on the nondominant side with the second electrode 70° posterior and 3 inches above that line so that the two electrodes are here and here (demonstrated). If you go much further back than that, apparently there are visual disturbances that remain for several days. At least one of the studies mentioned this also.

I did have some questions about the number and types of patients that Dr. Abrams had in the study. I asked him about it before we started the discussions today. Eight of the patients were female, and two were male, and all were schizophrenic. ECT has been recommended as a prime technic for treating depressed patients, and one of the articles at least, used depression as the most important criterion for starting treatment. Dr. Lancaster, in 1958, listed his criteria for use of this treatment. He would use it in the elderly arteriosclerotic who is depressed and anorexic, in the intelligent individual who has a need to remember something in order to maintain himself in any sort of position, for instance, someone working in an office where he must remember certain patterns of behavior, and in the patients who are less than 40

years of age and who are neurotically depressed. He recommends bilateral ECT in patients who are delusional and depressed, suicidal and depressed, who have not responded to 6 unilateral treatments, or who are catatonic schizophrenics.

I appreciated reading Dr. Abrams's paper, and I feel sure this paper will influence our treatment pattern here. At least we now have available a new variety of technic in training our residents so that they may decide to use unilateral technic ECT rather than bilateral, Indoklon, or chemotherapy and thus have one other resource at their disposal which may less severely affect the patient in the convalescent period.

## PSYCHOTROPIC DRUGS

David E. Sosin

The term "psychotropic" was introduced in 1957 Gerard to describe those drugs which act on one or both of two major symptom complexes--namely, agitation and depression. The first group of psychotropic drugs is called tranquilizers; the second group is called psychomotor stimulants, anti-depressants, and energizers. Since the development of chlorpromazine in 1952, a new vocabulary has sprung up to describe various compounds which have an effect on the mind. The following three terms are in common usage:

1. Tranquilizers. A group of phrenotropic (having an effect on the mind) compounds whose effects are exerted primarily at a subcortical level so that consciousness is not interfered with, in contrast to hypnotic and sedative drugs, which also have a calming effect.

2. Ataractic drugs. From "ataraxia," meaning absence of anxiety or confusion; cool and untroubled calmness. The noun "ataraxics" was proposed by Fabing. This term is synonymous with tranquilizers.

3. Antidepressants. Psychoactive drugs used in the treatment of depression.

The use of drugs for the treatment of psychiatric disorders has become widespread only since the mid-1950's (1). Barbiturates and bromides were commonly employed for the treatment of anxiety and insomnia, but drug treatment of psychiatric problems was not favored by most practitioners. Drug treatment in psychiatry is still primarily empiric because the pathophysiology of psychiatric disorders has not been determined. Neither drugs nor other somatic treatment can give the insight to the patient that can be achieved by psychotherapy. Whether insight is desirable in a given case is a moot point. Drugs, however, can modify the emotional and mental state of a patient to make him more receptive to psychotherapy; for example, an agitated manic patient may be sufficiently calmed by chlorpromazine; a highly anxious patient may feel soothed by chlordiazepoxide; and a depressed,

withdrawn patient may be aroused by imipramine so that he can communicate with the therapist, when, without drugs, this would be difficult.

It is important to point out that a psychiatric diagnosis does not in itself, determine the nature of drug therapy. An individual who is suffering from severe anxiety and has a history of psychotic episodes may respond more to a drug such as meprobamate or chlorthalidone than to a phenothiazine. Considerable clinical judgment is required in determining what drug or combination of drugs is needed by a particular patient at a particular time.

The classification of tranquilizers as minor or major is based on differences in the pharmacologic actions and clinical uses of the prototype agents in each group. The minor tranquilizers are used mainly for the symptomatic treatment of common psychoneuroses and as adjuncts in somatic disorders complicated by anxiety and tension. They are not effective in controlling severely disturbed psychotic patients, although they may be useful occasionally as adjunctive therapy in some of these patients. The minor tranquilizers closely resemble the barbiturate and nonbarbiturate sedatives in some respects; for example, they may produce psychogenic and even physical dependence in individuals who take them in excessive amounts for long periods. A somewhat lower incidence of drowsiness when equally effective calming doses are given is the main difference between these drugs and the older sedatives. The margin between doses that produce desirable and undesirable degrees of sedation is relatively narrow with most of these compounds.

The major tranquilizers differ from the minor ones in that they reduce psychotic symptoms in many patients, and thus they are useful in the treatment of acute and chronic psychoses. Practically all major tranquilizers belong to the phenothiazine group. Their value in treatment of psychoneuroses and psychosomatic conditions has not been as clearly established. The most important pharmacologic characteristics of the major tranquilizers are:

1. Antipsychotic activity--that is, the ability to calm aggressive, overactive, disturbed patients in a manner apparently unrelated to the soporific effects of large doses.

2. Inability of even large doses to produce deep coma and anesthesia; animals and patients show both behavioral and electroencephalographic arousal when stimulated.

3. Production of reversible and irreversible effects on the extrapyramidal system, leading to the development of related signs and symptoms.

4. Lack of any tendency to cause psychogenic or physical dependence.

The choice of tranquilizing drug for the individual patient remains empiric. There is no way to foretell accurately his clinical response or the toxic potential of the drug for him. In view of the multiple factors which modify drug-induced effects (personality structure of the patient, type of emotional conflict, environment in which drug is given, attitude and personality of the administering party, as well as pharmacologic effects of the drug), it is not surprising that there are individual variations in the dosage level necessary for clinical effects and in the dosage at which side effects appear; nor is it surprising that a patient should react differently to different drugs of essentially similar properties, or even to the same drug on separate occasions. It is worth emphasizing that failure of a patient to respond to the first drug tried does not necessarily mean that he will not respond to others.

#### MINOR TRANQUILIZERS

Patients who respond to treatment with minor tranquilizers usually will respond to properly selected doses of the classic sedatives; however, the minor tranquilizers may be useful for patients in whom sedatives cause a loss of alertness. In addition, their wider margin of safety in the event of massive overdosage may make them preferable to the barbiturates for patients who are considered to be potential suicide risks. When administered in large oral or parenteral doses, some of the minor tranquilizers (e.g., Librium) occasionally help to overcome more severe psychomotor hyperexcitability. For example, they have been used to treat hyperactive alcoholic patients suffering from withdrawal reactions or delirium tremens. Most of the minor tranquilizers exert skeletal muscle relaxant and anticonvulsant effects in animals after large doses are given experimentally; however, the favorable results reported may be attributed to sedative effects of the drugs, rather than to any relaxant effect on muscle spasm. They have had only limited usefulness as anticonvulsants, although Librium has been tried with some success in this area.

## Adverse Reactions to Minor Tranquilizers

The minor tranquilizers are relatively safe when used in the small doses required for relief of anxiety and tension. Overdosage with the tranquilizers is less likely to result in severe coma, vasomotor collapse, and respiratory failure than is overdosage with the barbiturates. Prolonged administration may produce signs of autonomic imbalance, but this occurs less frequently with the minor tranquilizers than with the major ones, and symptoms are less severe. Nevertheless, numerous reports of minor untoward effects have appeared. Drowsiness is the most common reaction, and ataxia, dizziness, and headache occur occasionally, especially during the first few days of treatment. Gastrointestinal discomfort, dryness of the mouth, nausea, vomiting, rash, chills, fever, and other signs of drug idiosyncrasy or hypersensitivity also have been noted. Blood dyscrasia and jaundice have been reported rarely. Patients who have taken excessive amounts for long periods have become dependent on some of these drugs, as indicated by the occurrence of mild to severe withdrawal reactions when the drugs were abruptly discontinued. These reactions, including delirium and convulsions, have been as serious as those produced by the barbiturates. Suicidal attempts in which massive doses of these drugs were ingested have led to coma, shock, and even death; however, substantially fewer deaths have been reported from overdoses of the minor tranquilizers than from overdoses of the barbiturates. Of particular importance is the additive effect which may occur when a minor tranquilizer and alcohol are used concomitantly. Especially during the early period of dosage adjustment, patients should avoid undertaking activities that require mental alertness, judgment, and physical coordination, such as driving a car or operating dangerous machinery. The physician should maintain close supervision over the amount and duration of use of the minor tranquilizers, and he should avoid writing prescriptions that are valid indefinitely. If patients have been taking large doses for long periods, the drug should not be discontinued abruptly, since this may lead to restlessness and other signs of psychomotor excitability. Although serious adverse reactions affecting the skin, blood, and liver have been relatively rare, caution is required in prescribing some of these drugs for patients who have a history of allergic dermatoses, marked capillary fragility, blood dyscrasia, impaired renal function, or hepatic disease. It is suggested that blood counts and liver function tests be made periodically in patients who are receiving these drugs in large doses or for an extended period. Physicians should be alert to the appearance of such symptoms as sore throat, fever, and weakness

in patients taking these drugs. If these symptoms appear, the drugs should be discontinued and white blood cell and differential counts should be made. If the minor tranquilizers are considered for administration to pregnant women, the possibility of risk to the fetus must be weighed against the expected therapeutic benefits.

### Chlordiazepoxide (Librium) and Diazepam (Valium)

These are both excellent drugs. Librium was introduced in 1960 and Valium, in 1963. They are very similar compounds structurally. Librium is superior when the component of agitation is most marked. Valium is excellent when anxiety and mild depression coexist. The most common adverse effects of both compounds are drowsiness, dizziness, fatigue, and ataxia, and they occur more frequently with large doses. Withdrawal symptoms, including convulsions, have occurred when either drug was abruptly discontinued after prolonged use of large doses. For example, in one study ten of eleven patients receiving 300 to 600 mg. of Librium per day (about ten times the usual therapeutic dose) for several months experienced withdrawal symptoms within a few days after they were abruptly switched to placebo. Although anticholinergic actions have not been reported, it is advised that Valium not be used in patients with glaucoma. The dosage range of Librium for patients with mild to moderate anxiety is 10 to 50 mg. q.i.d. Valium may be given in doses of 5 to 15 mg. q.i.d. For impending delirium tremens or severe alcoholic agitation, 100 mg. of Librium may be given by mouth or I.M. or even intravenously. This is to be followed with 100 mg. q.i.d. for several days, until the patient is calm. Then the dose is gradually cut back to 75 mg. q.i.d., and then to 50 mg. q.i.d., with maintenance at about 25 mg. q.i.d. for several weeks. Though these dosages may seem unusually high, it should be remembered that we are considering a severely agitated individual who otherwise would have to be controlled with rather large doses of paraldehyde.

### Meprobamate (Miltown, Equanil)

This was the first of the minor tranquilizers. It was developed by Berger in 1954. Although its popularity has been somewhat challenged by chlordiazepoxide and diazepam, the drug remains one of the most widely used agents for dissipating anxiety. This compound probably is more addictive than the others. The usual dosage is 400 to 800 mg. q.i.d. In ordinary doses, meprobamate appears to be as safe as, or safer than, barbiturates. Various allergic and hematologic disorders

have been reported, however, and a hypotensive effect which is more pronounced in elderly individuals is commonly seen. It is associated with the development of aplastic anemia, thrombocytopenia, leukopenia, agranulocytosis, and erythroid hypoplasia in a small number of cases. Allergic reactions occur in from 0.2% to 3.4% of patients, according to various series. Compulsive use and physical dependence can definitely be produced by this drug. Withdrawal symptoms include convulsions, coma, psychotic behavior, and even death. The dosage level is critical in determining whether a withdrawal syndrome will occur. The withdrawal syndrome occurs more quickly than with phenobarbital. Recent studies have demonstrated withdrawal symptoms with daily doses of 1,600 to 5,800 mg. One study showed symptoms resembling delirium tremens within 36 to 48 hours after abrupt withdrawal from a dosage of 3,200 mg. per day. It is therefore recommended that the total daily dosage not exceed 2,400 mg. per day. Meprobamate, as well as other minor tranquilizers, may produce improvement in patients who have been refractory to phenothiazines alone.

Hydroxyzine Hydrochloride (Atarax)  
and Hydroxyzine Pamoate (Vistaril)

This is a minor tranquilizer which is sometimes classified as a sedative-antihistaminic. It has useful antiemetic and antihistaminic effects and can control anxiety, agitation, chronic urticaria, and other manifestations of allergic dermatoses. The proposed usefulness of the drug in controlling cardiac arrhythmias has not been established. The average effective dosage is from 25 to 100 mg. q.i.d.

MAJOR TRANQUILIZERS

The major tranquilizers, of which chlorpromazine is the prototype, are used primarily for their calming, anti-psychotic effect. Unlike the barbiturates and other sedative-hypnotics, however, their action does not produce unconsciousness unless massive doses are given. Thus, by using these agents it is possible to control deeply disturbed patients without causing depression of vital centers. Most major tranquilizers may be classified as phenothiazines. These drugs as a class are among the most widely used in the practice of medicine today. There are presently over two dozen phenothiazine drugs used in medicine, with half being employed for psychiatric conditions. Phenothiazine itself was first synthesized in 1883, but was not used until 1934 when it was tried as an anthelmintic, urinary antiseptic, and insecticide.

Promethazine (Phenergan), the first phenothiazine derivative, was developed in the 1930's and was found to cause a marked prolongation of barbiturate sleeping time in mice. This led to a search for other phenothiazine derivatives with potentiating actions as well as greater central activities, and in 1950 Charpentier synthesized drug number 4560 RP, or chlorpromazine. Two years later Laborit and co-workers discovered that this drug can produce artificial hibernation. They noted that chlorpromazine by itself did not cause a loss of consciousness, but produced only a tendency to sleep and a marked lack of interest in what was going on. The first report of treatment of mental illness by chlorpromazine alone was made by Delay and Deniker in 1952 in France. It was first used in the Western Hemisphere by Lehmann and Hanrahan in 1954 for the treatment of psychomotor excitement and manic states. Although it has subsequently been used as an antiemetic in the United States, clinical studies soon revealed that the most important action, as well as the most widespread usefulness of chlorpromazine, was in the treatment of psychotic states. It has been used primarily for psychiatric purposes ever since. Although some practitioners use small doses of phenothiazines to treat neurotic individuals, there are really too many problems caused by this approach. For example, anxious individuals can become worse because of drug-induced feelings of weakness or unreality; obsessional patients may be alarmed by the disturbance in their patterns and may become preoccupied with each side effect they experience.

There are three chemical subgroups of phenothiazines:

1. Dimethylaminopropyl compounds, of which Thorazine is best known.
2. Piperidyl compounds, of which thioridazine (Mellaril) is best known.
3. Piperazine compounds, which include trifluoperazine (Stelazine), perphenazine (Trilafon), fluphenazine (Permitil, Prolixin), and prochlorperazine (Compazine).

So as not to create the impression that these drugs have too many side effects to be useful, I will briefly discuss the use of each of the drugs.

### Chlorpromazine (Thorazine)

Thorazine is probably the most useful phenothiazine for controlling psychosis and excessive agitation. It is also

excellent in cases of chronic pain of known etiology, such as from carcinoma, to increase the tolerance of pain and reduce the amount of analgesics necessary. For agitation, it is probably better to start with 50 to 100 mg. q.i.d. and then cut back or raise the amount as necessary. One should not be afraid to prescribe 800 or 1,000 mg. per day, but if this amount is needed, it is probably better to obtain a psychiatric consultation. The 75 mg. Spansule given b.i.d. may be a more convenient dosage form when small amounts are needed. Just to give you an idea of how much of this drug people can tolerate, there are some former state hospital patients taking 1,500 to 2,000 mg. per day. Since intramuscular Thorazine is frequently used, it should be mentioned that 25 mg. of Thorazine, I.M., is roughly equivalent to 100 mg. by mouth. The chances of producing hypotension are much greater when giving an intramuscular injection of Thorazine; therefore, this dosage should not be higher than 25 mg. in a patient who has not been receiving Thorazine at all. Blood pressure should be taken before initial I.M. injection of Thorazine.

#### Trifluoperazine (Stelazine)

There is a more potent drug on a milligram basis. It is more useful when apathy and withdrawal are major components since it seems to have a mild stimulating effect. It may act synergistically in combination with Thorazine. Starting doses are usually 5 mg. b.i.d. or t.i.d. You can gradually increase the dosage to a maximum of 60 mg. per day. It has a longer intrinsic duration of action than Thorazine, but more side effects.

#### Perphenazine (Trilafon)

The dosage range here is 16 to 64 mg. per day. This drug has an antipsychotic action, but in the effective dosage range the incidence of side effects such as dystonia and dyskinesia is high. The main advantage is its decreased soporific effect.

#### Thioridazine (Mellaril)

The dosage range is 25 to 200 mg. q.i.d. Do not exceed 800 mg. per day, since pigmentary retinopathy has occurred beyond this dosage range. This drug has a lower incidence of extrapyramidal and soporific effects.

## Prochlorperazine (Compazine)

This drug is sometimes classified as a minor tranquilizer because it is not that effective in the treatment of psychosis. It may be effective when there are numerous somatic complaints. A 15 mg. Spansule given once or twice a day may be a very useful dosage form. It has a high incidence of extrapyramidal effects. The antiemetic action of the drug may obscure the cause of nausea and vomiting in various organic disorders.

## Precautions, Contraindications, and Side Effects of Phenothiazines

The major tranquilizers produce a wide variety of untoward effects. The pattern of adverse reactions is one of the factors to be considered in choosing among the major tranquilizers. Extrapyramidal symptoms often occur after the administration of phenothiazines. Children are especially susceptible to these reactions. Thorazine is more likely to produce a Parkinson-like syndrome consisting of tremors, rigidity, akinesia, shuffling gait, postural abnormalities, pill rolling movement, mask-like facies, and excessive salivation. Compazine, Trilafon, and Stelazine tend to manifest side effects mainly by causing dyskinetic syndromes. These dyskinetic reactions, which may be accompanied by profuse sweating, pallor, and fever, most commonly involve the muscles about the face and neck and include perioral spasms often with protrusion of the tongue, mandibular tics, difficulty in speech and swallowing, oculogyric crises, torticollis, hyperextension of the neck and trunk, and clonic contractions of other muscle groups. Usually the patient remains conscious and fully alert. Motor restlessness with such manifestations as a feeling of inner disquiet and inability to sit still or sleep, and complete intolerance of inactivity, and the appearance of continuous agitation have also been noted with phenothiazines. This latter syndrome is called "akathisia." The Parkinson syndrome is managed by reduction of dosage, administration of anti-Parkinsonian drugs, or both. Kemadrin, 10 mg., Artane, 4 to 8 mg., or Cogentin, 4 mg., administered daily in divided doses, are some of the effective agents. The dystonic syndrome is relieved by the intravenous administration of an anti-Parkinsonian agent or Benadryl (e.g., Cogentin, 2 mg. I.V. or Benadryl, 50 mg. I.V.) with repeat in half an hour if necessary. The patient who develops extrapyramidal symptoms may be able to continue taking the drug at a lower dosage level, especially if an anti-Parkinsonian drug is administered at the same time.

Earlier reports of cholestatic jaundice with Thorazine and other phenothiazines have diminished. Many of the earlier cases were probably viral hepatitis, but phenothiazines should not be used in patients with liver disease.

Epinephrine should not be used in patients receiving phenothiazines, since its action may be paradoxically reversed and cause profound hypotension. If a patient develops hypotension from a parenteral dose of Thorazine, the foot of the bed should be elevated and Levophed or Aramine should be administered to raise the blood pressure.

Within the past few years a number of serious new complications have been described in patients receiving phenothiazines. The first of these is a syndrome of pigmentation of the skin, eyes, and viscera, which has been reported in hospitalized psychiatric patients who are given large amounts of Thorazine (i.e., 500 to 1,500 mg. daily) or other phenothiazines for three to ten years. Ocular changes consisting of opacities of the cornea and lens were also observed in some patients. Some of these unfortunate individuals have developed a deep purple color of the exposed skin. The pigment appears to be melanin. The brownish deposits in the cornea and anterior surface of the lens may occur in as high as 20% of patients receiving high doses of Thorazine over a long period of time. These are the areas of the lens and cornea which are normally exposed to light. The treatment of these pigmentary syndromes consists of stopping the drug and taking the patient out of the light. Chelating agents have been tried as treatment. The rationale here is that tyrosine hydroxylase, which is copper-dependent, is needed to make melanin pigment. Penicillamine is an inhibitor of this enzyme and has worked in some cases. In the opinion of several investigators, all phenothiazine derivatives at high dosage levels for prolonged periods have the potential to produce these changes.

Another more serious pigmentary change is pigmentary retinopathy, which has been found to occur only with thioridazine (Mellaril) when the total daily dosage exceeds 800 mg.

A cardiac triad has been described in which ECG changes, cardiomyopathy, or sudden death have occurred. The ECG changes may be similar to those caused by quinidine or hypokalemia; therefore, phenothiazines should be administered cautiously to patients with suspected heart disease. These alterations are most pronounced with Mellaril, especially in large dosage. The changes consist of T-wave deformity with

a broad, flat, cloven T-wave, which seems unrelated to dose or duration of treatment and is apparently quickly reversible. The second syndrome is that of cardiomyopathy, which consists of observed thickening of myocardial vessels of capillary size and less than 0.1 mm. in diameter. A third complication is the incidence of sudden death in patients who have been treated with phenothiazines for two to ten years. Although precise analysis of these cases is often complicated; nevertheless, it may be a new syndrome of importance as more experience is gained with these drugs. In the January 25, 1966 issue of the J.A.M.A., Richardson described some cases of sudden death in patients receiving phenothiazines. Some individuals died without known cause or from ventricular fibrillation; some developed hyperpyrexia leading to death in seven days; and others developed massive myocardial infarction without symptoms.

The incidence of agranulocytosis in patients taking phenothiazines is probably higher than with other compounds because of their widespread use. It is rare, but has been described in anywhere from one out of 600 to one out of 3,000 patients. The mechanism is unclear; however, its early occurrence may possibly represent an immunologic phenomenon.

Some phenothiazines have a relatively pronounced anticholinergic action and therefore should not be used in patients with a history of glaucoma or prostatic hypertrophy. It also should be noted that some phenothiazines such as Thorazine tend to lower the seizure threshold, and should therefore be used with caution in epileptic patients or alcoholics who may develop seizures.

During treatment with phenothiazines patients generally gain weight, and this may be of considerable proportions. This is probably a metabolic effect. Patients also should avoid excessive sunlight, as the phenothiazines can produce photosensitive skin responses.

Phenothiazines are contraindicated in association with spinal and regional anesthesia, and patients receiving elective surgery should be off phenothiazines for at least 48 hours because of their potentiation of anesthetic agents and alteration of physiologic functioning.

## ANTIDEPRESSANT DRUGS

There are two main groups of antidepressant compounds:

1. MAO inhibitors.
2. The tricyclic or dibenzazepine compounds.

### MAO Inhibitors

These include isocarboxazid (Marplan), phenelzine (Nardil), and tranylcypromine (Parnate). The MAO inhibitors are generally less popular because of their serious side effects. They comprise a rather heterogeneous group of drugs that have in common the ability to block oxidative deamination of naturally occurring amines. These were the first true antidepressant compounds and were developed in the 1950's; however, their use has been largely superseded by the less toxic tricyclic compounds. The MAO inhibitors are greater potentiators of other compounds than even the phenothiazines. Their use was originally reasonably restricted owing to liver toxicity; however, recently the drug Parnate was implicated in the production of hypertensive crises produced by the ingestion of cheese, Chianti wine, chicken liver, and various other substances, including certain cold remedies containing substances such as ephedrine. Since the use of the MAO inhibitors is fraught with so many complications, it is advised that the newer tricyclic antidepressants be utilized in their place.

### Tricyclic Antidepressants

There are four main compounds on the market today. Although most published studies on the effectiveness of these drugs have been uncontrolled or poorly controlled, there is general agreement that one can expect improvement in 50% to 60% of the cases which would normally show improvement with electroconvulsive therapy. These drugs may be useful alone or in combination with tranquilizers of the phenothiazine type in treating the depressive phase of certain types of schizophrenia. They should be used with caution in patients who are depressed but who may have an underlying schizophrenic reaction. They have a number of side effects which include the production of mental confusion, rashes, orthostatic hypotension, tremors, and prolonged A-V conduction time with a first-degree A-V block. They should be used with caution, if at all, in patients with glaucoma, pyloric stenosis, or benign prostatic hypertrophy. The cardiac status of individuals receiving these drugs should be assessed since toxic

doses may produce arrhythmias and tachycardia. Some instances of liver toxicity have been reported.

Imipramine (Tofranil). This was the first tricyclic antidepressant and is an extremely effective drug in the treatment of endogenous and exogenous depression. It also has had recent successful applications in the treatment of enuresis in children and adolescents. Ditman has reported 85% effectiveness in treatment of enuresis. After two months on the drug with gradual tapering off, 24% of the individuals had no recurrence of enuresis after six months' followup. In responsive depressed patients, initial improvement may begin within the first two or three days, but more commonly not until the second or third week of therapy. One should start with 25 mg. t.i.d. or q.i.d. and raise the amount gradually until a maximum of 200 to 300 mg. per day is reached. After maximum response occurs, the dose should be gradually cut back to a maintenance level of 100 to 150 mg. per day. The upper dosages are more poorly tolerated by adolescents and elderly patients. Sometimes individuals become unusually jumpy from the medication. Those that tend to get this way in the evening should restrict their last dose to several hours before bedtime.

Desipramine hydrochloride (Norpramin or Pertofrane). This is a primary metabolite of the parent compound, imipramine, and is felt to have a more rapid onset of action. Recent studies claim that this may not be noticeable clinically, and, furthermore, that it is not as potent as the parent compound. For some patients the effectiveness of desipramine is reduced after a period of two to six weeks. Dosage range is similar to the parent compound but may have to be maintained at a higher level for effect.

Amitriptyline hydrochloride (Elavil). There are various reports which argue whether or not this compound is superior to imipramine. In any event, it has an advantage in cases of agitated depression, since it has an intrinsic calming or tranquilizing effect in addition to its antidepressant quality. In responsive patients, some improve within the first week, although others may require four to six weeks of therapy before improvement is noted. Dosage range is similar to that of imipramine. It should be used with caution in epileptic patients, since it has caused some epileptiform convulsions in a few chronic schizophrenic patients.

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doses may produce arrhythmias and tachycardia. Some instances of liver toxicity have been reported.

Imipramine (Tofranil). This was the first tricyclic antidepressant and is an extremely effective drug in the treatment of endogenous and exogenous depression. It also has had recent successful applications in the treatment of enuresis in children and adolescents. Ditman has reported 85% effectiveness in treatment of enuresis. After two months on the drug with gradual tapering off, 24% of the individuals had no recurrence of enuresis after six months' followup. In responsive depressed patients, initial improvement may begin within the first two or three days, but more commonly not until the second or third week of therapy. One should start with 25 mg. t.i.d. or q.i.d. and raise the amount gradually until a maximum of 200 to 300 mg. per day is reached. After maximum response occurs, the dose should be gradually cut back to a maintenance level of 100 to 150 mg. per day. The upper dosages are more poorly tolerated by adolescents and elderly patients. Sometimes individuals become unusually jumpy from the medication. Those that tend to get this way in the evening should restrict their last dose to several hours before bedtime.

Desipramine hydrochloride (Norpramin or Pertofrane). This is a primary metabolite of the parent compound, imipramine, and is felt to have a more rapid onset of action. Recent studies claim that this may not be noticeable clinically, and, furthermore, that it is not as potent as the parent compound. For some patients the effectiveness of desipramine is reduced after a period of two to six weeks. Dosage range is similar to the parent compound but may have to be maintained at a higher level for effect.

Amitriptyline hydrochloride (Elavil). There are various reports which argue whether or not this compound is superior to imipramine. In any event, it has an advantage in cases of agitated depression, since it has an intrinsic calming or tranquilizing effect in addition to its antidepressant quality. In responsive patients, some improve within the first week, although others may require four to six weeks of therapy before improvement is noted. Dosage range is similar to that of imipramine. It should be used with caution in epileptic patients, since it has caused some epileptiform convulsions in a few chronic schizophrenic patients.

Nortriptyline hydrochloride (Aventyl). This compound has the same relationship to Elavil as does Pertofrane to Tofranil. It is said to be faster acting than the parent compound, which it differs from only slightly. The dosage range is smaller than that of the parent compound. The maximum effective dosage should be 150 to 200 mg. per day.

It should be noted that individuals receiving anti-depressant medication may be potential suicide risks. The risk of suicide is usually increased as an individual begins coming out of his depression, since he is able to be more active and perhaps carry out plans that he might not have had the energy to accomplish owing to his depression. Large overdosage of Tofranil or Elavil can result in death, which is usually preceded by hyperpyrexia, hypertension, seizures, and coma. Treatment of overdose should be supportive, and in severe cases monitoring on a continuous basis should occur in an intensive care unit. Convulsions may be controlled with short-acting barbiturates administered intravenously. Hypertension may be treated with short-acting, adrenergic blocking agents, and hypotension may be treated with norepinephrine. The development of cardiac irregularities may be difficult to manage. One note of caution--none of the tricyclic antidepressants should be used along with or within two weeks of the administration of a monoamine oxidase inhibitor, since this combination may produce severe atropine-like reactions, tremors, hyperpyrexia, convulsions, delirium, and even death.

It is probably worthwhile to obtain psychiatric consultation in those patients in whom the use of an antidepressant is being considered. Recent criticism has been levied at overuse of these drugs in cases of depression which would have been self-limited to a short period without medication in the first place.

#### Use of Sympathomimetic Amines in Depression

The sympathomimetic amines, such as amphetamine and phenmetrazine (Preludin), and similarly acting central nervous system stimulants, such as methylphenidate (Ritalin), have been tried in the treatment of depression and have been found wanting except in certain mild cases in which a drug-induced acute euphoric state would suffice. Their use in depression is generally not recommended. At times they may be employed along with phenothiazines to counteract excessive soporific effects of the latter compounds.

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#### DISCUSSION

DR. PERRY: As much as we psychiatrists may want to get away from the topic of drugs, we are stuck with it and we are, I guess, rightfully expected to know about psychotropic drugs. When I got my grades in pharmacology during my sophomore year of medical school, I knew right away that this would not be my field. Later on I decided to go into psychiatry because at that time psychiatry was the one specialty in which you could practice and not have to use drugs. Of course, the year I began in psychiatry, Thorazine came out. Finally when I came to my present assignment, I thought this would be one environment, the School of Aerospace Medicine, where I wouldn't have to mess with drugs, but as the junior branch chief at the time I was stuck with the drug project that nobody else wanted. I had to write a paper similar to Dr. Sosin's on the place of drugs in aerospace medicine. I didn't do this as he did, out of a very genuine interest; I did it for secondary gains. Once I wrote the paper I clearly showed that psychiatry had no place in this drug project, and I finally did get it off my back. In the process of doing this I became quite interested despite my attempts at denial. I had to admit a certain fascination for this topic.

Dr. Sosin's paper was basically informative, and I think this is its primary usefulness. He wasn't trying to wave any flags or promote one drug over the use of another. He was giving us facts. He was able to place a tremendous amount of information in a very small package. We need to know these things because other specialists come to us to find out about these drugs. This was his primary purpose in writing the paper. I think a safe estimate on the use of such drugs would be that three-fourths of all the drugs prescribed in general medical practice in the United

States today could probably be found in the references for Dr. Sosin's paper. He has given us good, specific references; if you have these, knowing the internist's penchant for references, I think you can drive your points across when you advise on the use of such drugs.

It is impossible to get around all the difficulties in discussing drugs. For instance, each drug (and Dr. Sosin did this) presents both the generic name and the trade name, and some drugs have two trade names. I saw a patient once who was taking 800 mg. of Miltown as well as 800 mg. of Equanil daily at the same time. She was not at all aware that these two were the same drug. Then there are difficulties in the individual reactions that patients show to drugs. You can't categorize them and this is something that is impossible to get around. There are difficulties in the studies of outpatients. I don't think you can say what dosage a patient is taking unless it is very, very well-controlled. Dr. Sosin has avoided some of these references. The first thing that I did when I picked up his paper was to look for a particular name in the bibliography of someone I know as a prolific, but at best equivocal, researcher in drugs. I was pleased to see that his name did not appear in the bibliography because whenever it does, I discount the article.

For the most part, Dr. Sosin avoided these difficulties. Other people have tried to do this. Dr. Harold Himwich, for instance, has written extensive reviews of these drugs, but I found Dr. Sosin's paper much easier to understand than anything that Dr. Himwich has put out.

The only criticism is that Dr. Sosin skimmed over the amphetamines. I have personally found methylphenidate to be quite useful. One indication for methylphenidate is in combating barbiturate intoxication, which was not mentioned but is an extremely useful quality of this drug. So we owe Dr. Sosin a debt of gratitude, I believe, for tackling, digesting, and then understandably presenting the material he had for us today.

# MONKEYS, DOGS, AND EGGS--THE ROLE OF THE AIRMAN VETERINARIAN

Joseph E. Morsh

## INTRODUCTION

For the past seven or eight years the Personnel Research Laboratory has been conducting an intensive research program on job analysis methodology. Based on a study of methods used in other government agencies and on research results, a procedure has been developed which enables the Air Force to obtain quantitative and reliable job information from world-wide samples.

By use of available sources, job descriptions, course outlines, training manuals, and the like, an inventory is constructed which covers the work, not of a particular position or specialty, but of an entire promotion or career ladder. Thus, an airman job inventory will include work done at the apprentice, journeyman, supervisor, and superintendent levels, since an incumbent may perform tasks which are above or below the level of his assignment. After extensive field review by subject matter specialists, the inventory is ready for mail administration.

The inventory consists of several duties, or large segments of the work done by an individual, under each of which pertinent tasks are listed. A task is rather loosely defined as a unit of work activity which forms a consistent and significant part of a duty.

In the course of developing and refining the Air Force job analysis method, some 60 occupational surveys have been conducted in service and under contract. The suggestion that the airman veterinary career ladders should be among those surveyed elicited some negative reaction. It was pointed out that analyzing the job of airman veterinarians was unnecessary. Everyone knows what a veterinary surgeon's assistant does. As paraphrased from the Dictionary of Occupational Titles, he cares for animals in a dog and cat hospital. He leads, wheels, or carries animals from their quarters to the treatment room, lifts them on to the operating table and applies restraints or holds them during treatment. He sterilizes

surgical instruments and other equipment. He administers anesthetics, medications, and nursing care under the direction of the doctor. He measures, mixes, grinds, and chops specified ingredients to prepare food and then feeds the animals. He bathes and brushes them and clips their hair and nails. And finally, he sweeps, dusts, mops, and hoses hospital rooms and animal quarters. It was also suggested that airman veterinary jobs were very few and not too important.

The Airman Classification Manual, AFM 39-1, describes six airman specialties in two veterinary career ladders. Included in one ladder are the Apprentice Veterinary Specialist, Veterinary Specialist, and Veterinary Technician. The other ladder has Laboratory Animal Specialist and Laboratory Animal Technician. The Veterinary Superintendent has jurisdiction over both ladders. The official job descriptions of these six specialties, as given in the manual, do not quite agree with the popular preconceptions of the airman veterinary job.

#### SURVEY OF VETERINARY CAREER LADDERS

In any case, it was decided to go ahead and survey the six specialties of the two veterinary career ladders. During December 1965 and January 1966 a job inventory was administered to airman veterinarians by HRB-Singer, under a contract monitored by the Personnel Research Laboratory. The survey instrument consisted of a background information sheet and a list of 256 task statements grouped under 11 duty categories. The inventory was administered by test control officers to 327 job incumbents who were located in 14 major air commands.

In completing the inventory, each participant supplied identification and biographic data and checked the tasks which were part of his regular job. He then rated the tasks he had checked on two 7-point scales. The first of these scales showed relative time spent on each task compared with other tasks performed. The ratings ranged from 1 (very much below average time), through 4 (about average), to 7 (very much above average time spent on a task). On the second rating scale the airman indicated the length of time he had been on the job before performing each task.

#### ANALYSIS OF JOB INVENTORY DATA

After completion, the inventory booklets were returned to a central location where the responses were key-punched

and placed on magnetic tape ready for computer analysis. As a first step in the computation, the computer converts the relative time spent task-rating into a percentage of time spent by each individual for each task rated. This is done by summing the individual's time spent entries, dividing each entry by the sum, and multiplying by 100, since it is assumed that the total of all an incumbent's ratings represent 100% of his time on the job.

### GROUP JOB DESCRIPTIONS

Each inventory completed according to Air Force procedure is, in a sense, a description of a person's job in that it specifies his work activities and shows how his time is distributed across the tasks listed. The computer is programmed to combine these individual job descriptions and print out the consolidated job description of any group that can be identified with one or more of the background information variables that have been included in the inventory. In these group job descriptions, tasks or duties performed appear in descending order of time spent on them. To identify areas of specialization, an automated job clustering program was utilized to analyze the task data provided by the survey. The computer compared each individual with every other individual in the sample in terms of percent time spent on all tasks performed. The computer then located the two persons with the most similar jobs and generated a single composite job description which accounts for their work time with the least error. In successive stages the computer added other incumbents to this group or formed new groups of incumbents based on the similarity of their jobs. From these groups the 13 significant job types were selected and task and duty job descriptions were published for them. These airman veterinary job types are listed in table I.

### AIRMAN VETERINARY JOB TYPES

This brings us to the topic of my paper, "Monkeys, Dogs, and Eggs." The 13 job types, that is, the 13 different kinds of airman veterinarians, which comprised the entire survey sample, apart from 37 isolates who failed to group with anyone, fell into three major groups. One of these groups was composed of three job types whose work was principally concerned with laboratory animals. Monkeys serve to designate their work although rats, rabbits, and goats are also used in Air Force laboratories. The second group consisted of four

TABLE I

Airman Veterinary job types

<u>Animal laboratory job types</u>	Number of members	Percent time described	Stage formed
1. Animal Laboratory Supervisor	9	64.7	46
2. Animal Laboratory Specialist I	16	65.6	111
3. Animal Laboratory Specialist II	6	68.2	87
<u>Veterinary Services job types</u>			
4. NCOIC Veterinary Services	92	65.4	54
5. NCOIC Veterinary Training	13	57.8	23
6. Veterinary Specialist (Journeyman)	100	55.8	42
7. Veterinary Specialist, Sentry Dog Support	7	64.3	53
<u>Veterinary inspector job types</u>			
8. Food Inspection Supervisor	5	56.4	36
9. Perishable Foods Inspector	5	53.6	22
10. Egg Inspector	6	54.0	29
11. Food and Sanitation Inspector	20	56.8	50
12. Depot and Dockside Food Inspector	6	62.4	72
13. Inspector, Food Service Facilities	5	57.4	30
Ungrouped	37		
Total sample	327	39.9	1

job types who worked with sentry dogs or performed other tasks commonly associated with animal care or treatment. Their work, however, does not fit the popular conception of the airman veterinarian's job too closely. The six remaining job types in the third group did not work with animals at all. They were inspectors--inspectors of eggs, milk, and other perishable foods, sanitation inspectors, inspectors of food service facilities, and depot and dockside inspectors.

### ANIMAL LABORATORY JOB TYPES

Of the three job types concerned with laboratory animals, one was a supervisory job type and the other two were animal laboratory specialists.

The Animal Laboratory Supervisors were all in the Air Force Systems Command. Three members were in the Aeromedical Research Laboratory at Holloman Air Force Base and six were assigned to the Veterinary Sciences Division, USAF School of Aerospace Medicine, Brooks AFB, Tex.- All members were staff sergeants or higher, and all but two were working at the 7-skill level. In terms of percentage of time spent on tasks, members of the Animal Laboratory Supervisor job type showed a 74% overlap with airmen in the survey who held duty AFSC 90871. Their work also had considerable overlapping (51%) with that of the Veterinary Superintendent.

Members of Animal Laboratory Specialist I job types were located at Brooks and Holloman Air Force Bases and at Wilford Hall Hospital, Lackland AFB, Tex., while all members of Animal Laboratory Specialist II job type were at Brooks AFB.

In terms of percentage of time spent on particular tasks, members of Animal Laboratory Specialist I job type overlap 79% with airmen holding duty AFSC 90831, while members of Animal Laboratory Specialist II job type overlap 70% with the 90831's. The two animal laboratory specialist job types overlap each other to the extent of 56% of time spent. Both job types devoted almost all of their time to two duties, performing animal medical care and supporting the Air Force animal research program. However, the proportion of time spent on these two duties was reversed for the two job types. For Animal Laboratory Specialist I, 68% of members' time was spent on animal medical care and 32% was allocated to the animal research program. For Laboratory Animal Specialist II, the respective percentages were 35% and 62%. The work of both

job types tended to be homogeneous. Each Laboratory Animal Specialist I performed on the average, 32 of the 256 tasks in the inventory, while each member of Laboratory Animal Specialist II job type averaged only 21 tasks.

Laboratory Animal Specialist I job type members who were principally concerned with animal care, devoted a large proportion of their time to such tasks as maintaining health and treatment records of animals, assisting the veterinary officer in preparing for surgery, performing surgery or providing postsurgical care, in administering anesthetics, and in giving injections. On the other hand, Laboratory Animal Specialist II people who were more concerned with animal research spent much of their time on such tasks as maintaining sanitary conditions of animals, maintaining a breeding program for laboratory animals, quarantining newly procured animals, requisitioning food for experimental animals, and removing teeth.

#### VETERINARY SERVICES JOB TYPES

Two of the four veterinary services job types were supervisory and two were specialist. Members of the NCOIC Veterinary Services job type were scattered among all surveyed commands. Sixty-four of the 92 members held duty AFSC 90870. Most of the 9-skill level airmen surveyed belonged to this job type. The median grade of job type members was technical sergeant. More than half of group work time was spent on supervisory duties of which inspection occupied a large part. Members performed a greater variety of tasks than did members of any other job type, most of the tasks in the inventory being done by most of the members.

Members of the NCOIC Veterinary Training job type were located in five major air commands. They spent 92% of their working time on supervisory functions including 21% spent on training their subordinates. Most members were 7-skill level airmen, although 3 were at the 9-skill level. Members' grades ranged from airman first class through senior master sergeant. These NCOICs performed, on the average, 54 of the 256 tasks in the inventory.

The Veterinary Specialist (Journeyman) and Sentry Dog Support Veterinary Specialist job types spent most of their time on animal medical care but in general did not work with laboratory animals. Almost one third of the surveyed airmen fell into the Veterinary Specialist (Journeyman) job type.

Members were located in all commands surveyed and almost all were at the 5-skill level. Their grade spread was airmen third class through technical sergeant with a median grade of airman first class.

All members of the Sentry Dog Support Veterinary Specialist job type were at the 5-skill level and were either airmen first or airmen second class. Six members were assigned to Wilford Hall USAF Hospital and one to USAF hospital in South Ruislip, England. Animal care and sentry dog support activities accounted for 89% of group work time. The most time-consuming tasks of the group included maintenance of health and treatment records of animals and collecting specimens for laboratory analysis.

### VETERINARY INSPECTOR JOB TYPES

Members of six airman veterinary job types performed jobs which had nothing to do with animals. The work of the Food Inspection Supervisor job type included inspection of perishable foods for contract compliance, inspection of packing methods and packaging, preparation and collection of laboratory samples, and maintenance of lists of federal and military food specifications.

The major duty of the Perishable Foods Inspector was performing subsistence inspections. Members spent a large part of their time inspecting fats, oils, margarine, and other perishable foods. The principal tasks of the Egg Inspector job type were inspecting and grading eggs and egg products. Hence, the designation eggs was used in the title to characterize the important but perhaps unrecognized activities of certain airman veterinarians. Additional tasks performed by some egg inspectors included inspection of meat and dairy products, grading meat and poultry, and collecting samples of subsistence items. The work tended to be extremely homogeneous, an average of only 15 tasks being performed by each member.

Members of the Food and Sanitation Inspector job type spent a large proportion of work time on subsistence and food storage inspections. As mentioned earlier, in a group job description tasks or duties are listed in descending order of time spent on them. As an example, the first page of the Food and Sanitation Inspector job description is shown in table II. As seen at the bottom of the cumulative column on the right, the 23 tasks given account for over 57% of group work time.

TABLE II

## Job type description by tasks--Food and Sanitation Inspector

DUTY	TASK	TASK TITLE	PERCENT OF MEMBERS PERFORMING	AVERAGE PERCENT TIME SPENT BY MEMBERS PERFORMING	AVERAGE PERCENT TIME SPENT BY ALL MEMBERS	CUMULATIVE SUM OF AVERAGE PERCENT TIME SPENT BY ALL MEMBERS
E	21	Inspect perishable foods for contract compliance	90.00	4.10	3.69	3.69
E	22	Inspect prepackaged frozen foods	100.00	3.32	3.32	7.02
G	3	Inspect arrangements of damage and food items	100.00	3.31	3.31	10.33
E	14	Inspect eggs and egg products	100.00	3.02	3.02	13.35
G	5	Inspect stock rotation control methods	100.00	2.93	2.93	16.27
E	24	Inspect and recommend proper handling of storage items	95.00	3.08	2.92	19.19
B	3	Compile sanitary conditions of containers and vehicles used for shipment	90.00	3.16	2.84	22.04
G	8	Perform organoleptic examinations	65.00	4.32	2.81	24.84
E	33	Report recommended rejections of subsistence items to contracting officer and to commissary officer	100.00	2.68	2.68	27.52
E	13	Inspect dairy products for quality and contract compliance	95.00	2.80	2.66	30.18
G	4	Inspect maintenance of temperature and humidity levels in storage areas	75.00	3.45	2.59	32.77
E	18	Inspect miscellaneous products such as fats, oils, margarine, and cereal	95.00	2.72	2.59	35.36
E	9	Grade eggs to determine contract compliance of eggs and egg products	85.00	2.91	2.47	37.83
G	6	Inspect storage areas for insect and rodent control	80.00	3.07	2.46	40.29
G	9	Recommend immediate use or other disposition of deteriorated items	95.00	2.58	2.45	42.74
E	19	Inspect nonperishable subsistence items for contract requirements	90.00	2.63	2.37	45.11
G	1	Determine expected shelflife, condition of goods, and adequacy of supply for emergencies	70.00	3.10	2.17	47.28
B	24	Maintain files of records, forms, correspondence, and reports	65.00	2.93	1.91	49.18
E	11	Grade perishable foods for contract compliance	50.00	3.61	1.80	50.99
E	6	Collect laboratory samples of subsistence items	50.00	3.56	1.78	52.77
F	5	Conduct sanitary inspections of base facilities	80.00	2.20	1.76	54.53
G	7	Inspect storage of emergency, survival, and in-flight	65.00	2.53	1.64	56.17
E	31	Prepare laboratory samples for shipment	70.00	2.26	1.58	57.75
E	15	Inspect emergency and survival rations	70.00	2.10	1.47	59.22
F	20	Inspect packing methods and packaging	65.00	2.16	1.41	60.63
E	29	Maintain list of federal and military specifications	60.00	2.32	1.39	62.02
F	16	Inspect inflight meals	60.00	2.32	1.39	63.42
E	23	Inspect procedures for loading and transporting subsistence items	65.00	2.11	1.37	64.79
E	28	Maintain lists of approved sources from other governmental	40.00	3.20	1.28	66.07
			65.00	1.91	1.24	67.31

TABLE III

Job type description by duties---Food and Sanitation Inspector

DUTY	TASK	TASK TITLE	PERCENT OF MEMBERS PERFORMING	AVERAGE PERCENT TIME SPENT BY MEMBERS PERFORMING	AVERAGE PERCENT TIME SPENT BY ALL MEMBERS	CUMULATIVE SUM OF AVERAGE PERCENT TIME SPENT BY ALL MEMBERS
E		Performing subsistence inspections	100.00	45.35	45.35	45.35
G		Inspecting cold and dry food storage in warehouse	100.00	22.74	22.74	68.09
B		Directing and implementing	85.00	13.99	11.89	79.98
F		Inspecting food service facilities	85.00	12.82	10.89	90.87
H		Performing animal medical care	30.00	13.72	4.12	94.99
D		Training	50.00	3.66	1.83	96.82
I		Performing base veterinary animal services and zoonosis control	30.00	4.71	1.41	98.23
A		Organizing and planning	45.00	2.23	1.00	99.24
C		Evaluating	30.00	2.33	0.70	99.93
J		Supporting sentry dog program	5.00	0.88	0.04	99.98

Table III presents the complete job description for the same job type in terms of duties.

All members of the Depot and Dockside Food Inspector job type were located overseas. Tasks performed include inspection of stock rotation and control methods, inspection of procedures used for loading and transporting subsistence items, inspection of inflight meals, and inspection of storage areas for insect and rodent control. Members spent more time inspecting cold and dry food storage than did members of any other job type.

The principal activities of the Inspector, Food Service Facilities job type included sanitary inspection of base facilities, inspecting food handlers' health certificates and other documents. Members spent some time performing animal medical care and zoonosis control but had nothing to do in support of the animal research program.

### CONCLUSIONS

The occupational survey of the airman veterinary career ladders demonstrated quite conclusively the inadequacy of the popular conception of the duties and tasks of a veterinary assistant in the Air Force.

Four of the 13 types of jobs identified showed a definite relationship to airman veterinary specialties as described in the Airman Classification Manual, AFM 39-1. However, there is no clear-cut 3-skill level or Apprentice Veterinary Specialist job type, and there is no 9-skill level Veterinary Superintendent job type. In terms of average time spent on tasks performed there are four veterinary supervisor job types--NCOIC Veterinary Services, NCOIC Veterinary Training, Animal Laboratory Supervisor, and Food Inspection Supervisor. Instead of two journeyman-level types of jobs, Veterinary Specialist and Animal Laboratory Specialist as indicated in AFM 39-1 there are nine types of journeyman veterinarians, including five different kinds of inspectors.

In the foregoing paper, a survey of airman veterinary career ladders has been used to demonstrate a new and powerful method of job analysis. We now have available, rigorous scientific procedures for identifying and describing the types of jobs that exist among the specialties and career fields of the Air Force. The study of the survey results and the designation of job types, provide substantial

objective support for curriculum development, for selective training, and for structuring and organizing jobs toward more efficient management of personnel.

A VALIDATION ATTEMPT OF HOVEY'S 5-ITEM MMPI  
"INDEX" FOR CNS DISORDERS

Lawrence R. Maier

Richard R. Abidin, Jr.

The present study attempted to cross-validate a 5-item MMPI scale constructed by Hovey (3), which he found would discriminate between patients with and without CNS lesion disorders. The 5 items and their critical CNS direction were as follows: No. 10-There seems to be a lump in my throat much of the time (F); No. 51-I am in just as good physical health as most of my friends (F); No. 159-I cannot understand what I read as well as I used to (T); No. 192-I have had no difficulty in keeping my balance in walking (F); and No. 274-My eyesight is as good as it has been for years (F). Hovey initially constructed his scale by performing an item analysis on the MMPI responses of a group of male patients with CNS disorder diagnoses and a group without such diagnoses. He validated the results of this analysis on new groups with CNS disorder diagnoses and without. He found that 5 of the items differentiated significantly between the new groups, with slightly more than 50% of the CNS disorder cases and only 9 to 18% of the nonCNS cases answering 4 or 5 of these differentiating items in the critical direction. In addition, he reported that when the K score was taken into account he could increase the predictive accuracy of the 5-item CNS Scale. Using the K raw score he established two criterion levels:

1. With a CNS Scale score of at least 4 and a raw K of at least 8, the chances of a person having a brain damage diagnosis would be 86 out of 100.

2. With a CNS Scale score of at least 4 and a raw K of at least 13, the chances would be 92 out of 100.

The composite MMPI for the two groups were "remarkably similar" except for a slight "hysterical valley" in the non-organic subjects.

Hovey used in his organic sample only those cases with final diagnoses of "brain dysfunction." He excluded all cases

"having clear-cut neurologic symptoms of brain damage, or established diagnosis of multiple sclerosis, epilepsy, etc., upon admission to the Neurology Service" (p. 78). His argument for these exclusions was that a test should be validated only on cases presenting diagnostic challenges rather than on cases that were obvious. Hovey did not list the diagnoses of his cases nor did he mention whether epileptics and others were used in his sample, provided the diagnoses were made after admission. About his nonorganics he mentioned only that no CNS disease was proved.

Cross-validation results of Hovey's original work have not been consistent. Jortner (5), using small matched groups of brain damaged, multiple sclerotic, and peptic ulcer patients, found that the CNS Scale classified 46% of all the CNS patients correctly (brain damaged and multiple sclerosis), and none incorrectly. Only 1 of the 25 peptic ulcer patients was misclassified. The scale was most effective with multiple sclerotic patients, classifying correctly 64% of the group compared to only 28% of the brain damaged group.

Weingold et al. (6), using brain damaged subjects with known lesions (CVAs, head trauma, and surgicals) and clear-cut neurologic symptoms, and nonpsychiatric outpatient controls, found that the Hovey scale misdiagnosed 28% of the controls (that is, called them brain damaged) and 71.5% of the brain damaged (that is, called them nonbrain damaged). Even when these investigators used other brain damaged subjects without clear neurologic symptoms, 92% were called nonorganic by the scale. They concluded that the scale was not "presently useful as a clinical tool." Hovey (4) in a reply to Weingold et al., suggested that two possible reasons for these different findings were that in his sample patients took the MMPI before diagnoses were made, and his patients were under special hospital observation for diagnostic evaluation. Weingold et al. used outpatients who probably knew their diagnosis at the time of psychologic testing.

Zimmerman (7), who evaluated veterans who had suffered CNS damage of differing degrees seven years previously, found that the Hovey scale correctly identified 29% of those with moderate damage residue (brain injury usually less than 4 cm. in area), and 62% of those with severe CNS damage residue (considerable loss of brain tissue). Despite these rather modest figures, the author concluded that the five Hovey items do apparently "identify the permanent or residual impairment due to severe brain injury."

## METHOD

The sample consisted of 155 patients (134 males, 21 females) referred to the Psychology Service of Wilford Hall USAF Hospital from, primarily, the Neurology and Neurosurgery Services. Fewer than 5% of the sample were referred from the Psychiatry Service. Approximately 90% of the subjects were inpatients currently undergoing diagnostic evaluation. In each case the question of possible cortical dysfunction had been raised as the primary diagnostic issue. The MMPI (1) had been administered in a routine fashion as part of the general test battery and in each case an opinion had been rendered by the psychologist to the referral source as to the presence or absence of possible cortical damage affecting psychologic processes. However, in no case had the Hovey CNS Scale been examined or used in any way by the psychologist in reaching his diagnostic opinion. The final medical diagnostic opinions, the medical charts, and the medical criteria for the diagnostic opinions were then examined for all subjects, following which the sample was divided into an organic group and a nonorganic group. Care was taken to assign only patients with evidence of cortical damage to the organic group (2). The results of this division, as done by the authors, were reviewed by the chief of the Neurology Service and his opinion was used as the final criterion as to whether or not a given subject was cortically damaged. There were 5 or 6 discrepancies in the 155 decisions between the authors and the chief neurologist. The resulting groups consisted of 73 organic patients (64 males) and 82 nonorganic (70 males). Mean age for the organics and nonorganics was 29.8 years (S.D. = 10.2) and 31.2 years (S.D. = 10.7), respectively. Neither group had any subject over 58 years old and both had only 8 subjects over 45.

Table I and its footnotes contain a summary of the final medical diagnoses for the two groups. Although all of the individuals in the organic group had a diagnosis suggestive of cortical dysfunction, it is recognized that diagnosis alone is not sufficient to establish that there is, in fact, a difference in the brain functioning of both groups. Therefore, the dichotomy of the two groups was then examined from the standpoint of the EEG records they produced. For the purposes of this paper, all EEG records which were interpreted by the neurologist as falling outside of normal limits will be considered abnormal regardless of any modifying adjectives such as "mild" or "gross."

TABLE I

Diagnoses for Organic and Nonorganic Subjects

Organic<sup>a</sup>

(N = 73)

1. Convulsive disorders	18
2. Infectious diseases	4
3. Cerebrovascular disease or atrophy	5
4. Brain tumors	2
5. Cerebral vascular accidents	12
6. Traumatic brain injury	28
7. Other	4
	<hr/>
Total	73

Nonorganic

(N = 82)

1. Psychoneurotic disorders	
a. Anxiety reaction	10
b. Depressive reaction	13
c. Conversion reaction	9
d. Dissociative reaction	2
2. Psychophysiologic autonomic and visceral disorders	6
3. Psychotic involutional depression	2
4. Personality disorders	1
5. Other <sup>b</sup>	29
6. No disease found	10
	<hr/>
Total	82

Footnotes - Table I

<sup>a</sup>Specific diagnoses in each category were as follows: Convulsive Disorders - 10 grand mal seizures, 1 grand mal seizure associated with alcohol withdrawal, 3 temporal lobe seizures, 2 psychomotor seizures, 1 epilepsy of undetermined origin, 1 grand mal psychomotor and petit mal seizure with cerebellar ataxia; Infectious Diseases - 1 aseptic meningoencephalitis, 2 encephalitis, 2 post-encephalitic epilepsy, grand mal type; Cerebrovascular Disease or Atrophy - 2 arteriosclerosis, 1 alcoholism, 2 cerebral cortical atrophy; Brain Tumors - 1 astrocytoma grade II, 1 pseudotumor cerebri; Cerebral Vascular Accidents - 2 intracerebral hematomas, 1 ruptured Berry aneurysm, 1 internal carotid aneurysm, 1 anterior cerebral artery aneurysm, 1 congenital anterior communicating artery aneurysm with epilepsy, 2 cerebral ischemia, 1 CVA posterior, 1 CVA left hemisphere, 1 CVA due to cortical thrombosis with focal motor seizures, 1 CVA with anopsia; Traumatic Brain Injury - 9 skull fractures with concussion or cerebral laceration, 6 cerebral concussions or contusions, 2 post-traumatic psychomotor seizures, 1 hematoma and concussion, 1 subdural hematoma, 2 extradural hematomas, 7 causes and/or effects unknown; Other - 1 subdural and epidural hematoma, 1 acute subdural hematoma, 2 subarachnoid hemorrhages.

<sup>b</sup>Specific diagnoses were as follows: 1 herniation of nucleus palposus, 2 hypertension, 1 pneumonia, 1 skull fracture, 4 tension headaches, 1 skull defect, 4 syncope, 1 myelopathy, 1 concussion, 1 post concussion syndrome, 12 miscellaneous.

On the assumption that Hovey's Scale can detect patients with cerebral pathology, the following hypotheses were made:

1. The number of subjects with CNS Scale scores at criterion levels 1 (score of 4 or 5, raw K of at least 8) and 2 (score of 4 or 5, raw K of at least 13) would not be independent of the diagnostic group--i.e., organic or non-organic.
2. The observed frequency of organic diagnoses in individuals who meet Hovey's CNS criterion levels 1 and 2 would be no different than the expected frequencies reported by Hovey (i.e., criterion 1--86 out of 100; criterion 2--92 out of 100).
3. The CNS Scale would lead to fewer diagnostic errors in the evaluation of the presence of cerebral pathology than would diagnosis based solely on base rates.
4. The number of subjects with abnormal EEGs would not be independent of the diagnostic group.

## RESULTS

Table II shows the number of subjects and percentages identified by the CNS Scale as well as the EEG findings for the two groups individually and combined. These figures show that the CNS Scale correctly diagnosed approximately 21% of

TABLE II

Summary Table of CNS Scale and EEG Findings for Organic and Nonorganic Groups

	Subjects Identified by Hovey CNS Scale at						EEG <sup>a</sup>				
	Score of 4 or 5		Criterion I		Criterion II		Abnormal		Normal		
	N	%	N	%	N	%	N	%	N	%	
Organic ( <u>N</u> =73)	15	20.6	15	20.6	12	16.4	(N=66)	38	57.6	28	42.4
Nonorganic ( <u>N</u> =82)	17	21.0	16	19.5	9	11.0	(N=63)	4	6.4	59	93.7
Combined ( <u>N</u> =155)	32	20.6	31	20.0	21	13.6	(N=129)	42	32.6	87	67.4

<sup>a</sup>Twenty-six subjects were not given EEGs.

the organic subjects and 79% of the nonorganic subjects. However, it also misdiagnosed 21% of the nonorganics by identifying them as organic. Looking at all subjects with a Hovey score of 4 or 5, 47% were correctly identified. The EEG correctly diagnosed about 58% of the organics and misdiagnosed only 6% of the nonorganics. Stated differently, these findings show that a significant Hovey score correctly identified an individual with an organic diagnosis only 47 times out of 100, while an abnormal EEG identified such an individual 90 times out of 100.

Chi-square analyses were run comparing the number of subjects in each group who met criterion levels 1 and 2. No significant differences were found. The chi-square values for criterion levels 1 and 2 were .02 and .59, respectively (d.f. = 1).

Hovey's expected frequencies of correct organic diagnosis for subjects at criterion levels 1 and 2 were compared with the observed frequencies by use of chi-square. For criterion level 1 a significant difference was found with the incidence of organicity being much less than the expected values ( $X^2 = 4.92$ ;  $P < .05$ ). The observed proportion was only 48 out of 100 compared to Hovey's predicted 86 out of 100. For criterion level 2 a difference significant at only the .10 level was found ( $X^2 = 2.76$ ). In this case the observed proportion of organics was 57 out of 100 compared to the expected 92 out of 100.

Comparison of the CNS Scale diagnoses to the base rates (47% organic and 53% nonorganic) revealed, first, 80 correct CNS Scale diagnoses out of 155 decisions versus 73 correct diagnoses using the organic base rates alone and 82 correct diagnoses using the nonorganic base rates. Secondly, the CNS Scale correctly diagnosed about 21% of the organically labeled patients whereas the base rates yielded 47% correct diagnoses.

A chi-square analysis of the number of abnormal EEGs between the two groups revealed significantly more abnormal records in the organic group ( $X^2 = 20.59$ ;  $P < .001$ ).

The composite MMPI profiles of the organic and non-organic groups were essentially the same, with only the uncorrected Pd, uncorrected Pt, and corrected Pt mean scores showing significant t score differences at the .05 level. Plotting the mean corrected raw scores of both groups (including 9 females in the organic, and 12 females in the nonorganic) on the male profile sheet showed all T scores

falling between 49 and 69. The corrected and uncorrected means and standard deviations for both groups are shown in table III.

In contrast, the composite profiles of those patients with significant CNS Scale scores (experimental group) and those without (nonexperimental group) were strikingly dissimilar, with the experimental group showing the greater amount of deviancy. The Welsh coded profiles, using male norms, were, for the experimental group ( $N = 32$ , including 8 females) 13"287'549-60/FKL/, and for the nonexperimental ( $N = 123$ , with 13 females) 23 14 87-59 60/KFL/. Statistical analyses, using the t-test, between the MMPI scale raw score means of the two groups showed significant differences between the Hs, D, Hy, Pt, and Sc scales at the .01 level, and between the Si scale at the .05 level. In all instances the mean for the experimental group was higher. A statistically significant ( $t = 3.22$ ,  $P < .01$ ) difference was also found between the mean

TABLE III  
Mean and Standard Deviation MMPI Scale Scores (Corrected and Uncorrected) for the Organic and Nonorganic Groups

Group		L	F	K	uHs	cHs	D	Hy	uPd*	cPd
Nonorganic ( <u>N=82</u> )	M	4.51	5.32	15.89	9.90	18.13	24.62	26.68	18.83	24.55
	SD	2.22	5.23	5.10	6.64	6.09	7.42	6.54	4.32	5.39
Organic ( <u>N=73</u> )	M	4.96	4.55	16.81	9.15	17.97	23.59	25.74	17.15	23.89
	SD	2.31	4.22	5.41	6.10	5.66	5.11	6.69	5.19	4.89

Group		Mf	Pa	uPt*	cPt*	uSc	cSc	uMa	cMa	Si
Nonorganic ( <u>N=82</u> )	M	24.95	10.66	14.61	30.38	14.59	30.48	17.28	20.43	26.83
	SD	7.17	4.41	10.73	7.86	11.64	8.87	4.53	4.03	10.84
Organic ( <u>N=73</u> )	M	24.95	9.71	10.93	27.74	11.58	28.38	17.48	21.00	24.64
	SD	6.70	3.89	8.26	5.39	8.55	6.22	7.16	4.03	9.33

\*Significant at the .05 level.

age of the experimental group (35.6 years) and the mean age (29.2 years) of the nonexperimental group. (See figure 1.)

### DISCUSSION

Hypotheses 1, 2, and 3 must be regarded as unconfirmed. Patients with organic diagnoses did not obtain a significantly greater number of CNS Scale scores at either criterion level 1 or 2 than patients without organic disorders; the observed frequency of diagnosed organic patients in all subjects who obtained CNS Scale scores was far below the ratio predicted by Hovey; and the CNS Scale was no more effective in identifying organic patients than were local base rates. The hypothesis that abnormal EEGs would occur more frequently in organic patients was confirmed. These data suggest that Hovey's scale is not capable of effectively discriminating between patients with organic diagnoses and those without, as defined in this study. Furthermore, it misidentifies almost as frequently as it correctly identifies and it is no more useful for diagnostic purposes than local base rates and less useful than knowing EEG diagnoses.

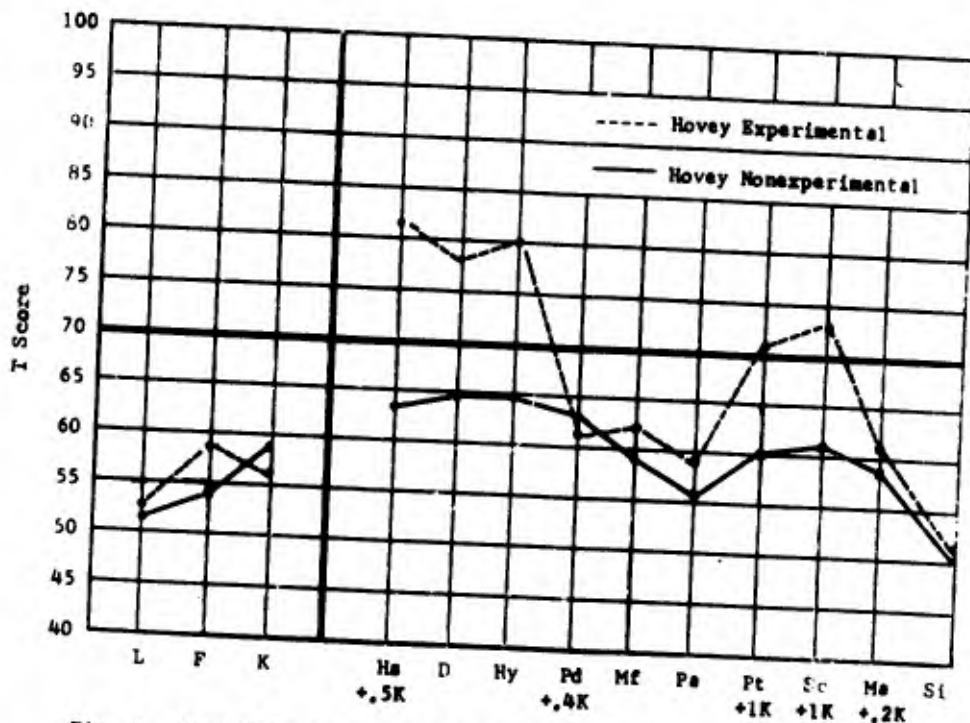


Fig. 1. Mean T Scores for the Experimental (N = 32, 25% female) and Nonexperimental (N = 123, 11% female) Groups on Each MMPI Scale

The present findings agree closely with results of Weingold et al. (6), who found that the scale identified as nonbrain damaged 71.5% of their brain damaged group (compared to the 79% of this study) and identified 28% of the nonbrain damaged group as brain damaged (compared to 21%). Fairly close agreement also exists between the scale's identification of 21% of the organics in this study and 28% of the brain damaged mentioned by Jortner (5).

The similarity between the organic-nonorganic profiles and the dissimilarity between the experimental-nonexperimental profiles suggests that CNS scores are more related to general psychologic disruption, rather than to cerebral pathology per se. It must be granted, however, that a patient's general state, his knowledge and suspicions regarding his illness, and cerebral pathology are not independent events. Unfortunately, it was not possible in this study to control patient's awareness or suspicions regarding possible brain damage. No doubt, in some cases they did know, while in others, such a possibility had never been mentioned to them.

Nevertheless, the results of this study fail to support the validity of the Hovey CNS Scale as a psychologic device capable of effectively discriminating between organic and nonorganic patients.

#### SUMMARY

The present study attempted to cross-validate the 5-item Hovey (1964) CNS Scale. One hundred fifty-five patients undergoing evaluation for possible CNS brain disorder were administered the MMPI from which the CNS Scale is derived. On the basis of final neurologic diagnosis 2 groups were established; 73 organic and 82 nonorganic. It was found that the Hovey CNS scores (1) were independent of diagnostic group; (2) did not possess the diagnostic accuracy suggested by Hovey; (3) were no more effective for diagnostic purposes than local base rates; and (4) appeared to be correlated more to general psychologic disruption than to the presence or absence of CNS lesion disorders.

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CONCEPTUALIZATION AS A THEORETICAL CONSTRUCT  
A Re-evaluation

Eric C. Theiner

INTRODUCTION

The term "conceptualization," or as used experimentally in recent psychologic literature, "conceptual complexity," has been employed to characterize several different forms of behavior. Because all of the definitions offered for this term have been empirical or operational, and because all of these operations have differed, it is not possible at this point to describe conceptualization by means of any single, all-embracing behavioral definition. In the most general terms, however, it might be said that a person with a relatively high degree of "conceptual complexity" might be expected to demonstrate a great deal of subtlety and precision in classifying, or coding his experiences; he could generally avoid stereotypes in his thinking, and could make and preserve discriminations at an optimal level in both interpersonal and impersonal transactions.

The central purpose of this study is to examine some various uses of the term, conceptual complexity, in order to achieve a clearer understanding of what Kelly (4) termed its "range of convenience." In other words, to what range of behavioral characteristics can we validly apply the term in identifying a single, general behavioral characteristic?

The first experimental question is whether the characteristic, conceptual complexity, is of sufficient scope to incorporate both "impersonal" and "interpersonal" stimulus referents; technics attempting to provide estimates of degree of conceptual complexity have traditionally employed one or the other. Thus, the technics employed by Kelly (4), Bieri (1), Mayo (8), and Tuckman (13) have always involved people (interpersonal) as referents, while those of Kahn (3) and McGaughran (5) have typically used objects (impersonal). While the choice of one or the other kind of referent has usually been described as a deliberate one, the reasons for this choice have not always been clear. That is, each researcher has implied that use of the "other" kind of referent

would lead to a different performance. The issue is unresolved and, consequently, one relevant procedure in examining the limits of meaning for "conceptual complexity" would appear to be to determine if comparable scores for each single operational technic can be obtained when both classes of stimulus-referents are systematically introduced.

The second experimental question is whether the response analysis leading to the inference of conceptual complexity should be unidimensional or multidimensional. Three operational methods under present consideration designated as measures of conceptual complexity (Bieri's "Cognitive Complexity," Mayo's "Cognitive Complexity," and Tuckman's "Integrative Complexity") are based upon the assumption that the term, conceptual complexity, refers to a set of homogeneous behavior potentials that can be measured along a single dimension. Another approach, McGaughran's (5) multidimensional "Conceptual Area" analysis, is based upon the assumption that a single-dimension analysis of conceptual behavior is an oversimplification, constituting an inadequate model for construing conceptual complexity. Therefore, the second important aspect in examining the "range of convenience" for the term conceptual complexity is to analyze the degree of common variance across several measures, all of which have been identified by this term. A high degree of intercorrelation across all measures would imply a sufficient amount of homogeneity to warrant the assumption of a generalized behavior trait that can be described along a single dimension. The absence of this high degree of intercorrelation (e.g., the occurrence of several clusters of common variance) would indicate that a multivariable form of analysis would be more appropriate.

Only one researcher (14) has addressed himself to examining the possible generality of conceptual complexity, albeit in a gross and somewhat indiscriminate manner. The implications of his findings vis-à-vis those presently obtained will be discussed in the body of this report.

## PROCEDURE

### Operational Measures

The operational definitions of conceptual complexity selected for present consideration were four: Bieri's (1), Mayo's (8), Tuckman's (13), and McGaughran's (5).

Bieri's technic is simply to present the S with a list of ten names of significant role figures. He then presents a list of ten constructs, as "adjusted-maladjusted," and asks the S to decide to what extent each of the ten constructs (on a 1 to 6 scale of magnitude) applies to each role figure. The more differentiated the application of the constructs, the more cognitively complex the S. His is an interpersonal form; i.e., it uses people as the stimulus referent. The impersonal form of this measure was obtained by simply substituting stimulus objects for the role figures.

Mayo's technic is similar to Bieri's, in that she provides the S with a list of names of significant role figures, although she presents only three figures at a time. Her instructions to the S are to give as many ways as possible in which two of the figures are alike but different from the third. The number of such constructs which the S can produce in a given time period constitutes her index of cognitive complexity. The impersonal modification as with the Bieri, simply required the substitution of stimulus objects for role figures.

Tuckman's approach consists of presenting the S with each of six hypothetical interpersonal situations. He then requests that the S select one of four possible forced-choice responses to the given situation. These responses presumably differ in the number of alternative solutions offered; thus, Tuckman defines the cognitively ("integratively") complex individual as the one who characteristically selects the response incorporating multiple alternative solutions. As a further refinement, he calls his "low" complex person a System I person and his maximally complex subject a System IV person, with Systems II and III persons describing intermediate positions. Since his operational definition is intrinsically tied to the perception of social, interpersonal situations, no impersonal form of his technic could be developed.

Finally, McGaughran's approach is basically a conceptual system or schema, which can be applied to a number of different kinds of performances. The essential aspect of his position is that he rejects the assumption that so broad a group of conceptual processes as those grouped under the term cognitive complexity, can range along a single dimension. Rather he suggests that there are at least two salient dimensions, orthogonal to each other. His first dimension is termed "order of conceptual classification" and has been described as representing level of "abstraction" (10).

Order of conceptual classification is defined by the degree of restrictiveness in the collecting principle (expressed, perhaps as a range of equivalences) characterizing a conceptual grouping. One end (or pole) of the dimension is termed "closed," because the equivalence range of concepts toward this end is narrow. An example of such "limited equivalence" is the response "the same things" given to the stimulus configuration of two or three identical pencils. That is, the number of objects that could be correctly classified under that specific concept is quite limited.

Conversely, the other pole is termed "open" because the concepts here are much less restrictive; many referents could fall under the grouping. An example of an "open" concept would be the accurate classifying of a ball, a square, and an eraser under the rubric "red." There are, of course, many things that could be "red," and so fit into the category. Thus, there are few restrictions on the defining characteristics ("attributes") subsumed under this concept. A "closed" concept, by contrast, is one in which several distinguishable defining characteristics are used to form the principle of equivalence.

The second dimension is defined by the degree of "social agreement" concerning the "meaning" (i.e., limits) of the concept. That is, some concepts possess conceptual limits that are more readily predictable than those of others. Such concepts are termed "public," implying the higher degree to which the principle upon which it is based is shared and freely communicated by the majority of persons within the subculture.

Other concepts have limits that are not readily predictable or are lacking in the extent to which they are shared, these are termed "private." Thus, ". . . a subject who collects several three-sided, closed figures under the concept triangles is using a more 'public' principle than a subject who collects the same figures under the relatively private concept 'pleasing'" (ref. 7, p. 194). The attributes underlying "triangles" are more readily discernible and specifiable than those underlying "pleasing." The conceptual boundaries of "triangles" are more socially communicated, and the mediational link between the stimuli is seen as relatively "public."

Since McGaughran does not require the use of any specific operational definition to define his dimensions, three separate estimates for the Closed-Open dimension (termed "Scores," "Range," and "Elements") were obtained in the present experiment. Two estimates of the Public-Private dimension

(termed "Total/N" and "1st 20 Scores") were also obtained. Furthermore, estimates were obtained using both role figures and objects, providing both interpersonal and impersonal forms.

Besides the indices described above, age of the Ss, hours of college credit, academic year, estimates of verbal fluency, and manifest achievement were also introduced as experimental variables. These variables required control presentation because each had previously been hypothesized as affecting conceptualization.

### Subjects

The sample consisted of 60 female college students with an average age of 21.43 years, S.D. = 6.06 years; 92% of the Ss were between 18 and 28 years of age, with the preponderance (71%) being single. The average number of hours of college credit completed was 41.80, S.D. = 30.87. All Ss were considered as doing adequate school work as defined by their enrollment in the classes described. The decision to limit the sample solely to females was to reduce uncontrolled variation due to sex differences; such variation has previously been shown to affect conceptualization (12).

### Experimental Manipulation

A total of 45 scored variables was obtained from the data which for computation, was later reduced to 22. The question as to whether the data were suitable for the use of parametric statistical technics was answered by the development of graphs for the raw scores of each of the variables, which demonstrated that the sample distributions were clearly approximations of normality. The sole exceptions were the Bieri measures for which square root transformations were carried out. The extent of relationships between the individual measures of conceptual behavior, considered by pairs, was tested by use of Pearson's  $r$ . The commonality among the several multivariable sets of conceptual complexity measures was tested through factor analysis.

## RESULTS

Computation of  $r$  between the control variables of age, hours of college credit, scholastic year, verbal fluency, manifest achievement, and the experimental measures (the

conceptual complexity indices) yielded three significant inter-correlations (2 in excess of .05; 1 in excess of .01), by a two-tailed approximation of  $t$  with d.f. = 58. This proportion is actually less than alpha, and these significances were attributed accordingly, to random variation.

### Test of the First Major Hypothesis

The first major hypothesis proposed a direct correlation between conceptual complexity as elicited by interpersonal stimuli, and conceptual complexity as elicited by impersonal stimuli, for each individual pair of tasks.

Results indicated the Bieri forms are related .52, the Mayo forms, .72, the McGaughran Closed-open forms, .60, .49, and .59 (for Scores, Range, and Elements, respectively), and the McGaughran Public-Private forms -.25 and -.13 (for Total/N and 1st 20 Scores, respectively). All correlations, with the exception of the McGaughran Public-Private 1st 20 Scores, are significant (McGaughran Public-Private Total/N,  $P < .05$ ; all others,  $P < .01$ ).

The implication of these overall findings is that the interpersonal and impersonal forms of the various measures are, for the most part, highly correlated. Thus, the definitions of conceptual complexity used by Bieri, Mayo, and McGaughran are contingent upon the technic they use to derive their respective indices. This holds irrespective of whether humans or things are used as reference stimuli. This overall interpretation may be less tenable in the instance of McGaughran's Public-Private dimension, however, and the implications of this will be considered later.

### Test of the Second Major Hypothesis

The second major hypothesis was that a significant commonality exists among the measures of conceptual complexity; this was tested by use of factor analysis.

After computation of product-moment correlations among all of the conceptual complexity variables, the resulting 22 x 22 matrix of intercorrelations was factor analyzed by the principal axis method. Unity was used as the basis for commonality estimates. Termination differences were obtained through  $10^{-7}$ . Eight factors were extracted and rotated to simple structure by the Varimax method.

Intercorrelations between the variables considered in the factor analysis, the factor loadings of the eight rotated factors, the unrotated factor loadings, and the percentages of common and total variance accounted for by the unrotated factors are all excluded from present presentation because of space limitation.

The proportion of total variance accounted for by the 8 factors is 83.4%. The only other factor analytic assessment of the commonality between measures of cognitive complexity is Vannoy's (14); he was able to account for only 36.5% of the total variance by his eight factors. Thus, this present study reflects a considerably more general factor structure.

Yet, that the presently obtained total variance accounted for is higher than Vannoy's is not surprising; his range of measures of conceptual complexity was much broader than that of this study. While there does not appear to be a commonly accepted technic to test the significance of the difference between amounts of total variance accounted for, the differences in this case appear, by inspection, to be considerable.

While the total analysis accounted for a substantial proportion of the common variance, no factor accounts for more than 26.3%. Thus, conceptual complexity, at least as reflected by the operations presently used, does not appear to be a single unitary parameter. Rather, "conceptualization" may be better described as a multifactor or multidimensional process.

The individual factors were examined in order to assess the nature of the commonality. The six largest factors were considered interpretable, with selection being based on examination of tests having rotated loadings above .40. Only tenuous interpretation of Factors VII and VIII can be made. A discussion of each of the factors follows.

### Factor I

<u>Variables</u>	<u>Loading</u>
Bieri Interpersonal Square Root Score	.75
Bieri Impersonal Square Root Score	.82
McGaughran Closed-Open Interpersonal Score	.79
McGaughran Closed-Open Interpersonal Elements	-.76
McGaughran Closed-Open Impersonal Score	.80
McGaughran Closed-Open Impersonal Elements	-.73

Factor I, the largest factor extracted, accounted for 26.3% of the common variance extracted by the eight factors. The negative values of the two "Elements" measures are due to reverse scoring and are actually consistent with the direction of the other four variables.

Examination of the nature of the measures loading highly on this factor suggests a pattern of cognitive characteristics leading to fine discriminations in both interpersonal and impersonal situations. It is not, however, simply a question of using many polar opposites in categorizing; rather, a person with these characteristics employs numerous subclassifications. Significantly, his verbal skills, at least in terms of this highly circumscribed college population, bear virtually no relation to his capacity to establish and maintain a large number of categories. This is in contradistinction to Vannoy's findings, that "possession of a more complex verbal apparatus is conducive to, or at least correlated with, a more varied and possibly more equivocal interpretation of experience" (ref. 14, p. 390). There are several aspects that might account for this difference. First, Vannoy's sample was exclusively male, and the present sample exclusively female. Verbal skills, as related to multiclassification tendencies, may be a more salient factor for males. Also the range of Vannoy's verbal test (the School and College Aptitude Test: Verbal) was greater than the one presently used, and perhaps more sensitive. Finally, factor structure itself changes with different subject selection procedures: Vannoy's Ss were selected on the basis of their performance on measures of the affiliation motive, a screen not used in the present study.

At the opposite extreme is found the conceptually undifferentiating person, who forces experience into few categories, establishing few gradations, and seemingly employs a limited perspective. Factor I suggests that complex conceptual structure is broadly applied to environmental referents, and appears correlated with a diversified, and possibly more equivocal, interpretation of experience.

## Factor II

<u>Variables</u>	<u>Loading</u>
McGaughran's Public-Private Impersonal Score	.92
McGaughran's Public-Private Impersonal Total/N	.95
McGaughran's Public-Private Impersonal 1st 20 Scores	.92

Factor II, a highly specific factor, accounted for 18.7% of the common variance. While the scores represent different indices based on the same operations and are consequently correlated, the significant aspect is that this triad possesses such a high proportion of common variance, for which it alone can account. Factor II was "created" as it were, by the high mutual intercorrelations. The factor is most significant within the framework of previous findings indicating an orthogonal relationship between the Public-Private, and Closed-Open conceptual dimensions. That is, there is both a theoretical and an empirical basis for assigning some portion of common variance to the Closed-Open dimension, and the Bierl, Mayo, and Tuckman measures. All of these measures have been identified in this study under the same term "conceptual complexity."

The Public-Private dimension was not included within this grouping. The composition of Factor II supports this distinction. Moreover, Factor IV, while not accounting for as much common variance, is also consistent with this interpretation.

### Factor III

<u>Variable</u>	<u>Loading</u>
Mayo Interpersonal Score	.94
Mayo Impersonal Score	.85
McGaughran's Public-Private Interpersonal Score	.84

Factor III accounted for 14.6% of the common variance. The presence of the McGaughran Public-Private Interpersonal Score appears to be an artifact of technic in that the raw Scores Index was contingent on the number of responses the S gave, and was accordingly a function of productiveness of constructs, which is the essence of the Mayo measure. That an individual commonality may exist, however, independent of the Mayo measures, is suggested by the fact that five of the six Public measures, corrected for number of responses, are reflected in different factors (II and IV). By the same token, however, the McGaughran Public-Private Impersonal Score might have been expected to load significantly on this factor, but this expectation was not borne out. The reason for this is unclear but may be a function of the less powerful intravariability weighting used in the impersonal measures.

Major hypothesis 1 appears again supported by these findings; that is, there is a tendency to conceptualize the

environment consistently as defined by a specific technic, irrespective of the actual nature of the given referent.

#### Factor IV

<u>Variable</u>	<u>Loading</u>
McGaughran Public-Private Interpersonal Score	.45
McGaughran Public-Private Interpersonal Total/N	.94
McGaughran Public-Private Interpersonal 1st 20 Scores	.94

This factor accounts for 11.3% of the common variance. Also highly specific, its implications appear the same as for Factor II; that is, it exists apart from all measures of conceptual complexity, including the Closed-Open dimension. Also, the indices of interpersonal and impersonal "Publicness" are relatively independent of each other, and in this sense, different from all the other measures. Whereas all other interpersonal and impersonal forms share sufficient common variance to be reflected within the same factor, interpersonal and impersonal "Publicness" do not. Thus, the degree to which referents can be described in "predictable" (public) terms may be a function of whether the referent is a person or a "thing."

#### Factor V

<u>Variable</u>	<u>Loading</u>
Tuckman's System II Score	-.86
Tuckman's System III Score	.90

Factor V accounts for 9.2% of the common variance extracted. Examination of the items comprising the variables which loaded highly on this factor suggests the behavioral characteristics of a person at one extreme who "perceives his world against a background of self vs. other." Such persons have been described as having "an absolutistic orientation toward others who, when seen in a position of potential control are 'warded off,' and experiencing conflict when external control is imposed upon the self . . . a negatively independent orientation" (13). At the opposite extreme is a person highly sensitive to others who attempts to match his perceptions to theirs. His orientation is toward the maintenance of close interpersonal relationships. The interesting aspect of these two variables concerns their theoretical interrelationship within Tuckman's full schema, including Systems I and IV. That

is, all four variables have been described as representing a more or less linear developmental sequence, and accordingly, to be contained within the same factor. Such a linear relationship was not disclosed by the present analysis. Rather, Systems I and IV are loaded most heavily on a separate factor.

### Factor VI

<u>Variable</u>	<u>Loading</u>
Tuckman's System I	-.66
Tuckman's System IV	.84
Verbal Fluency	.74

This factor accounts for 8.0% of the common variance extracted. While heavily represented by Tuckman's System I and IV scores, Systems II and III load negligibly (-.04 and -.02, respectively). Individuals at one extreme of this factor appear to possess little tolerance for ambiguity and tend to structure the environment in a categorical unyielding manner. They appear inclined toward self-definition by external rather than internal anchors with overgeneralizing stereotypical approaches. The other extreme, represented by System IV, is typified by persons who generalize a large variety of alternative interpretations of environmental events, and who are able to respond flexibly with novel behaviors.

Interestingly, this sort of person is also verbally facile, and Factor VI stands alone in including Verbal Fluency, at least for female Ss, as noted earlier. This suggests that verbal skills load on a different factor structure for females. Noteworthy in this regard is that Vannoy did not use the Tuckman. The composition of Factor VI suggests that the possession of more complex verbal skills is related to sophistication in employing subtle and alternative response patterns to the environment. This notion is not dissimilar from Vannoy's view, although he bases his judgment on findings with different instruments.

### Factor VII

<u>Variable</u>	<u>Loading</u>
McGaughran's Closed-Open Interpersonal Score	-.44
McGaughran's Closed-Open Interpersonal Range	.85
McGaughran's Closed-Open Interpersonal Elements	.49
McGaughran's Closed-Open Impersonal Range	.78

Factor VII accounted for 6.1% of the common variance. The nature of the variables having high loading on this factor is difficult to interpret. The factor is loaded with four of the six indices of McGaughran's Closed-Open dimension. However, it is not loaded with the other two, which suggests the presence of a unique structure. Moreover, it can neither be interpreted as a simple reflection of the extent to which a person can establish differentiations in his way of conceptualizing the environment, since the Bierl measures also fail to load significantly on it. Thus, there remains a question as to the parameter tapped, which probably need not be conjectured at this time, since the total variance involved is only 5.0%. Rather, future experimental investigation specifically directed toward the analysis of the components of the McGaughran schema would probably provide a more adequate appraisal.

### Factor VIII

<u>Variable</u>	<u>Loading</u>
Manifest Achievement	.94

This factor accounted for 5.9% of the common variance. The relatively low correlations of the Manifest Achievement index with the conceptual complexity measures resulted in its being represented on a factor by itself. Thus, the measures of conceptual complexity appear to be largely independent of the manifest achievement motive, at least within the circumscribed limits of the present population.

### DISCUSSION

The primary inference to be drawn from the results of this study is that there exists a considerably greater consistency within operational definitions of conceptual complexity (i.e., within separate schemas of measurement but across stimulus-referrent classes of both persons and "things") than between them. While some commonality does appear to exist among the several schemas identified as measures of "conceptual complexity," it is generally low. No first factor was found on which all of the variables, or even a large proportion of them, were substantially loaded. Thus, the notion that a simple principle exists for the adequate description of conceptualization, as implied by the use of unidimensional measures, was not supported.

While the two original dimensions of the McGaughran schema loaded heavily on the first two factors, accounting for 26.3% and 18.7% of the common variance, respectively, there is a clear implication that additional construct dimensions were tapped by the totality of these various experimental measures of cognition. In general, these findings were interpreted as supporting the position of Gardner and Schoen (2), and Scott (11), and Vannoy (14) that differences in conceptualization, or conceptual complexity, cannot be accounted for by differences along any single continuum.

The initial phase of this experiment, the examination of the effect of the nature of the stimulus-referent on conceptual performance, indicates rather clearly that the given investigator's notion as to the nature of "complexity" is largely inherent in his operational definition. Once the technic is stipulated, significant consistency occurs. An experimenter's attachment to the exclusive use of people or things as referents appears a gratuitous limitation. Moreover, while the present investigation was limited to these two classes, it seems quite reasonable to explore more extensive parameters of conceptual choice. For instance, under conditions of threat or anxiety evocation, conceptualization with regard to interpersonal referents might shift rapidly and, thus, be in sharper contrast with conceptualization involving impersonal referents.

As a corollary, another interesting result is the overall lack of correlation between the McGaughran Public-Private dimension with interpersonal referents and the Public-Private dimension with impersonal referents. While the lack of relationship may be attributed simply to the tapping of different parameters, this explanation is unsatisfying. That is, there seems to be no reason to believe that the criterion of "predictability" used was not an adequate one. It is not unreasonable to suppose that an individual using the constructs "Negro," "old," or "fat" to refer to human referents, might also employ such constructs as "black," "old," or "round" in conceptualizing objects. Similarly, individuals responding to persons in cognitively simple "like-dislike" terms might be expected to respond similarly to such referents as "fruitcake" or "melody." Yet, relations such as these were, for the most part, absent.

The McGaughran Closed-Open dimension is virtually independent of the Public-Private dimension. This finding, to the author's knowledge has, heretofore, not been demonstrated by factor analysis. It is noteworthy that, in the face of

this independence, the Bieri Impersonal measure is significantly correlated with McGaughran's Public-Private dimension. The implication of this would appear to be that the Bieri, at least for Impersonal referents, taps both parameters described by McGaughran, and would accordingly be subject to greater error variance in describing either.

The overall lack of correlation between the Mayo and the other conceptual measures is striking. It rather clearly indicates that Mayo's conception of cognitive complexity is a unique one, as previously suggested by Naugle (9). Nevertheless, it bears a relation to McGaughran's Closed-Open impersonal elements, and a rationale for this is readily available. That is, both focus on the number of discrete concepts that a person will produce, in contradistinction to simple breadth of range. Yet, the relation is not maintained with regard to McGaughran's Closed-Open interpersonal elements; this, again, may point to the possibility of slight, but sometimes significant, differences in conceptual performance as a function of differences in type of referents.

The implications of the factor analysis are, as noted, to be regarded with caution. The reason for this caution is that a necessary aspect of the experiment was the use of measures expected to have common variance (the interpersonal vs. the impersonal forms), and the use of several slightly different measures to tap the Closed-Open, and Public-Private dimensions. Thus, the predicted, but heretofore unsubstantiated, relationships between the experimental measures might not be so much in evidence in a more heterogeneous selection of indices of conceptual complexity.

The significant aspect is that, in spite of these possible flaws in measurement, three of the factors (I, III, and VI) had substantial loadings across measures, and two (V and VI) indicate that a single index (the Tuckman) consists of at least two demonstrable vectors. Thus, four factors appear to represent discrete and measurable inter- and intra-index commonalities that cannot be completely explained on the basis of "built-in" relationships.

Interpretation of the factors obtained in this analysis suggests the operation of several different components in a person's "conceptualizing" behavior. The first is a tendency to establish multiclassifications which persists irrespective of the nature of the stimulus-referent. Some individuals characteristically employ a large number of differentiations, establishing numerous subclassifications with discrete scalar

points. Bieri appears to have described this tendency as "cognitive complexity." McGaughran has described it as "closedness," i.e., the tendency to employ numerous circumscribed conceptual categories. The other end of this continuum is conceptual undifferentiation, in which experience is forced into relatively few categories, with few gradations. This kind of performance appears describable in Bieri's terms as "cognitive simplicity," and in McGaughran's as "openness," i.e., the use of broad "open" categories into which a wide sample of experience is globally sorted.

Another behavioral tendency or process in conceptualizing appears to be the tendency to use "predictable" terms. That is, some individuals tend to employ the more apparent features of the reference object in establishing conceptual categories, whereas others rely on more esoteric associations. Persons employing "predictable" categories focus on physical attributes and role characteristics when dealing with perceived persons, and on perceptible, tangible attributes when dealing with objects.

McGaughran's "publicness" would appear to describe this tendency toward predictability, whereas "privateness" reflects the use of such categories as "like-dislike," with idiosyncratic meanings for the given individual. Interestingly, while there might appear to be a relationship between conceptualizing human and nonhuman referents in terms of this dimension, it is quite low. This suggests that some individuals who use quite predictable (public) terms for describing objects may shift to rather nonpredictable terms when conceptualizing people, and vice versa. The motivational bases for such preferences seems unclear, but may well relate to a person's willingness or ability to discuss his interpersonal relations in conventional understandable terms. The use of private terminology could readily signal behavior abnormality since such conceptual terminology would effectively preclude comprehensible interpersonal communication; this interpretation has been demonstrated in the extreme by McGaughran and Moran (6).

The ever-present possibility with factor analysis is that a quite different factor structure might have emerged had the characteristics of the sample been different. Thus, the present data do not provide any information with regard to differences in cognitive structure between sexes.

While some amount of correlation between the measures of cognitive complexity employed in this study was demonstrated, most of the variance remained unshared. Thus, while some

commonality exists among these measures, it is quite low. Furthermore, it may even be a function of factors other than the existence of a single, highly generalized trait of cognitive complexity.

The implication is that presently available measures of conceptual complexity measure basically different behavior. Moreover, while the various experimenters have traditionally favored either the classes of "people" or "things" as referents, it is clear that differences among methods, the technics, of obtaining the measure are considerably more important than differences between referents, per se.

The significance of this is evident. Regardless of how attractive a simple unidimensional technic for analyzing conceptual behavior may appear, it is incomplete. Thus, the direction for future research seems indicated--the development of multifaceted systems which may provide successively more adequately approximate models to predict the complexity of cognitive behavior.

#### SUMMARY

Decisions concerning the operational specification of "conceptual complexity" involve two important choice points. The first is whether the characteristic, conceptual complexity, is of sufficient scope to incorporate both "interpersonal" and "impersonal" referent. Explicit in such decisions is the choice's relevance to social perception behavior. The second is whether or not response analysis leading to the inference of "conceptual complexity" should be unidimensional or multi-dimensional.

Several systems of measures of conceptual behavior presumably concerning conceptual complexity--Bieri's "Cognitive Complexity" (1), Mayo's "Cognitive Complexity" (8), Tuckman's "Integrative Complexity" (13), and McGaughran's "Closed-Open" and "Public-Private" conceptual dimensions (5)--were employed to test two main hypotheses: (1) different measures of conceptual complexity within themselves provide a statistically reliable score regardless of whether the concepts are elicited in response to either "impersonal" or "interpersonal" referents presented as stimuli; and (2) a preponderant commonality exists among the different measures of conceptual behavior supporting the idea that conceptual complexity is describable as essentially unidimensional.

The subjects were 60 randomly selected female college students with a mean age of 21.43 years, S.D. = 6.06 years. They were sufficiently comparable so that the control variables of age, hours of college credits completed, academic year, verbal fluency, and manifest achievement demonstrated no consistent relationship with performance on any of the conceptual complexity variables.

Each subject was administered the control and conceptual complexity measures, the last in randomized order to control for position and practice effects. The statistical technic testing hypothesis 1 was Pearson's product-moment coefficient of correlation ( $r$ ). Hypothesis 2 was tested by use of a factor analysis employing the principal axis method. Eight factors were extracted and rotated to simple structure by the Varimax technic.

Analysis of the data revealed that the interpersonal and impersonal forms of the Bieri, Mayo, and McGaughran measures (for both dimensions) were, for the most part, highly intercorrelated. Thus, hypothesis 1, that different measures of conceptual complexity within themselves provide reliable scores, regardless of the "object" or "person" character of the given referent, was supported.

Second, the factor analysis revealed the preponderance of factors obtained to be generally technic-specific. No factors were loaded significantly by any substantial proportion of the measures currently used. Hypothesis 2, that conceptual complexity can be adequately represented by describing a unidimensional parameter, was less supported by the present data than the alternate conception that conceptual complexity involves a number of discrete constructs. That is, the analysis did not yield a large first factor, or even one on which more than two of the indices were loaded significantly.

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# PERFORMANCE OF RHESUS MONKEYS DURING CONTINUOUS LOW-LEVEL GAMMA RADIATION

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## INTRODUCTION

The research I report on today arose from a mutual interest in the more subtle, nonlethal effects of sustained low-level radiation on primate behavior shared by the Health Research Center of the Los Alamos Scientific Laboratories and the 6571st Aeromedical Research Laboratory at Holloman AFB.

Dr. Langham and Dr. Spalding of the Health Research Center had exposed monkeys to 2 r per hour of gamma radiation continuously for 10 days (1) and had measured physiologic and biochemical changes, but had not obtained any performance measures. A review of the literature did not yield any behavioral studies which conformed to their design, nor, for that matter, many studies which dealt behaviorally with the range of exposures in which they were interested. The purpose of this exploratory study, then, was to repeat the sustained low-level gamma radiation exposure of Langham and Spalding, using monkeys trained to perform complex tasks.

The dose rate of 2 r per hour and total dose of 500 r were selected because they are believed to be valid estimates of that which an astronaut in space would absorb during a high radiation period such as during a solar storm (1). The normal protection afforded by the space craft is believed to be sufficient to impede slower radiation particles, and thus, only the gamma-type radiation was employed in this study. Further, the use of gamma permitted entry into the source room immediately after shutdown, and therefore was more advantageous in terms of the overall procedure.

## METHOD

### Subjects

Six naive, mature, rhesus monkeys from the 6571st Aeromedical Research Laboratory's primate colony were the subjects. Their weights ranged from 4.8 to 5.3 kg.

### Apparatus

The animals sat in modified pillory neck plate restraint chairs to which identical performance panels were mounted (fig. 1). Since the animals were confined to these chairs for each 30-day phase of the study, each chair was equipped with a spring-loaded footrest mounted so that the seated animal could exercise its legs without raising the rest of its body. Each chair's seat was formed by four metal bars through which a current could be passed thereby delivering a mild shock to the animal's buttocks. A water storage-dispenser unit was located on the right side of each chair within easy reach of the subject.

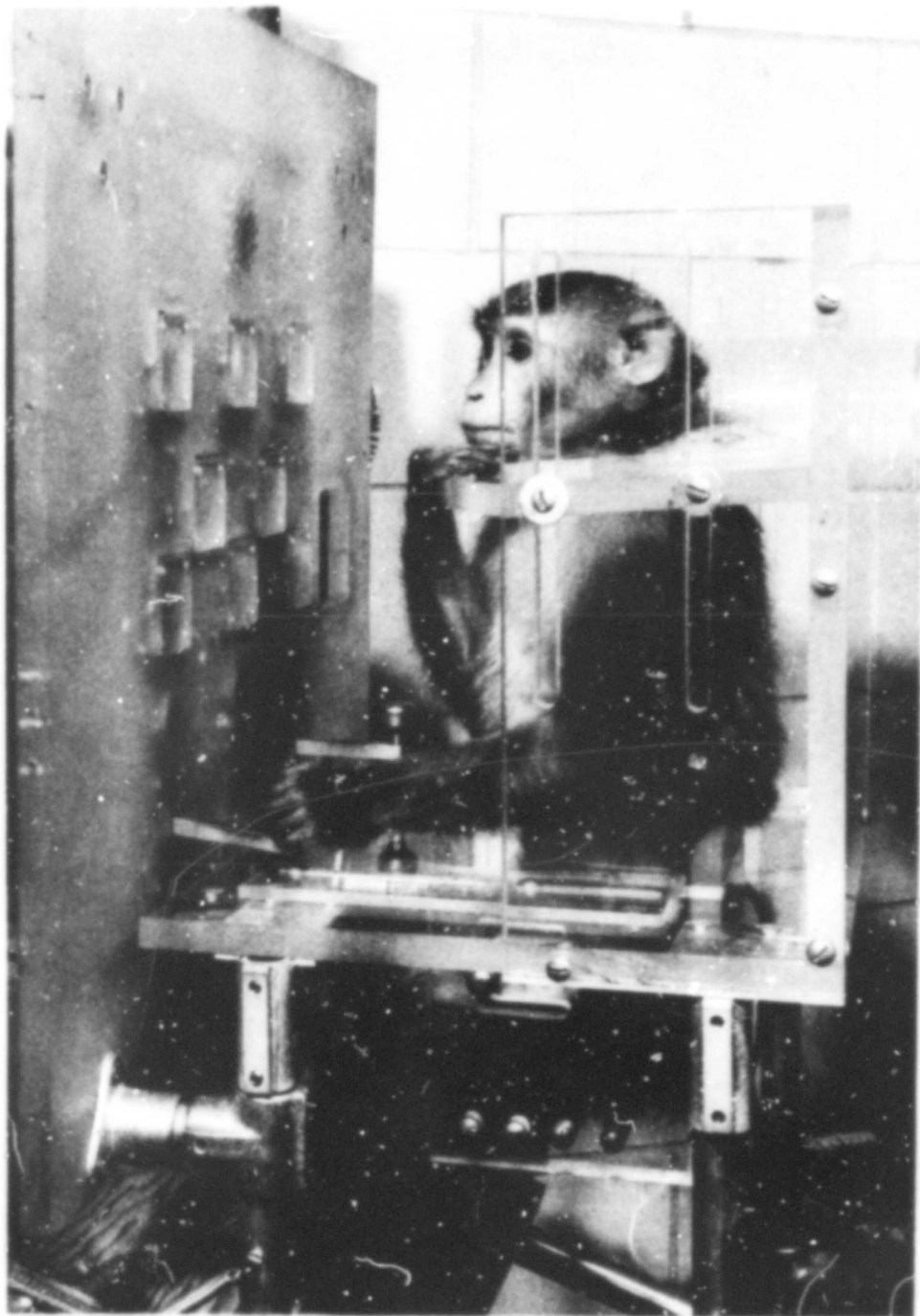
The performance panel included eight stimulus-response keys (SRK), two levers, nine cue lights, one auditory speaker, and a food storage unit with a food delivery mechanism (fig. 1).

The radiation came from an 82-curie, Co<sup>60</sup> source located in the center of an octagon-shaped room 40 feet in diameter. This room was located at the Health Research Center of the Los Alamos Scientific Laboratory. The subject chairs were located in a semicircular fashion so that each chair was exposed to a total dose of 500 r just inside the plastic back plate.

The programming equipment was composed of standard relay and solid state circuitry which automatically presented stimuli and recorded responses for each task performed by each subject.

### Performance

There were four tasks involved in the study. These were: (1) a Sidman avoidance schedule on the right-hand lever using a 5-second stimulus-response (S-R) interval; (2) discrete avoidance to a visual cue with a 3-second S-R interval; (3) discrete avoidance to a 1000 cps auditory cue with a 3-second S-R interval; and (4) a 50:1, fixed ratio for a food reward on the left-hand lever. The temporal relationship of these tasks is shown in figure 2. The hour schedule was repeated



**FIGURE 1.** Pillory neck plate restraint chair showing spring-loaded footrest leg exercise unit and performance panel.

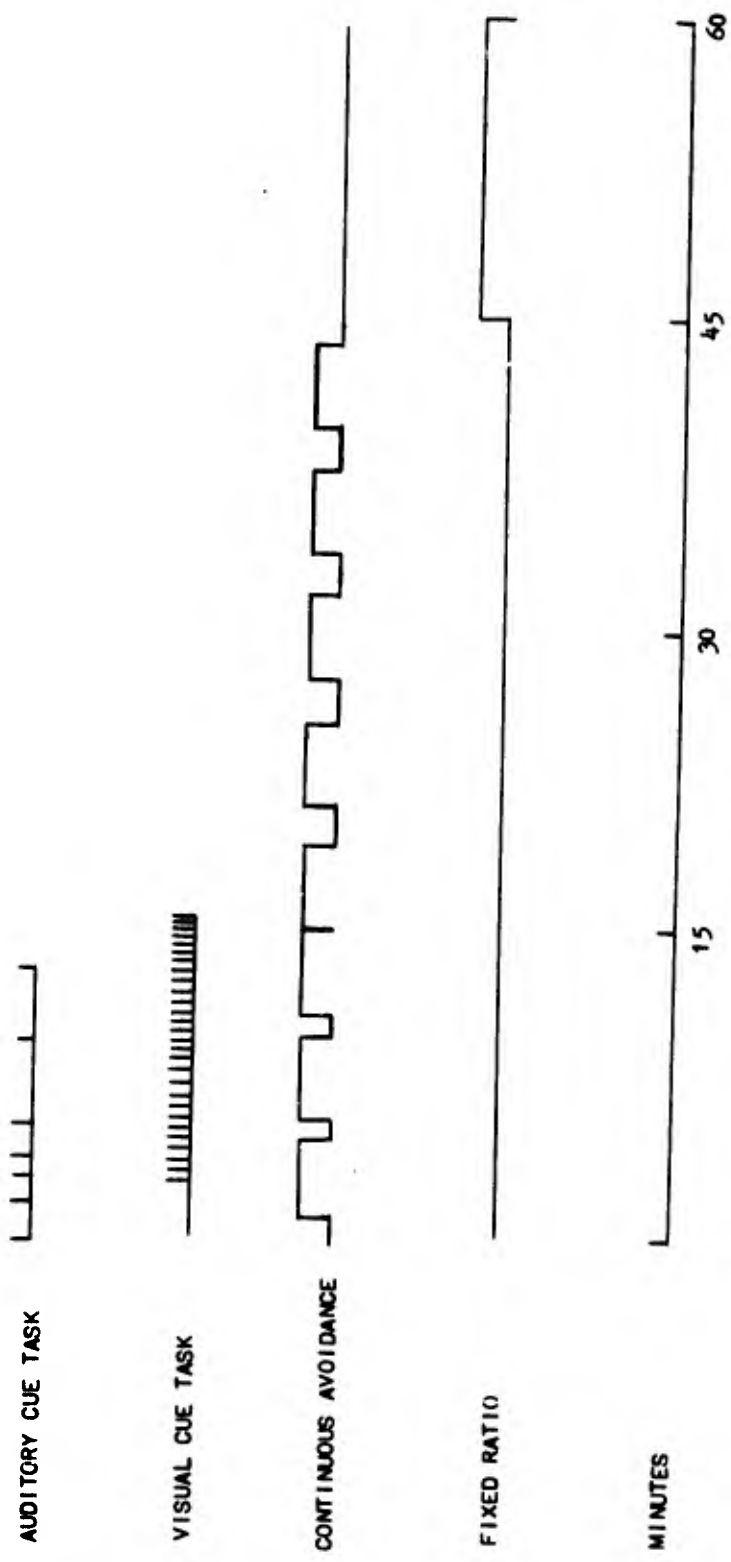


FIGURE 2. Basic 1-hour work schedule showing the temporal relationship of the four work tasks.

six times and then was followed by a 6-hour rest or sleep time. The work/rest cycle was repeated twice daily which allowed for 12 hours of performance to be obtained each day for the duration of each 30-day phase in the experiment.

### Procedure

The animals were trained to asymptote on each task and then were implanted with four radiation dosimeters--two ventrally at the level of the fifth intercostal space on the mid-clavicle line, and two dorsally at the distal surface of the scapula. The animals were returned to training after 4 days of rest to test for performance stability.

There were three 30-day phases in the study. The first phase served to check equipment reliability, data recording procedures, and procedures for maintenance of the animals. This latter point was important in that only a half hour was available to enter the source room, inspect each animal for possible detrimental effects caused by the restraint or experimental situation, clean waste trays, refill water and food storage units, and supplement each animal's diet with fruit. A longer delay would have necessitated either increasing the rate of exposure or reducing the total dose, neither of which were desirable in attempting to conform to the conditions anticipated in actual space during a radiation bombardment. Data recorded during this phase were reviewed in the analyses of the results.

Following the first phase the animals were given a week's rest, transported to the exposure facility, given a comprehensive physical examination, and prepared for the study proper. The experimental phase was composed of 10 days' baseline and restabilization, 10 days' exposure to 2 r per hour (the source was lowered during the half-hour maintenance period), and 10 days (postexposure) as an immediate followup.

The third 30-day phase conducted 60 days after the termination of the second phase was a followup check for possible latent radiation effects and followed the same procedures established for the first two phases.

In addition to the behavioral measures recorded, samples of blood were drawn at various times during the study and will be discussed later in this paper.

## RESULTS AND DISCUSSION

The results of this study indicated no significant performance changes on any of the avoidance tasks as a function of the radiation employed. A more detailed account of the analyses performed on the data may be found in a report published elsewhere (2).

Performance on the appetitively motivated, fixed ratio task apparently was affected by the radiation. Statistically there was no difference between the pre- and postexposure periods during the experimental phase, but postexposure performance was significantly greater than that during exposure (table I). The mean number of lever presses made each day was converted to a standard score to make each animal's variability comparable. These values were plotted (fig. 3) and a visual inspection of the function obtained over the 30-day experimental phase indicated a drop in response rate after the onset of radiation. This was followed by a gradual rise during the latter part of the exposure period to a level during the 10 days following exposure above that of the pre-exposure period. Each 10-day period during the phase was divided into two 5-day segments and another analysis was performed. The decrement seen in the figure was significant (table II) when compared with the 5-day period immediately preceding it, but not with the 5-day period immediately following.

TABLE I

Analysis of variance of performance on the fixed ratio (FR) task during the exposure phase

Source	d.f.	M. Sq.	F
Between subjects	5		
Within subjects	12		
Between periods	2	10771090.1	9.77*
Residual	10	1102881.8	

\* P at .01 level is 7.56.

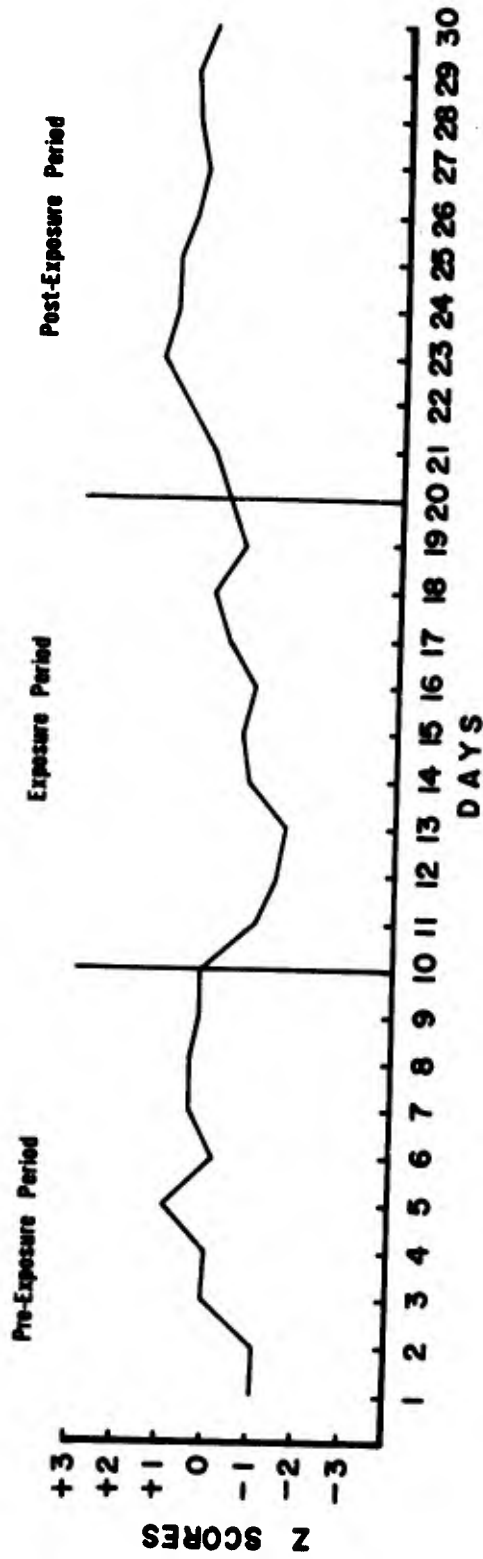


FIGURE 3. Average standard score values of the number of lever presses made each day on the food-rewarded fixed ratio task during the 30-day exposure phase.

TABLE II

Summary of Newman-Keuls test on FR performance during the 30-day exposure phase

Days	Exposure period		Pre-exposure period		Postexposure period	
	11-15	16-20	1-5	6-10	26-30	21-25
11-15	---	NS	NS	*	*	*
16-20		---	NS	NS	NS	NS
1-5			---	NS	NS	*
6-10				---	NS	NS
26-30					---	NS
21-25						---

\* Denotes a significant difference beyond the .01 level.

Although a nonsignificant difference was obtained between the overall pre-exposure period and exposure period, the apparent contradiction is resolved when one notes that it took several days during the pre-exposure period for response rate to re-stabilize, and that the rate began to rise while still in the exposure period. This rise may have been due to the possibility that the animals' drive level increased from a reduced food intake sufficiently to elicit a greater effort on the task, or to an adaptation to the constant rate of exposure. Although no data were collected, information based on the reports of the animal handlers, who work daily in the laboratory's monkey housing area, indicated the animals were eating as much in the month following the close of the study as they had before the experiment was initiated.

The blood data (table III) further indicated that radiation affected the animals. There was a sufficient physiologic insult to severely depress the antibody defense mechanisms, but not enough to cause a performance deficit on the

TABLE III

Mean blood values obtained at each sampling

Sample	Mean WBC	Range WBC	Ratio lymphocytes neutrophils
Before 30-day exposure phase	12,860	11,100-14,200	69:27
Following 10-day exposure period	2,108	1,000- 4,500	38:57
End of 30-day exposure phase	2,395	1,450- 3,350	55:39
One month later	7,533	6,300-10,800	64:28
Before 30-day followup phase	12,350	11,500-13,100	76:18
End of 30-day followup phase	11,200	9,400-14,200	70:25
Six months later	13,280	10,400-16,600	73:24

avoidance tasks. These data also lend credence to the animal handlers' reports that a return to pre-experimental conditions had occurred, and show that the conditions were still prevalent 8 months after the exposure.

The food-rewarded task, as an indicant of the radiation syndrome, anorexia, thus seems to be a sensitive measure of early radiation sickness from which recovery is relatively assured. If this measure is proved reliable, it may be useful in determining radiation tolerances which may be imposed on future space endeavors, in guidance directives for use by Civil Defense or industry, and in tactical problems in the military.

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## A CURSORY EVALUATION OF HOD TEST

Eugene R. Smith

The Hoffer-Osmond Diagnostic Test, commonly known as the HOD, was created and tested by A. Hoffer and H. Osmond. Their conclusions were presented and published in the Journal of Neuropsychiatry, vol. 2, No. 6, August 1961.

The abstract of that article describes the card sorting test as designed to separate schizophrenic patients from those of other diagnostic categories and from normal people. It further specifies that this test "is usually successful in differentiating schizophrenia from all other diagnostic categories with the exception of the organic (toxic confusional states)."

The article itself is well written and is carefully documented down to the finest details and tabulations. The statistics are rather profuse and quite convincing. The test, as it exists, must be accepted as being well-founded, reliable, and valid. The only question which now remains is, can the results of this study be accepted at face value for use in any setting.

The most likely and most significant variable which we must investigate is the population parameters in the initial study and in our own setting.

In describing the experimental subjects, the authors list 279 patients, 156 of whom are schizophrenic and 123 who are generously scattered among five other broad diagnostic groups. Since it will become of some importance later, suffice it to add at this time that 44 of the subjects were diagnosed as "personality problems."

All of the subjects who were tabulated as "personality problems" were acquired through a 39-bed open ward in a large general university hospital where there is no waiting list but where all psychiatric problems are accepted according to teaching and research needs, and the overflow is simply sent to a mental hospital nearby.

One can hardly help but wonder about these personality problem patients as to their more specific nature and how they came to be patients in this rather unique setting. The article tells us nothing of the referral sources and we must, therefore, guess as to whether the subjects were brought to the hospital by police, referred by professional persons elsewhere in Saskatchewan, or sought hospitalization by themselves or with the urging of family members. If we knew more concerning their diagnosis we might feel comfortable guessing that psychopaths are usually sent, subjects with character neurosis usually are self-referral, and inadequate patients are usually brought by other family members. Unfortunately the article tells us nothing to help solve this particular question.

The question posed may well appear to be picking at minutiae if your clinical role is comparable to the role which is described in the article, but other clinical settings are not always so comfortably and positively oriented. We must assume, or perhaps it is safer to suggest a hypothetical assumption and state that--if we assume that those patients who are seen at the hospital ward described in the article are there entirely or essentially of their own volition--the diagnostic group that are labeled as "personality problems" are very likely to be largely or exclusively inadequate and pathologic personality types of disorders who come to this setting in the hope that some type of help can be provided which will alleviate their feelings of discomfort. It is to their advantage to help the staff identify precisely where and what the psychologic pain is. If the therapist knows all there is to know about the problems of these subjects, he is in a pretty good position to prescribe a fairly sound prognostic regimen.

Suppose that the clinical setting was not so pleasantly presented with motivated patients. If the setting were associated with subjects in a prison, court, or military setting in which it is often to the patient's advantage, at least in his own eyes, that he be found sick or more unstable than he actually feels that he is, would the HOD continue to find these subjects easily diagnosed as to the presence or absence of schizophrenia? The hypothesis of this paper is that: patients who feel that it is to their advantage to appear sick will appear schizophrenic according to the HOD; and that there is no internal mechanism in the HOD to even suggest that a subject might be manipulating.

It is proposed that this test as it now exists is a very effective and useful tool as long as the clinical setting in which it is used has a clientele composed of subjects who are motivated to leave the clinic and return as quickly as possible to a productive and reasonable stable role. The alternative cannot be so succinctly and emphatically stated. It would appear on cursory examination that anyone who elects to reverse a finding of nonpathologic thought processes could easily do so, but it is strangely found among many psychologic tests that even known manipulators will not identify themselves as being seriously ill when the results are being recorded.

We cannot say that the HOD does not identify manipulators as being nonschizophrenic without some evidence to demonstrate empirically that this is true, but it is doubtful that anyone would object to the tentative suggestion that this is a worthwhile consideration.

With this possibility in mind, a small sample of random and selected patients were given the HOD at the Mental Hygiene Clinic at Eglin AFB, Fla. Exigencies of time, staff limitations, and availability of the desired types of patients have had a comprehensive and complete study of the question impossible at the present time, but the few tests given are so in keeping with predicated hypothesis that a pilot-study type of comment does not seem unethical nor entirely premature.

The psychometrician was instructed to administer this test randomly to patients being referred from the psychiatric staff members, with some emphasis being placed on cases in which personality disorders were mentioned in the provisional diagnosis. The psychometrician was also asked not to identify the patients tested and not to leave the HOD scoring sheets with the testing protocols.

After ten patients had been given the HOD and their diagnosis had been determined to the satisfaction of the staff, the HOD sheets were compared to the final diagnosis given to each of the patients. Five of the patients were diagnosed as being schizophrenic by the HOD, by the psychologist using only other tests, and by the referring psychiatrist as a final diagnosis upon which the disposition was based. Two of the patients were identified by the HOD as being nonschizophrenic and were called neurotic by the psychologist and psychiatrist. One patient was labeled slightly paranoid (a scale from the HOD not yet discussed) but nonschizophrenic. He was called schizoid by the psychiatrist, and the psycholo-

gist's report indicated both paranoid and schizoid features, but indicated no sign of psychotic ideation. We are now left with two subjects to make a case, and it must again be emphasized that we do not suggest that this is an empirical sample, nor do we wish to present this as a finding upon which decisions regarding the use of the test might be made. We mean only that a particular diagnostic group which is quite meaningful in some clinics may not be appropriately tested with this test.

Many of the details and descriptions of procedures, conclusions, and so on have necessarily been excluded from this paper, but without going into the rationale behind these criterion scores we must, for reasons of understanding, make some direct quotes again from the article. Conclusions drawn from the study state, "A perceptual score of 4 or more indicates schizophrenia or a toxic psychosis," and later adds, "A paranoid score of 4 or more indicates schizophrenia." There is also a later similar reference to a total score which does not need to be considered to add to, detract from, or modify the material we are discussing.

The first case which we will consider to add credence to the previously stated hypothesis is a 20-year-old, Caucasian male airman who had completed over two years of his Air Force obligation; earlier, he had been discharged medically from the Marines for a knee injury; he had been married for about three years but had no children. Past history consists of a successful professional father to whom the patient related poorly and infrequently, an overprotective mother, and a rivalrous brother. He arrived at our clinic as a self-referral because he had been "slapping [his] wife around," and he wanted some medication, he said, "to help me control my temper."

The admitting psychiatrist saw this man as probably being immature. The physician who carried this case felt that this was an immature and unstable young man, but asked for psychologic testing to substantiate his impressions and to search for dynamics.

The patient was given the Bender-Gestalt Psycho-Motor Coordination Test, a Sentence Completion Test, the House-Tree-Person Projective Drawing Test with inquiries, and the Rorschach Psychodiagnostic Inkblot Test. The summation of the Psychological Testing Report stated that "he only repeated signs of a characterological defect."

The final diagnosis given to this man before he was returned to full duty was "aggressive reaction in an unstable personality."

The HOD which was administered, but not included in the interpreted test battery, gave him a Paranoid Score of 7 and a Perceptual Score of 17--strongly suggestive of schizophrenia.

Some contemporary personal details must now be considered in an attempt to find an explanation for this apparent incongruity. The patient's wife had recently asked him for a divorce and so the patient had become very angry and hit her. He then called his father for advice and was simply and emphatically told that there was nothing wrong with him and if he was discharged from the Air Force for his behavior he was not to come home. The patient immediately went to the hospital, again looking for someone to assure him that his behavior was not his own responsibility. His HOD scores reflect his inadequate response to life and an expression of his underlying need to "look" sick.

The other case to be considered is not vastly different from the first. HOD scores were: Paranoid-10 and Perceptual-21. The patient was grossly immature and previously requested that he be allowed to return to the protective confines of a grossly banal home and an overprotective mother. When he did poorly on the testing, he saw this as a possible escape from the impossible demands of military service.

Three of the subjects in this group were selected by the technician according to a criterion established by himself and the psychologist. Two of the three are those already discussed here. The defect in the test must be reasonably gross if subjects can so easily be selected who are apparently not properly identified by the test.

### CONCLUSIONS

The HOD test is probably a very fine tool with a very useful potential, but it has one obvious defect if it is to be used in a setting unlike the one in which it was originally formulated and tested. Much like many other objective personality tests it readily lends itself to being manipulated. If the subjects taking the test feel, for any reason, that it is to their advantage to appear "sick" this test will help them to demonstrate that they are "sick."

It is suggested initially that anyone who makes use of the test must first very carefully determine that the patient's motivation is totally positive. If the patient can profit in fact, or in his own mind, either primarily or secondarily from a poor showing on testing, then this test is useless.

It is also suggested that eventually, if this test is to be included as a meaningful part of psychologic tests used in any setting, some form of internal check be included to determine the patient's purpose and the validity of each individual test administered.

**PYRIDOXINE AS A PROTECTIVE AGAINST TOXIC EFFECTS OF  
MONOMETHYLHYDRAZINE ON COMPLEX OPERANT BEHAVIOR OF THE MONKEY**

**Gladye D. Whitney**

**Thomas L. Wolfle**

The hydrazines have been known since before 1900 and had been investigated from a biochemical and pharmacologic viewpoint by that time. But interest in and research concerned with hydrazine compounds have greatly increased since the 1950's owing to their use as rocket fuels and their function as MAO inhibitors. Monomethylhydrazine (MMH), a rocket fuel, is one of the most toxic of the known hydrazines (LD<sub>50</sub>) and is the most active of the hydrazines on the central nervous system. Chemically it is closely related to iproniazid. Convulsions terminating in death are reported following exposure to monomethylhydrazine.

The behavioral effects of exposure to low doses of MMH were first reported by Reynolds and Back in 1966 (1). They found that 2.5 and 5.0 mg./kg. MMH seriously disrupted performance on complex operant tasks in about half of the monkeys tested. Furthermore, their behavioral measures were clinical symptoms.

A number of compounds have been investigated as prophylactics or antidotes for hydrazine exposures; pyridoxine HCl was reported to have prophylactic properties in cases of exposure to high doses of MMH. Pyridoxine is vitamin B<sub>6</sub>. Its hydrochloride form is a white crystalline powder. Its value in human nutrition is not definitely established, but convulsions have been observed in pyridoxine-deficient infants.

Since it has been shown that behavioral involvement following MMH exposure may appear before and at lower doses than clinical symptoms of toxicity, and that pyridoxine provides protection from the acute effects of MMH, important questions arise concerning the effectiveness of pyridoxine in protecting against the toxicity of low levels of MMH on complex primate behavior. This investigation was performed to investigate the effect of pyridoxine as a protection

against the detrimental effects of MMH on primate performance.

### SUBJECTS AND APPARATUS

The subjects were 10 macaque monkeys maintained on a food deprivation schedule and not allowed to drop below 90% ad libitum body weight. At the time of experimentation their body weights ranged from 3.18 kg. (7.2 lb.) to 7.04 kg. (15.5 lb.).

The main apparatus consisted of ten individual work chambers and a master electronic console which presented work programs to each chamber.

The animal area inside each chamber was 61 cm. (24 in.) wide by 61 cm. (24 in.) long and 66 cm. (26 in.) high. The floor and one side wall of the chamber was a metal grid through which a scrambled electric shock could be presented. One side wall contained a Plexiglas window through which the subject could be observed, and a work panel was mounted on another side wall of the chamber.

Extending from the work panel were two response levers with cue lights, and lights or auditory signals could be presented from behind transparent depressable keys mounted flush on the panel. A more complete description of the performance chamber may be found in a report published elsewhere (2).

### BEHAVIORAL SCHEDULE

A performance program consisting of multiple tasks was presented for 24 minutes and repeated after a 36-minute rest period; thus work sessions were presented hourly.

The first 12 minutes of the work program contained aversively controlled tasks; that is, the subject worked to avoid a mild electric shock. During the second 12 minutes of the program, positively rewarded tasks were presented. Food reinforcement was used.

A Sidman avoidance schedule with a 15-second response-shock interval was presented for the duration of the 12-minute aversive portion of the program. A lever on the right side of the work panel was the manipulandum for the Sidman schedule.

Discrete auditory avoidance and discrete visual avoidance tasks were presented alternately at 20-second intervals concurrent with the Sidman schedule. The visual cue was a white light behind a response key, and the auditory cue was a 1000 cps tone from a speaker mounted behind another response key. From the onset of each discrete stimulus, the subject had a 2-second interval in which to respond by depressing the proper key, if no response was made during the 2-second period, the subject received a mild electric shock.

During the appetitive portion of the program, half the subjects were presented with a FR(100) lever-press schedule; the other group worked a three-stimulus oddity task with reinforcement scheduled of a FR(19) ratio. In both instances reinforcement consisted of 1.0 gm. food pellets.

### PROCEDURE

The subjects received extensive training on their performance tasks for several months prior to the experiment. Pre-experimental baseline control values were obtained over a five-day period immediately preceding experimental injections. On the baseline days each subject was injected intraperitoneally and intramuscularly with 1.0 cc. sterile water about seven minutes before the first work session; then eight cycles of the performance program were presented. The subjects were divided into two dosage groups for the experiment. The 5 animals on the FR(100) task were the high dose group and received 5 mg./kg. intraperitoneally of MMH. The subjects working the oddity task were placed in the low dose group and received 2.5 mg./kg. of MMH. The pyridoxine was administered intramuscularly to all subjects at 50 mg./kg. Injections and work sessions were given as during baseline and the experiment consisted of two phases.

During phase one the subjects received a dose of MMH and pyridoxine on two days with one day between injection days. After eleven days without injections, the subjects were again injected with MMH at the same dose as they had previously received and were given a second dose 48 hours later. No pyridoxine was given during the second phase of the experiment (table I).

TABLE I

## Experimental treatments by days

Phase	Treatment	Day
Baseline	Pre-experimental baseline control	1 - 5
Phase I	(1) Inject MMH plus B <sub>6</sub>	6
	Postinjection day	7
	(2) Inject MMH plus B <sub>6</sub>	8
	Postinjection days	9 - 10
Recovery	No injections	11 - 20
Phase II	Preinjection day	21
	(1) Inject MMH alone	22
	Postinjection day	23
	(2) Inject MMH alone	24
	Postinjection day	25

RESULTS AND DISCUSSION

One subject in the low dose group died following the first injection of MMH with pyridoxine and was removed from the analysis of behavioral effects. Necropsy showed massive centrolobular hepatic necrosis. The magnitude of liver destruction was far greater than can be accounted for by the quantity of MMH injected, and hepatic damage was not clinically apparent in the other subjects.

Positively Rewarded Tasks

At the low dose level there were no significant group differences between baseline and either injection series, but at the high dose level the MMH injection group showed a significant decrease in reinforcements per session below the baseline value, while the MMH plus B<sub>6</sub> group did not differ from baseline.

(Note: Unless otherwise stated, "affect," "decrement," and "significance" refer to the .01 level of significance.)

### Negatively Rewarded Tasks

On the Sidman avoidance schedule, only one subject at the low dose level displayed a decrement and the decrement was apparent during only one work session. At the high dose level, one subject was affected for one work session following MMH with B<sub>6</sub>, while another subject showed a decrement on six work sessions following MMH alone.

A repeated measures analysis of variance yielded no significant effect at the high dose level, but a significant ( $P < .05$ ) treatment effect was discernible at the low dose level. This difference was due to the low dose MMH plus B<sub>6</sub> group, which showed a significant increase in response rate when compared to baseline or MMH alone. This increase in response rate following the low dose of MMH with pyridoxine may be an indication of the stimulatory effects of MMH reported by others, and may be related to its activity as an MAO-inhibitor.

Data from the two discrete avoidance tasks contributed little to the evaluation of the effectiveness of pyridoxine in terms of number of animals affected since two or three subjects from each group showed some significant decrement in performance. Generally, the affect lasted for a longer time following injections of MMH alone than it did after injections of MMH and B<sub>6</sub>.

Another indication of treatment effect is obtained by looking at the total number of work sessions, across both task and subject, which were affected by the various treatments. At the high dose level, 20 work sessions were affected by MMH plus B<sub>6</sub>, while 50 work sessions were affected following injection of MMH alone.

### Clinical Signs

Clinical signs such as abnormal posture and emesis were noted with time of occurrence. Since the time of onset of behavioral impairment relative to the first clinical signs following exposure is a factor of potentially great importance, a time comparison was made for these data. Following injection with MMH plus B<sub>6</sub>, for both dose levels, no subjects displayed

definite clinical signs without, or before, behavioral decrement. On the other hand, from 40% to 75% of the subjects on any one day displayed behavioral decrements on some task without, or before, showing clinical signs. When injected with MMH alone, up to 25% of the subjects displayed clinical symptoms without, or before, behavioral involvement, while up to 80% of the subjects on any one day displayed significant behavioral decrements without, or before, showing clinical symptoms.

In terms of duration of affect, when a behavioral decrement occurred on the Sidman avoidance schedule, it was never apparent until the third hour after injection and lasted maximally until the sixth hour after exposure. More animals showed an effect on the appetitive FR tasks, and the effect appeared within the first hour after injection and in one instance following an injection of MMH alone, the decrement in FR responding was still apparent more than 24 hours after injection.

#### SUMMARY

That pyridoxine functions to some degree as a protectant against the behavioral effects of exposure to low doses of MMH is indicated by the generally longer period of decrement seen following injection of MMH without pyridoxine. Also, behavioral impairment after injection with MMH and B<sub>6</sub> was displayed by fewer subjects than was shown after exposure to MMH alone.

The positively reinforced tasks were much more sensitive to MMH than were either clinical signs or the other behavioral tasks. Thus the performance program used in the present study may have "bracketed" the range of behavioral impairment to be expected following these dose levels of MMH with and without pyridoxine.

Since the program includes both very sensitive and very stable behavioral measures, the data indicate that behavioral involvement ranges from relatively slight to quite extensive.

#### REFERENCES

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## PROSPECTS ARISING FROM AIR FORCE RESEARCH ON JOB PERFORMANCE

Llewellyn N. Wiley

### OVERVIEW

This paper describes a study which is currently going on. The data are only beginning to arrive, and it will be a long time before analyses are completed. We propose to tell you what the study is about, what we hope to get out of it, and the background work which makes us hope that it will succeed.

We began by having airmen in all skill levels of two ladders in the supply career field mark a standard job inventory. They indicated the proportion of their time devoted to each of 300 tasks. This was a necessary step in our experiment.

As we receive the completed job inventories, we learn the names of the supervisors of these job incumbents. The supervisors were then sent two packets which called for rating the airmen on a number of dimensions. The first packet contained the overall performance scale and 65 ratings of traits or behavior characteristics. (See illustrative material on following pages.) Upon completing the general ratings, the supervisor turns to a second booklet which is a special form of the job inventory containing task statements. The rater reads through the inventory looking for tasks that he is certain his ratee performs. He rates his man on each task according to the performance scale. When the task performance ratings are done the rater rates on all tasks in the inventory, including those just considered, using the training requirement scale. This calls for estimating the relative time it would take the ratee to learn to do each task, assuming that a new assignment calls for the task's performance. A man who is currently doing a routine task should be able to perform it immediately upon reassignment. However, if the task requires that the ratee supervise airmen in grades considerably higher than his present grade, he probably could not be assigned the task within the next two years. These are the extremes of our scale: from can do the task now to could not do it within two years of training. (See data collection outline.)

Overall job performance rating

Rating \_\_\_\_\_ Confidence \_\_\_\_\_  
 26 \_\_\_\_\_ 27 \_\_\_\_\_

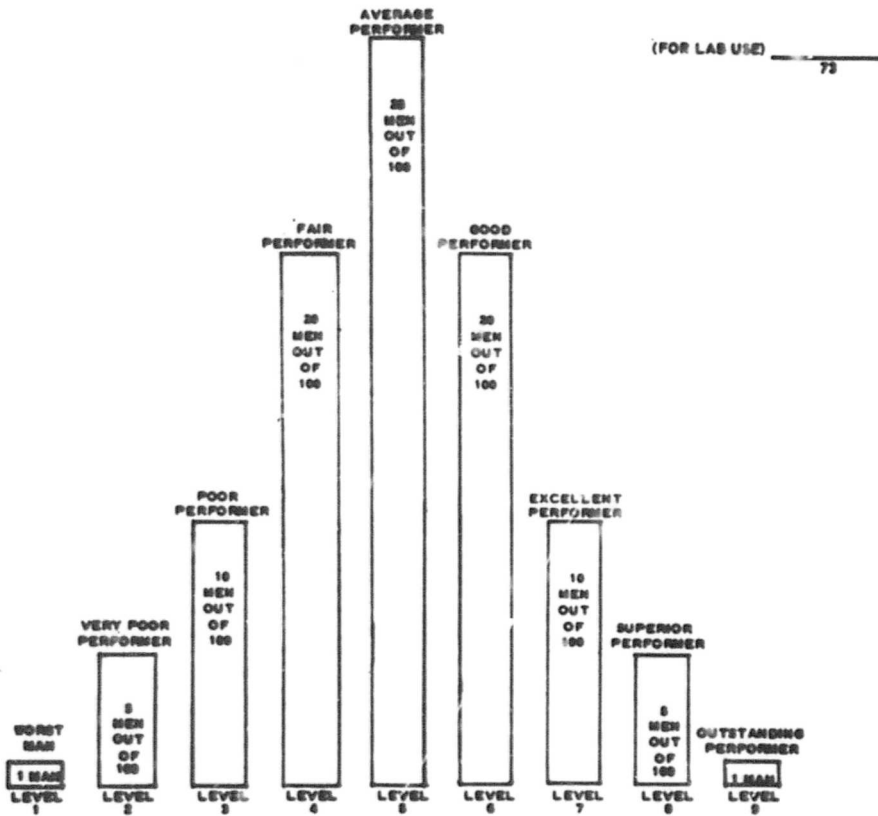
Date \_\_\_\_\_

Rating is current and race is available.

Yes \_\_\_\_\_ No \_\_\_\_\_ 28

Rating is after race was reassigned.

Yes \_\_\_\_\_ No \_\_\_\_\_ 29



**RATING SCALE**

(SHOWING HOW 100 MEN SELECTED AT RANDOM WOULD BE RATED)

## Check List

1. I see (or saw) this man daily while he performs(ed) his duties. Yes \_\_\_ No \_\_\_ 45
2. I see (or saw) the products of this man's work. Yes \_\_\_ No \_\_\_ 46
3. Personnel who supervise(d) this man reported to me on his performance. Yes \_\_\_ No \_\_\_ 47
4. I have (or had) reports of this man's performance from his co-workers. Yes \_\_\_ No \_\_\_ 48
5. I see (or saw) this man at work occasionally (three or four times a month). Yes \_\_\_ No \_\_\_ 49
6. I see (or saw) various kinds of statistical records of this man's output. Yes \_\_\_ No \_\_\_ 50
7. I always see (or saw) this man working as part of a team or crew, and never alone. Yes \_\_\_ No \_\_\_ 51
8. I frequently see (or saw) this man working as part of a team and also saw him working alone or on an individual project. Yes \_\_\_ No \_\_\_ 52
9. My information about this man is chiefly based on the products of a team or crew of which he is (or was) a member. Yes \_\_\_ No \_\_\_ 53
10. My information about this man is chiefly based on the products of more than one team or crew which work successively on the tasks to which he is (or was) assigned. Yes \_\_\_ No \_\_\_ 54
11. Information about this man which deals with teams or crews is based upon his performance as leader or supervisor of such groups. Yes \_\_\_ No \_\_\_ 55

<u>Features or Qualifications</u>	Guessed Rating (Either Not Observed or Not Applicable)	Rating
1. Works under uncomfortable, disagreeable, or annoying conditions without losing self-control.	5	8
2. Goes <u>directly</u> to the exact location of anything related to the work, whether it is parts, equipment, materials, or facts (Examples: Knows where a part is located in a plane, or where an authority letter has been filed).	7	6
3. Makes up his mind quickly.	9	10
4. Checks up regularly on the progress and quality of his men's work, not relying on secondhand information.	11	12
5. Has assured manner; shows self-confidence.	13	14
6. Watches for safety hazards and reports or corrects them <u>immediately</u> .	15	16
7. Shows a perfectionist attitude toward work, wants each detail exactly right.	17	18
8. Accepts suggested changes in his way of working.	19	20
9. Corrects or criticizes without scolding or nagging.	21	22
10. Invents or finds improved ways of doing work.	23	24
11. Remembers details about things seen, read, heard, or done (Examples: Remembers how many parts were ordered, remembers the day he was given an order, how a regulation was worded, etc.).	25	26
12. Shows mature behavior, attitudes, or judgment.	27	28
13. Shows enthusiasm about the work of his specialty.	29	30

	Guessed Rating (Either Not Observed or Not Applicable)	Rating
14. Keeps his co-workers and subordinates informed regarding decisions which affect them.	31	32
15. Plans his own work to use his time efficiently.	33	34
16. Is prompt in beginning and completing work assignment.	35	36
17. Understands complicated instructions, whether written or oral.	37	38
18. Can tell which men are doing good work and uses the information fairly (Must meet <u>both</u> conditions).	39	40
19. Spends considerable off-duty time keeping up on matters relating to his work.	41	42
20. Is competent at several different jobs within the specialty.	43	44
21. Follows directives and printed authority carefully.	45	46
22. Shows that he knows much about science, math, or engineering, whether it's useful on the job or not.	47	48
23. Assists others willingly when working as a member of a group.	49	50
24. Is able to apply theory and principles in order to get tasks done (Examples: Uses formulas in chemical analyses, encodes crypto messages, writes computer programs, predicts weather from data).	51	52
25. Breaks in new personnel skillfully, so that they are quickly able to work alone.	53	54

JOB INVENTORY (Duty-Task List)	AFSC 645X0 647X0	PAGE 10 OF 23 PAGES	
LISTED BELOW ARE A DUTY AND THE TASKS WHICH IT INCLUDES. GIVE A PERFORMANCE RATING ON EACH TASK YOU ARE SURE THE RATEE DOES. ADD AND RATE ANY TASKS THE RATEE DOES WHICH ARE NOT LISTED. FOR THOSE TASKS THE RATEE DOES NOT DO, GIVE AN ESTIMATE OF THE TRAINING HE WOULD REQUIRE TO DO EACH. ALSO GIVE A TRAINING REQUIRED RATING FOR EVERY TASK THE RATEE <u>DOES</u> DO.		PERFORMANCE RATING	TRAINING NEEDED TO DO TASK
DUTY		1. UNSATISFACTORY 2. FAIRLY GOOD 3. SLIGHTLY BELOW AVERAGE 4. ABOUT AVERAGE 5. SLIGHTLY ABOVE AVERAGE 6. EXCEPTIONALLY WELL 7. BETTER THAN AVERAGE	1. MORE THAN 4 YEARS TRAINING 2. VERY LONG TRAINING 3. MODERATE TRAINING 4. MODERATE TRAINING 5. LITTLE TRAINING 6. VERY LITTLE TRAINING 7. COULD DO IT NOW
F. Searching and Maintaining Publications and Files			
TASKS INCLUDED IN ABOVE DUTY			
1. Maintain card files on non-listed stock numbers			
2. Maintain case files on special authorizations			
3. Maintain classified files of plans and programs			
4. Maintain correspondence files			
5. Maintain custody receipt files and registers			
6. Maintain document control files and registers for equipment accounts			
7. Maintain document control files and registers for supply accounts			
8. Maintain file of allowance source documents			
9. Maintain files on Technical Order Compliance property			
10. Maintain requisition files			
11. Maintain stock number directory			
12. Maintain supply reference files of directives, technical orders, manuals, stock lists, or catalogs			
13. Maintain suspense files			
14. Maintain warehouse file for Hi-Valu, classified, or easily stolen items			
15. Maintain warehouse file of cure dates for property			
16. Maintain warehouse file of locator cards for stored property			
17. Make input to file of data concerning basic, detail, and support records			
18. Requisition publications			
19. Search catalogs or technical publications for item identification and classification			

**TASK PERFORMANCE SCALE**

**Does the Task**

1. Unsatisfactorily
2. Fairly well
3. Slightly below average
4. About average
5. Slightly above average
6. Exceptionally well
7. Better than anyone

**TRAINING REQUIREMENTS SCALE**

**To Do Task**

1. More than two years training
2. Very long training
3. Much training
4. Moderate training
5. Little training
6. Very little training
7. Could do it now

STEPS IN THINKING DEMANDED OF THE RATER

Rating the Man

- . Does he do the task?
- . If he does the task, compare his to others who do it.
- . Skip any tasks you are not sure he does.
- . Add any tasks not listed.

Rating the Task

- . Read all tasks.
- . Skip any that are unfamiliar.
- . Could the task be different (more difficult) when done at another base?
- . What kind of training or experience does a man need to be able to do the task?

Rating Both: Man-Task

- . Rate on all tasks that are familiar to you.
- . If the man does the task could he do it on reassignment immediately?
- . If he does not do the task does it call for a qualification that can't be reached in two years? (e.g., grade)
- . Consider knowledge, experience, practice; what is the longest requirement?

. Does the task call for special skills or practice?

. Does the task call for special aptitudes?

. Does the task call for special grade, skill-level, or license?

Thus, we are gathering supervisory ratings on men who have filled out job inventories. We are collecting assessments of their overall performance, their habits and abilities, how well they do their tasks, and how readily they can be used in tasks which they are not now performing. We have introduced controls into the study by collecting a set of ratings from each of two supervisors for every ratee. We are also collecting current operational Airmen Performance Ratings.

This emerges as a large study because it requires two sets of rating data on each of some 1,500 airmen. One is justified in asking what we hope to get out of the cumulative man-hours which go into all these ratings, and why we have the temerity to undertake a study of this size.

When one considers the practices covering reassignment of airmen, it immediately becomes clear that even a small improvement in the effective utilization of airman skills will have substantial payoff. Regulations provide that upon reassignment an airman will be used in his primary AFSC. In general, the regulations are followed. However, there is loss in effective utilization in cases where a man's training and experience do not conform to all the possible assignments which can be given to him within his primary AFSC. Nor is there any standardized method by which men with special experience can be identified to fill critical assignments. In other words, if we help the commands and bases to improve utilization by aiding them in placing reassignees where they will be most effective, even with only a small improvement, we shall have paid for the study several times over.

### REASONS FOR EXPECTING GOOD RESULTS

The tasks that people do impose requirements on those who do them. During the past eight years studies have shown that raters can make reliable assessments of the requirements needed in a job incumbent for successful accomplishment of his tasks. Recent high speed computer developments make it feasible to unify a great variety of such ratings and to relate them to an overall assessment of a man's performance. There are two major kinds of rating data which can be collected. One kind is impersonal. It looks at a task such as driving an ambulance in traffic. Raters are asked to rate this task on several different scales. For example, on-the-job training time would be a pertinent scale for ambulance driving. Some dimensions, such as clerical ability, ought to yield low ratings for ambulance driving. Other dimensions such as emotional

OUTLINE OF DATA COLLECTION

RATEE COMPLETES JOB INVENTORY

GROUPED

APR  
7 or 8 Scores

IMMEDIATE SUPERVISOR

RATES

OVERALL  
PERFOR-  
MANCE

1 Score

65  
TRAITS

65 Scores 1 to 311  
Scores

QUALITY OF  
PERFOR-  
MANCE ON  
TASKS DONE

311 Scores

TIME TO  
LEARN EACH  
TASK IN  
INVENTORY

311 Scores

HIGHER LEVEL SUPERVISOR

RATES

OVERALL  
PERFOR-  
MANCE

1 Score

65  
TRAITS

65 Scores 1 to 311  
Scores

QUALITY OF  
PERFOR-  
MANCE ON  
TASKS DONE

311 Scores

TIME TO  
LEARN EACH  
TASK IN  
INVENTORY

311 Scores

control, ought to yield high ratings. Our studies indicate that any group of raters who are acquainted with the tasks of a job can provide a reliable set of estimates of the requirements of a job. The consensus of seven judges is sufficient.

The second class of data is personal. It involves the evaluation of individuals in jobs. The scales on which people are rated are aimed at the same kinds of information as the dimensions on which tasks are assessed. That is, both seek to describe the qualifications needed to do a job successfully. The task rating score is an average, but the statistical measure needed from rating personnel is a correlation coefficient. We are asking this question: Is having a great deal of a given trait associated with high performance on the job? Our studies have looked into both the impersonal and personal approaches. We are satisfied that supervisors can give us valid data of either kind. Our current study requires a supervisor to provide both kinds of ratings. We would like to know whether inflation of ratings can be reduced by one of these methods and whether using both techniques provides information not available by use of one method alone.

The results of our studies on trait ratings of job incumbents form a baseline for determining the reliability of the ratings being collected now. It was shown that raters agree well on the overall quality of a man's work performance. Supervisors agreed fairly well on rating separate features of a man's behavior. Thus, habits, attitudes, and job knowledge could all be assessed and jointly related to overall performance. This joint accountability of overall performance ratings from separate trait ratings is usually high, from 65% to 90% agreement. Moreover, these predictions held up rather well on cross-validation; that is, for the same job incumbents the trait ratings made by one group of supervisors predicted over half the variance in the performance ratings made by another group of supervisors.

Operational Airman Performance Ratings were obtained for administrative airmen and then correlated with our experimental performance ratings. Correlations between operational APRs and experimental performance ratings ranged around .50, representing agreement on 25% of the variance. Much of the agreement might be attributed to grade, since the higher ranking airmen received higher performance ratings. However, when skill level was controlled, the agreement remained substantial for all grades except senior and chief master sergeants. Although more reliable data were obtained under experimental conditions, it appeared that the operational performance

	1	2	3	4	5	6	7	8	9	10	
9-LEVEL										18.4%	388
7-LEVEL					0.3%			1.1%		15.2%	300
5-LEVEL			0.2%	0.7%	1.0%	0.8%	1.5%	0.3%		22.2%	285
3-LEVEL			0.3%	1.6%	2.6%	3.7%	6.2%	11.3%		29.4%	377
				9.6%	5.8%	13.3%	12.7	17.5%		27.3%	
											9%

	1	2	3	4	5	6	7	8	9		
9-LEVEL										37.7%	388
7-LEVEL				0.6%	2.0%	4.9%	14.1%			40.8%	509
5-LEVEL			0.3%	1.2%	3.9%	10.4%	26.9%			35.6%	1288
3-LEVEL			0.2%	4.4%	11.6%	21.6%	30.4%			28.7%	377
				16.2%	22.6%	27.0%	18.1%			5.8%	
											2.6%

EXPER. PERFORMANCE

Comparative distribution  
by skill level between  
obtained APRs and  
Experimental Performance.

ratings had considerable validity. Considering all of these findings, we were encouraged to believe that supervisors can make a task-by-task assessment of a man's job performance, that supervisors can estimate the specific requirements of tasks, and that supervisors can anticipate a man's capacity to acquire new skills.

Throughout this research it has been apparent that ratings of all sorts are inflated by grade. The next display compares the distribution of APRs for administrative airmen with the distribution of experimental performance ratings. The figure is arranged horizontally by skill level with APRs in the upper section. The data are for the same men in the two sections. Eighty-five percent of the 9-skill level airmen received APRs of 10, or the top of the scale. It was nearly as high for men at the 7-skill level. The corresponding distributions of experimental ratings are also very skewed, but they leave room to distinguish exceptional men from average men.

The correlations between trait ratings and experimental performance ratings are given in table I for two career ladders. Blank spaces occur in the aircraft mechanic data. Supervisors were allowed to omit trait ratings which they considered to be inappropriate. Trait 48 was never rated by aircraft mechanic supervisors. The correlation appearing at that point is derived from a substitution of the mean ratings assigned to a man by his supervisor. In table I the data are limited to those ratees who had two sets of ratings, and the correlations are computed for only the lower supervisor of the pair of raters. That is, the correlations reflect the estimates of supervisors who were close to the ratee in terms of work contacts. It developed that meaningful trait distinctions could be made among skill level groups. For example, differences existed between journeymen (5-skill level) and apprentices (3-skill level) in respect to ability to work without supervision. This requirement was correlated more closely with good performance for journeymen. Ability to supervise and to indoctrinate new personnel distinguished 7-level from 5-level men. And differences in ability to plan and organize distinguished 9-level from 7-level men.

The method of analysis was the multiple linear regression equation. The  $R^2$  values reported in table II show a series of regression problems in both the administrative and mechanic ladders. Each  $R^2$  can be read as a percent. It is the percent of the overall performance variance which can be accounted for by the trait ratings taken jointly. A system of successive

TABLE I

Table of Trait Validities by Skill Level for Administrative Airmen and Aircraft Mechanics  
With Experimental Performance Ratings by Low Echelon Supervisors as Criteria

Trait	Administrative Airmen By Skill Level Indicated					Aircraft Mechanics By Skill Level Indicated				
	3	5	7	9		3	5	7	9	
1. Even temper .....	36	40	29	20		52	70	66	64	
2. Good manners, appearance, neatness .....	30	36	37	26		68	75	73	75	
3. Ability to shift attention to unscheduled tasks and then return to scheduled work without confusion .....	66	66	56	64		66	81	76	69	
4. Good sense of humor and awareness of right and wrong time to express it .....	40	50	44	46		62	74	71	73	
5. Poise, self-confidence, and assured manner .....	59	59	57	52		70	80	79	63	
6. Ability to hold the attention of personnel he is instructing or advising .....	57	57	56	57		--	--	77	65	
7. Ability to organize ideas and communicate them clearly when talking with others or when explaining facts and processes .....	59	50	55	53		--	80	77	62	
8. Enthusiasm about work in specialty .....	56	66	52	63		73	82	78	70	
9. Willingness to cooperate with co-workers or subordinates .....	51	56	37	51		65	78	73	73	
10. Ability to work under uncomfortable, disagreeable, or annoying conditions without losing self control .....	50	49	30	36		67	79	71	74	
11. Willingness to spend considerable off-duty time to keep informed on materials relating to his work .....	56	63	48	62		--	77	77	63	
12. Interest in world and national events indicated by spending considerable off-duty time in keeping informed .....	52	54	36	51		--	--	--	--	
13. Ability to work alone on monotonous tasks for periods of 4 hours or all day .....	51	62	34	43		70	81	77	--	
14. Ability to make others feel at ease and to remove tensions and pressures on those working around him .....	52	56	45	56		--	80	76	77	
15. Ability to criticize without scolding or nagging .....	48	54	46	47		--	--	75	77	
16. Skillful at breaking in new personnel so that they are quickly able to work without constant supervision .....	61	62	59	64		--	--	82	74	
17. Keeps his co-workers and subordinates informed regarding decisions which affect them ..	49	59	50	61		--	--	77	77	
18. Listens to complaints and suggestions of his men and supports them loyally, whenever there is justification .....	54	59	52	64		--	--	72	70	
19. Ability to accomplish large amounts of work in a short time .....	60	63	52	62		74	82	80	73	
20. Perfectionist attitude toward work, anxious to have each minute detail exactly right ..	52	60	41	45		73	81	78	52	
21. Encouraging others, being patient and understanding .....	55	59	37	55		--	--	82	74	
22. Ability to make up his mind quickly and to stick with any decision he has made .....	58	59	54	62		73	81	78	59	
23. Energetic worker who works hard to get the job done quickly .....	71	68	58	63		80	84	80	62	
24. Willingness to try new methods and to accept suggested changes in his way of doing things .....	60	55	42	53		67	76	74	66	
25. Enjoys keeping busy and looks for little jobs in order not to be idle .....	70	66	47	54		74	80	78	72	

TABLE I (Continued)

Trait	Administrative Airmen By Skill Level Indicated					Aircraft Mechanics By Skill Level Indicated				
	3	5	7	9		3	5	7	9	
26. Resourcefulness in meeting emergencies and in finding ways to overcome unexpected situations	60	65	54	61	--	81	84	84	67	
27. Knowledge of theory and principles directly applicable to work in the specialty	66	61	46	59	78	81	74	74	64	
28. Knowledge of other theories and principles that can be applied to work in the specialty	58	59	55	57	--	78	73	73	74	
29. Outstanding competence in one particular task within the whole specialty (not necessarily exceptional in other tasks)	57	43	18	14	--	74	--	--	--	
30. Knowledge of shortcut methods and labor-saving schemes	58	64	57	53	--	74	70	77	77	
31. Long and varied work experience outside the specialty	45	44	27	24	--	--	--	--	--	
32. Prompt beginning and completing of work assignments	71	68	58	67	76	84	80	73	73	
33. Alertness to safety hazards	50	45	35	37	74	80	69	69	69	
34. Knowledge of regulations, SOPs, manuals, or terms and technical vocabulary	55	55	40	45	72	76	70	67	67	
35. Competence in several different jobs within the specialty	67	65	62	66	76	82	81	70	67	
36. Ability to organize the task assignments and work flow within a team	61	60	58	59	--	--	--	--	--	
37. Eagerness to cooperate with superiors	55	59	40	54	72	78	74	79	68	
38. Careful and methodical work habits	65	58	37	48	71	82	78	61	61	
39. Ability to contribute technical know-how to a team activity	64	64	53	54	--	83	80	72	72	
40. Willingness to check up personally on the progress of his men and the quality of their work	55	60	57	62	--	--	81	59	59	
41. Total concentration: Not distracted by interruptions or anything but what he is doing	56	67	43	46	67	80	74	68	68	
42. Willingness to comply with written directives and printed authority	61	63	32	62	70	83	75	78	78	
43. Ability to make wise decisions regarding techniques of work of the specialty	63	69	62	72	--	84	79	79	79	
44. Inventiveness in finding improved ways of accomplishing the work of the specialty	66	64	58	59	--	82	76	55	55	
45. Ability to perform arithmetic computations quickly and accurately	53	51	40	33	--	--	--	--	--	
46. Ability to understand complicated instructions	60	64	50	63	67	81	79	72	72	
47. Fine manipulative skill with fingers or forearms	39	48	30	10	64	75	--	--	--	
48. Ability to handle mathematics beyond algebra and plane geometry	31	32	10	24	64	83	72	75	75	
49. Ability to read and apply new technical directives and policy statements having to do with the work and organization of the specialty	59	70	53	64	--	79	80	81	81	
50. Keen senses, including eyesight, hearing, color vision, or any other sense	33	30	24	03	56	62	66	72	72	
51. Memory for people, including recognizing their names, faces, capabilities, and attitudes	42	50	41	33	--	--	75	65	65	
52. Physical strength and/or overall bodily coordination	29	24	26	-02	52	61	62	59	59	
53. Ability to work more than one shift, or other periods of extended overtime, without bad effects, such as extreme fatigue, illness, or mood disturbance	54	53	42	28	70	76	70	70	--	
54. Memory for details of things seen, read, heard, or otherwise presented, whether related to the job or unrelated	62	64	52	54	64	77	75	69	69	
55. Ability to perform a long, complicated series of skilled acts leading to a particular result (Example, gives wounded man blood and first aid)	51	59	45	45	--	--	--	--	--	



TABLE II

Comparison of R<sup>2</sup>'s Among Skill Levels By Data Groups and Between Career Ladders

Equation	43131 (37 Predictors)			43151 (49 Predictors)			43171 (57 Predictors)			43190 (56 Predictors)		
	Mode A Low	Mode B High	Mode C	Mode A Low	Mode B High	Mode C	Mode A Low	Mode B High	Mode C	Mode A Low	Mode B High	Mode C
First	.83	.84	.77	.82	.83	.81	.67	.79	.80	.78	.68	.88
10	.82	.72	.73	.82	.82	.78	.64	.78	.79	.76	.66	.85
20	.61	.70	.65	.81	.82	.78	.63	.77	.77	.75	.64	.83
30	.77	.55	.53	.80	.78	.76	.61	.75	.75	.72	.62	.79
40	.74			.79	.74	.72	.58	.73	.72	.66	.59	.65
50	.69			.75				.69	.67	.55	.53	.53
60	.55			.68				.59				.65
Last	.23	.27	.24	.43	.38	.42	.37	.33	.38	.20	.19	.23

Equation	70230 (65 Predictors)			70250 (65 Predictors)			70270 (65 Predictors)			70490 (65 Predictors)		
	Mode A Low	Mode B High	Mode C	Mode A Low	Mode B High	Mode C	Mode A Low	Mode B High	Mode C	Mode A Low	Mode B High	Mode C
First	.69	.76	.82	.66	.68	.77	.59	.64	.71	.68	.79	.82
10	.65	.71	.77	.61	.65	.74	.56	.61	.68	.64	.75	.79
20	.61	.68	.71	.59	.62	.71	.53	.57	.65	.59	.72	.75
30	.56	.63	.69	.57	.58	.69	.47	.49	.60	.55	.63	.69
40	.53	.57	.65	.54	.54	.65	.41	.41	.50	.49	.57	.65
50	.47	.46	.57	.47	.49	.59	.32	.31	.36	.40	.40	.55
60	.26	.22	.32	.25	.26	.31	.14	.11	.15	.11	.07	.19
Last	.07	.09	.12	.05	.06	.07	.03	.01	.05	.03	.00	.03

\* Mode A data for aircraft mechanics contain all 65 trait predictors

problem solving was used as reflected in table II. In this procedure the first equation was computed with all trait ratings used as predictors. Then the traits were arranged in descending order of their correlations with the overall performance rating. After solving an equation with all available predictors, the trait with the highest correlation was removed without replacement. A new equation with one less predictor was computed, and this process was repeated until the predictors were exhausted. Table II shows every tenth problem in this sequence. Analyses for aircraft mechanics at the four skill levels appear in the upper half of table II. One can get an idea from table II of how the traits hold up in joint prediction as the best predictors are removed.

The second and third columns under each skill level contain  $R^2$  values for those ratees who had two raters. The low echelon rater was the one closer to the ratee in the work situation. Data providing columns 2 and 3 were pooled and recomputed to give column 4. Note that the pooled  $R^2$  values for aircraft mechanics in column 4 are consistently lower than the values in columns 2 and 3. This is very unusual in trait rating studies. The conventional finding has been that two trait raters are better than one. The trait ratings for administrative airmen behaved in a conventional manner, but those for mechanics did not. The phenomenon suggests that supervisors working closely with aircraft mechanics observed different features of the work than did supervisors higher up the ladder.

The trait rating studies indicated that different patterns of job requirements existed at different skill levels. In doing so they revealed the fact that not all supervisors can provide the same information on a man. These rater differences can arise from the nature of the work, the way it is organized, and how it is supervised. Lower echelon supervisors appeared to be able to rate a man's habits better than higher level supervisors, but there was also some evidence that they exaggerated the quality of his products. That is, lower echelon raters appeared not to have as adequate standards for placing a ratee among other men who do the same type of work. It is fortunate that two sets of raters could be obtained in the trait rating studies. This made possible the cross-validations shown in table III. We can infer from these results what magnitudes of  $R^2$  we ought to get from the current study on supply personnel. If it turns out that rating men on their task performance yields a more stable criterion of overall job performance than we have so far achieved, these  $R^2$  standards will tell us so. We do not know yet if this will

TABLE III

Cross-validation  $R^2$  values using low echelon trait ratings to predict high echelon performance estimates and vice versa for aircraft mechanics\*

Echelon of trait raters	Echelon of criterion raters	$R^2$ by skill level			
		43131	43151	43171	43190
Low	High	.633	.329	.403	.743
High	Low	.633	.411	.483	.855
		(83)†	(418)†	(274)†	(77)†
Comparative $R^2$ values in which trait raters predict their own criteria					
Low	Low	.836	.832	.802	.898
High	High	.874	.806	.777	.935

\*The number of iterations is five to ten times larger in the cross-validation problems than in the conventional ones.

†Number in parentheses is number of ratees.

occur. Let us look for a moment at some data which are almost certain to result.

#### APPLICATION OF THE NEW DATA

Returning to the page of task ratings in the supply inventory, suppose that we separate the ratees by grade. We now compute means across all inventories at a grade level using the ratings in the second column. We obtain the mean rating on training time for each task. For example, we have a set of training time ratings for airmen first class. Any task which is commonly done by airmen first class will average out with a high rating. Tasks involving supervising men in grades above airman first should have low mean ratings for a table built up from ratings made on airmen first class. We

MEAN TASK TRAINING TIME RATINGS  
OBTAINED ON A SMALL SAMPLE FROM  
ONE BASE

	6A530 (6A550 for A3C, A2C)	6A550 (A1C, SSGT)	6A570 (SSgt, TSgt)	6A590 6A790	
<b>DUTY B: Directing and Implementing</b>					
1. Brief personnel on mobility plans	2.7	4.2	4.5	5.5	
2. Brief personnel on new manuals and directives	4.3	5.4	6.5	6.3	
3. Direct equipment authorization and support functions	3.6	5.0	4.5	6.0	
4. Direct inventory functions	4.7	5.8	6.0	6.0	
5. Direct maintenance support functions	3.3	4.7	4.7	6.0	
6. Direct personnel in issuing, shipping, and transferring property	4.3	6.2	6.3	6.8	
7. Direct personnel in receiving property	4.7	6.3	7.0	6.3	
8. Direct personnel in storing property	4.0	5.9	6.8	5.8	
9. Direct pick-up and delivery operations	4.7	6.2	6.5	6.5	
10. Direct special project and special duty activities	3.7	5.0	5.8	5.8	
11. Direct stock control functions	3.3	5.5	5.5	6.0	
12. Direct subordinates in making property inspections	4.7	5.7	6.3	6.3	
13. Direct subordinates in searching and maintaining publications and files	5.3	5.0	6.8	6.8	
14. Direct use of time-card system	3.7	4.9	4.0	6.0	
15. Implement controls and follow-up for new procedures	4.3	4.6	6.0	6.0	
16. Implement procedures to control Hi-Value items	3.7	4.4	4.0	6.8	
17. Prepare job descriptions	5.0	4.4	6.0	6.3	
18. Supervise inventory management superintendents (AFSC 6A590)	1.3	3.0	3.5	6.3	
19. Supervise inventory management supervisors (AFSC 6A570)	1.3	3.5	6.5	6.8	
20. Supervise inventory management specialists (AFSC 6A550)	2.0	4.8	7.0	6.8	
21. Supervise inventory management apprentices (AFSC 6A530)	3.0	5.3	7.0	7.0	
22. Supervise materiel facilities superintendents (AFSC 6A790)	1.3	3.2	3.5	6.0	
23. Supervise materiel facilities supervisors (AFSC 6A770)	1.3	3.2	5.0	6.3	
24. Supervise materiel facilities specialists (AFSC 6A570)	1.3	4.6	6.0	7.0	
25. Supervise materiel facilities apprentices (AFSC 6A730)	3.0	5.3	6.5	7.0	
26. Supervise civilian personnel	2.7	5.0	7.0	6.5	
	<b>MEAN OF MEANS</b>	3.3	4.9	5.7	6.3

**MEAN TASK TRAINING TIME RATINGS  
OBTAINED ON A SMALL SAMPLE FROM  
ONE BASE**

	G4530 (G4550 for A3C, A3C)	G4550 (A1C, Sgt)	G4570 (Sgt, Sgt)	G4590 G4190
<b>DUTY F: Searching and Maintaining Publications and Files</b>				
1. Maintain card files on non-listed stock numbers	7.0	5.9	7.0	7.0
2. Maintain case files on special authorizations	7.0	5.9	6.5	6.8
3. Maintain classified files of plans and programs	4.0	4.8	4.0	6.0
4. Maintain correspondence files	5.5	5.8	6.3	6.8
5. Maintain custody receipt files and registers	5.0	6.2	7.0	7.0
6. Maintain document control files and registers for equipment accounts	5.5	6.1	7.0	6.5
7. Maintain document control files and registers for supply accounts	7.0	5.8	6.8	6.8
8. Maintain file of allowance source documents	6.0	6.3	6.8	6.8
9. Maintain files on Technical Order Compliance property	7.0	5.8	6.0	6.8
10. Maintain requisition files	7.0	6.2	6.8	6.8
11. Maintain stock number directory	5.0	5.5	6.3	6.8
12. Maintain supply reference files of directives, technical orders, manuals, stock lists, or catalogs	7.0	5.9	6.3	6.8
13. Maintain suspense files	7.0	6.3	6.3	6.8
14. Maintain warehouse file for Hi-Valu, classified, or easily stolen items	6.0	5.4	4.5	6.8
15. Maintain warehouse file of cure dates for property	6.0	5.8	5.0	6.8
16. Maintain warehouse file of locator cards for stored property	6.0	5.7	5.8	6.8
17. Make input to file of data concerning basic, detail, and support records	7.0	4.7	6.0	6.8
18. Requisition publications	6.5	6.2	6.0	6.0
19. Search catalogs or technical publications for item identification and classification	7.0	5.9	6.2	7.0
20. Search catalogs or technical publications to determine supply sources	7.0	5.7	6.0	7.0
21. Search equipment allowance publications for basis of issue and allowance	7.0	6.1	6.8	6.8
22. Search standard publications for supply policies and procedures	7.0	5.9	6.4	7.0
<b>MEAN OF MEANS</b>				
	6.3	5.8	6.2	6.8

build similar tables for men in the other grades. Subsequent tables contain imaginary data based upon trends from the earliest returns of the study.

We now avail ourselves of the information obtained from grouping the job inventory responses which the ratees made in the first phase of the study. Job types will emerge from these analyses. If we arbitrarily say that a job type consists of those tasks which are performed by at least 50% of the members, we can identify a job type by a specific group of tasks. Using our tables of mean training time ratings, we can assign a training time score to each task in a job type. Out of this will come a suitability level. For instance, a job type can be characterized as appropriate for staff sergeants but not for airmen first class. We can now move to a specific ratee. We can ask the question: Would it be appropriate to assign a certain man to work in the job type in question? Since the ratee was given training time estimates for all tasks in the inventory, he received a rating for each task in the job type. We need only to compare his ratings on the tasks in question to the means for his grade level. If we suspect that the ratings on one man are likely to be unreliable, we can match a number of men to the job type and establish error tolerance.

One can extend this general plan to finding job types which are training grounds for upgrading men to higher skill levels. Another possible use of the rating data could be to assist base management in the development of jobs that can be done with a minimum of formal training.

# AIR FORCE NORMS FOR THE THIRTY-ONE HARRIS AND LINGOES MMPI SUBSCALES

Lawrence R. Maier

## INTRODUCTION

Despite numerous structural flaws and recent public and congressional criticism (see the November 1965 issue of the American Psychologist), the Minnesota Multiphasic Personality Inventory (MMPI) remains one of the most popular and well-researched psychologic instruments available. Since Hathaway and McKinley (1940) published their first MMPI article, literally hundreds of studies and books concerning it have appeared in print. Much of the work done has been in the construction of subscales, developed for a multitude of purposes, both diagnostic and predictive. As long ago as 1960, there were at least 213 scales published (Dahlstrom and Welsh, 1960) with many more having appeared since then.

Of particular importance to the present investigation is the subscale work done by Harris and Lingoes (1955). Their 31 subscales are groupings of items taken from within 6 of the 10 published clinical scales of the MMPI (Hathaway and McKinley, 1951) and were constructed as an aid to regular profile interpretation. Scale groupings were established and named subjectively by the authors and are believed to be useful to psychologists with a variety of theoretical orientations.

Use of these scales gives to the clinical psychologist far more information than can be obtained from analysis of the clinical scales alone. For example, it is well known that the Hysteria (Hy) scale contains two quite different sets of negatively correlated items. There are items dealing primarily with physical functioning and another set of items reflecting more social attitudes. By using the subscales the clinician can determine which set of items is more deviant, thereby suggesting possible conversion reaction or hypochondrical concerns on the one hand, or hysterical "character" features on the other, i.e., denial, social manipulation, repression, etc. Or, by using the Paranoia (Pa) subscales the clinician can determine if it is primarily paranoid-like projection that the patient is showing or if it is, instead, the heightened

sensitivity or overrighteousness of paranoid-like people that is causing the scale elevation. Or, maybe it is all three. Such discriminations can be made by use of subscale scores.

Norms for scales like these must be used with caution since age, socioeconomic status, geographic location, admission policies, etc., can all influence scale elevations and item frequencies. This is especially true in the military hospital setting where many patients undergo psychologic evaluation for reasons other than their own. Very often things like retention, disability benefits, retirement, promotion, and even job assignment can be influenced by the inferences drawn by the psychologist.

Harris and Lingoos developed norms for their scales from the randomly drawn MMPI records of voluntary male and female psychiatric patients (about 60% of them outpatients and 40% inpatients) at the Langley Porter Neuropsychiatric Clinic in San Francisco. Fifty patients of each sex were used. As far as this author knows these norms have never been published (although mimeographed copies are available), nor have they been replicated, either by the original authors or others.

The purpose of the present investigation was to establish Air Force norms for these 31 subscales and to make comparisons between such norms and those of Harris and Lingoos. Such norms should have direct clinical applicability for Air Force psychologists in assisting them to make more accurate and detailed use of MMPI profiles.

#### SUBSCALE NAMES AND DESCRIPTIONS

Since the subscale descriptions have not been published, these and the subscale names are reproduced below. The authors report that the names and descriptions emerged fairly easily from the items and that no effort was made to force them into a systematic framework. The interpretations are felt to be a "mixture of attitudes, complaints, symptoms, and inferred defenses," and are to be understood as resulting from statements which patients have affirmed or denied. Such statements always require interpretation as to their particular meaning with a particular patient. The underlined phrase below is felt by the authors to be the most convenient term for expressing the core meaning of the group of items, with the other phrases being suggested alternatives. The following descriptive information is taken from Harris and Lingoos (1955):

A. Depression

- D1. Subjective Depression; a negation of joy in doing things; pessimism, poor morale and low self-esteem; complaints about psychologic inertia and lack of energy for coping with problems.
- D2. Psychomotor Retardation; nonparticipation in social relations; immobilization.
- D3. Complaints about Physical Malfunctioning; preoccupation with oneself.
- D4. Mental Dullness; unresponsiveness; distrust of one's own psychologic functioning.
- D5. Brooding; ruminativeness; irritability.

B. Hysteria

- Hy1. Denial of Social Anxiety; social extroversion.
- Hy2. Need for Affection and Reinforcement from Others; implied in an (obtuse) denial of a critical or resentful attitude toward other people; impunitiveness; overly protested faith and optimism in other people.
- Hy3. Lassitude-Malaise; complaints about functioning below par physically and mentally; effortful keeping up of a good front; need for attention and reassurance.
- Hy4. Somatic Complaints; of a kind that suggest repression and conversion of affect.
- Hy5. Inhibition of Aggression; expressed by concurrence with others, disavowal of violence.

C. Psychopathic Deviate

(Items are drawn from both the scale as published in the current manual and from the unrevised, 1943 edition of the scale.)

- Pd1. Familial Discord; struggle against familial control.
- Pd2. Authority Conflict; resentment of societal demands and conventions and parental standards.

- Pd3. Social Imperturbability; denial of social anxiety; blandness; denial of dependency needs.
- Pd4A. Social Alienation; feelings of isolation from other people; lack of belongingness; externalization of blame for difficulties; lack of gratification in social relations.
- Pd4B. Self-alienation; lack of self-integration; avowal of guilt, exhibitionistically stated; despondency (e.g., these items are often answered in the scored direction by alcoholics who refer themselves for treatment).
- Pd4. Alienation; a summation of 4A and 4B.

(N.B. In naming the Pd subscales, and in interpreting scores on the scale as a whole, we have in mind a continuum running from a rejection of social norms at the high end to an over-internalization, implied by extreme conventionality, at the other.)

#### D. Paranoia

- Pa1. Ideas of External Influence; externalization of blame for one's problems, frustrations, failures; in the extreme degree, persecutory ideas; projection of responsibility for negative feelings.
- Pa2. Poignancy; thinking of oneself as something special and different from other people; high-strung; cherishing of sensitive feelings; overly subjective, "thin skinned."
- Pa3. Affirmation of Moral Virtue; excessive generosity about the motives of others; righteousness about ethical matters; obtuse naivete; denial of distrust and hostility.

#### E. Psychasthenia

The items in this scale do not lend themselves to classification; many are complaints about inefficient psychologic functioning, and express doubt and ambivalence--a kind of "hypochondriasis about the mind," as described by Janet.

## F. Schizophrenia

- Sc1A. Social Alienation; a feeling of lack of rapport with other people; withdrawal from meaningful relationships with others.
- Sc1B. Emotional Alienation; a feeling of lack of rapport with oneself; experiencing the self as strange; flattening or distortion of affect; apathy.
- Sc1. Object Loss; a summation of Sc1A and Sc1B.
- Sc2A. Lack of Ego Mastery, Cognitive; the admission of autonomous thought processes, strange and puzzling ideas.
- Sc2B. Lack of Ego Mastery, Conative; feelings of "psychologic weakness," abulia, inertia, massive inhibition; regression.
- Sc2C. Lack of Ego Mastery, Defect of Inhibition and Control; a feeling of not being in control of one's impulses, which may be experienced as strange and alien; at the mercy of impulse and feeling; dissociation of affect.
- Sc2. Lack of Ego Mastery, Intra-psychic Autonomy; a feeling that one is not in control of part-processes-sensation, perception, thought, motor activity. A summation of Sc2A, Sc2B, and Sc2C.
- Sc3. Sensorimotor Dissociation; a feeling of change in the perception of the self and the body image; feelings of depersonalization and estrangement.

## G. Hypomania

- Ma1. Amorality; a callousness about one's own motives and ends and those of other people; disarming frankness; denial of guilt.
- Ma2. Psychomotor Acceleration; hyperactivity, lability, flight from "inner life" and anxiety; pressure for action.

- Ma3. Imperturbability; affirmations of confidence in social situations; denial of sensitivity; proclamation of independence from the opinions of other people.
- Ma4. Ego Inflation; feelings of self-importance to the point of unrealistic grandiosity.

#### SUBSCALE ITEMS

The item numbers for each subscale and scoring directions are contained in Dahlstrom and Welsh (1960, pp. 448-468). Scoring templates can easily be constructed by punching holes in MMPI answer sheets.

#### ITEM OVERLAP AND INTERCORRELATIONS AMONG AND BETWEEN SUBSCALES

Table I contains the item overlap among the subscales and between each subscale and the main clinical scale from which it was derived. No attempt was made by Harris and Lingoes to avoid the placement of an item in more than one subscale (at least for the D and Pd scales) since any given item was felt to have potential validity for more than just one attitude or personality trait underlying the different sortings. No doubt this overlap did tend to raise some of the intercorrelations.

Table II contains all product moment correlations and intercorrelations between and among the subscales and the main clinical scales from which they were derived. These figures are based on the raw scores, uncorrected for K, of the Wilford Hall sample, to be described below. Table III shows just the correlations of the subscales with the appropriate main scale and their intercorrelations for both the Wilford Hall and Langley Porter samples. None of the correlations were corrected for item overlap.

Correlations between each subscale and all other main scales (L, F, K, Hs, Mf, Pt, Si), as well as with age and education were also obtained. These data are not reported here since comparative figures are not available.

It is interesting to note from table III the high degree of similarity between the correlations of the two samples. No doubt item overlap is partially responsible and yet the close agreement between subscales with minimal or no overlap,

TABLE I  
Subscale Item Overlap

	D	D1	D2	D3	D4		Hy	Hy1	Hy2	Hy3	Hy4
D1	32					Hy1	6				
D2	15	7				Hy2	17	0			
D3	11	3	0			Hy3	15	0	0		
D4	15	12	5	0		Hy4	17	0	0	0	
D5	10	10	2	0	3	Hy5	7	0	0	0	0

	Pd	Pd1	Pd2	Pd3	Pd4A		Pa	Pa1	Pa2
Pd1	9					Pa1	17		
Pd2	8	0				Pa2	9	1	
Pd3	6	0	3			Pa3	9	0	0
Pd4A	12	0	1	3					
Pd4B	12	0	0	0	5				

	Sc	Sc1A	Sc1B	Sc2A	Sc2B	Sc2C		Ma	Ma1	Ma2	Ma3
Sc1A	21						Ma1	6			
Sc1B	11	0					Ma2	11	0		
Sc2A	10	0	0				Ma3	8	0	0	
Sc2B	14	0	8	3			Ma4	9	0	0	0
Sc2C	11	1	1	0	0						
Sc3	20	0	0	2	0	4					

e.g., Pa and Hy, suggests that the Harris and Lingoos correlations are reliable measures of the scale relationships.

Most of the subscales with similar names or similar descriptions but from different main scales show high correlations. For example, a look at some of the subscales requiring an admission of symptomatology shows a correlation of .85 between D1 (Subjective Depression) and Hy3 (Lassitude-Malaise); .78 between Pd4A (Social Alienation) and Sc1A (Social Alienation); and .73 between Pd4B (Self Alienation) and Sc1B (Emotional Alienation). Between D3 (Physical Malfunctioning) and Hy4 (Somatic Complaints) a correlation of .49 was obtained.

Subscales which in a general sense seem to reflect denial or defensiveness against symptom admission correlate high in a positive direction with each other but negatively with the symptom subscales. For example, Hyl (Denial of Social Anxiety) correlates .88 with Pd3 (Social Imperturbability) and .71 with Ma3 (Imperturbability), but correlates -.60 with Sc, and -.47 with Sc1B. In like fashion Pd3 correlates .74 with Ma3 but -.55 with Sc. Another interesting correlation is the .75 between Hy2 (Need for Affection and Reinforcement from Others) and Pa3 (Moral Virtue).

#### NORMS

All statistical computations were done on the randomly drawn MMPI records of 253 male and 53 female patients referred during 1965 to the Psychology Service of Wilford Hall USAF Hospital. All subjects were either military personnel (including retired) or dependents of military personnel with 80% of the total sample being referred by the Psychiatry Service and 17% by the Neurology Service. Approximately 77% of the sample (235 out of 306) were inpatients; 63% of the males and 68% of the females were married. The mean age for males was 30.3 years (S.D. = 9.0) and for females 28.2 years (S.D. = 8.4); the mean educational level for males was 12.6 (S.D. = 2.0) compared to 13.0 years (S.D. = 2.2) for the female subjects. Mean differences, tested by  $t$  between the two groups were not statistically significant. For male and female subjects combined the mean age was 29.9 years (S.D. = 8.9) and the mean educational level 12.7 years (S.D. = 2.1).

The average main scale T scores for the male and female subjects of both the Langley Porter and Wilford Hall samples are given in Table IV;  $t$  score comparisons between the two

TABLE II

Correlations and Intercorrelations of Subscales and Main Clinical Scales<sup>a</sup>

	D1	D2	D3	D4	D5	By	By1	By2	By3	By4	By5	Pt	Pt1	Pt2	Pt3	Bc	Sc1A	Sc1B	Sc2A	Sc2B	Sc2C	Sc3	Ma	Ma1	Ma2	Ma3	Ma4		
D	.91																												
D1		.58																											
D2	.49		.76																										
D3	.27	.45		.64																									
D4			.82		.64																								
D5				.36		.59																							
By					.03		.17																						
By1						.03		.17																					
By2							.63																						
By3								.63																					
By4									.38																				
By5										.38																			
Pt											.72																		
Pt1												.21																	
Pt2													.21																
Pt3														.21															
Bc															.15														
Sc1A																.34													
Sc1B																	.34												
Sc2A																		.34											
Sc2B																			.34										
Sc2C																				.34									
Sc3																					.34								
Ma																						.70							
Ma1																							.70						
Ma2																								.70					
Ma3																									.70				

<sup>a</sup>Based on the raw scores, uncorrected for K, of 253 male and 53 female Wilford Hall patients. All records were chosen at random.

TABLE III

Subscale Intercorrelations for the Wilford Hall and  
Langley Porter Samples

	D	D1	D2	D3	D4
D1	.91 <sup>a</sup> (.92) <sup>b</sup>				
D2	.69(.70)	.65(.65)			
D3	.58(.64)	.49(.60)	.27(.18)		
D4	.84(.86)	.91(.91)	.58(.63)	.45(.50)	
D5	.76(.70)	.90(.85)	.49(.45)	.36(.42)	.82(.83)

	Hy	Hy1	Hy2	Hy3	Hy4
Hy1	.03(.25)				
Hy2	.17(.31)	.43(.28)			
Hy3	.71(.67)	-.45(-.26)	-.38(-.19)		
Hy4	.73(.71)	-.38(-.13)	-.34(-.15)	.72(.55)	
Hy5	.17(.38)	.20(.25)	.38(.36)	-.21(-.06)	-.21(-.01)

	Pd	Pd1	Pd2	Pd3	Pd4
Pd1	.72(.58)				
Pd2	.39(.48)	.19(.12)			
Pd3	-.21(-.33)	-.27(-.39)	.15(-.03)		
Pd4A	.78(.72)	.58(.44)	.28(.25)	-.34(-.53)	
Pd4B	.78(.77)	.55(.37)	.16(.29)	-.52(-.56)	.80(.74)

Table III (contd.)

	Pa	Pa1	Pa2			
Pa1	.79(.68)					
Pa2	.71(.67)	.59(.53)				
Pa3	.00(.31)	-.42(-.29)	-.44(-.24)			
	Sc	Sc1A	Sc1B	Sc2A	Sc2B	Sc2C
Sc1A	.89(.97)					
Sc1B	.79(.78)	.70(.63)				
Sc2A	.84(.74)	.63(.52)	.65(.58)			
Sc2B	.84(.80)	.69(.63)	.83(.85)	.82(.76)		
Sc2C	.77(.79)	.65(.67)	.52(.53)	.63(.45)	.56(.55)	
Sc3	.56(.72)	.61(.47)	.52(.40)	.69(.44)	.58(.44)	.70(.68)
	Ma	Ma1	Ma2	Ma3		
Ma1	.27(.66)					
Ma2	.75(.75)	.23(.40)				
Ma3	-.01(-.14)	-.10(-.14)	-.38(-.46)			
Ma4	.68(.77)	.07(.40)	.46(.56)	-.18(-.30)		

<sup>a</sup>Based on the Wilford Hall Sample.

<sup>b</sup>Based on the Langley Porter Sample of 50 male and 50 female in- and out-patient psychiatric subjects. Only raw scores uncorrected for K were used.

samples show that Langley Porter subjects of both sexes had generally more deviant profiles than Wilford Hall subjects. Langley Porter males scored at least 1.5 standard deviations higher on three scales (Hs, Pt, Sc), while Langley Porter females scored at least 1 standard deviation higher on four scales (Hs, Pd, Pt, Sc).

Table V shows the raw score means and standard deviations for all main scales and subscales. Probability levels resulting from  $t$  tests done on the male-female mean differences are also given.

To make the subscale scores as practical and useful as possible for day-to-day clinical work, standard subscale T scores were computed. This was done by drawing from the total population six successive samples for both males and females whose T score on the main MMPI scale in question exceeded 60 (uncorrected for K). For example, all males whose Depression T score exceeded 60 comprised one sample, all those whose Hysteria T score exceeded 60 comprised another, and so forth. A T score cutoff of 60 was used because of the

TABLE IV

Male and Female Uncorrected T Scores on MMPI

Main Scales for Both Samples

MALE

	L	F	K	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma
Wilford Hall	52	60	55	43	69	65	53	59	61	34	37	55
Langley Porter	51	59	57	60	76	68	61	62	61	61	60	54

FEMALE

	L	F	K	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma
Wilford Hall	50	60	53	45	65	66	54	59	62	42	46	54
Langley Porter	51	61	52	57	68	62	66	52	61	60	63	57

TABLE V

## Raw Score Means and Standard Deviations for Wilford Hall Subjects

Variable:	Male		Female		P <sup>a</sup> (2 tail)	Combined	
	M	SD	M	SD		M	SD
L	4.52	2.47	4.08	2.56	NS	4.44	2.49
F	7.02	6.22	7.08	5.87	NS	7.03	6.15
K	15.32	5.74	14.21	4.77	NS	15.13	5.60
Hs(Uncorrected)	8.62	6.78	10.40	6.43	NS	8.93	6.74
Hs(Corrected)	16.51	6.16	17.76	5.64	NS	16.73	6.08
D	24.60	7.26	27.36	7.98	.05	25.08	7.45
H <sub>y</sub>	25.04	6.27	27.94	5.91	.01	25.55	6.29
Pd(Uncorrected)	20.20	6.03	20.60	6.02	NS	20.27	6.02
Pd(Corrected)	26.28	5.35	26.32	5.32	NS	26.29	5.34
ME	25.14	4.97	37.55	4.17	.001	27.29	6.75
Pa	11.66	4.59	11.85	3.79	NS	11.59	4.45
Pt(Uncorrected)	15.38	11.02	20.47	10.59	.01	16.26	11.10
Pt(Corrected)	30.63	7.49	34.64	7.57	.001	31.32	7.65
Sc(Uncorrected)	15.78	12.54	19.77	12.83	.05	16.47	12.66
Sc(Corrected)	31.07	9.29	33.74	10.01	NS	31.53	9.46
Ms(Uncorrected)	18.01	5.05	18.62	3.84	NS	18.12	4.86
Ms(Corrected)	21.02	4.53	21.34	3.70	NS	21.08	4.40
S1	27.71	11.37	30.93	13.64	NS	28.27	11.83
D1	10.81	6.37	13.11	6.74	.05	11.21	6.48
D2	6.62	2.21	6.91	2.36	NS	6.67	2.24
D3	4.16	1.99	4.59	1.81	NS	4.23	1.97
D4	4.57	3.87	5.47	3.68	NS	4.73	3.85
D5	3.15	2.67	4.62	2.66	.001	3.40	2.72
H <sub>y1</sub>	3.60	2.00	3.47	2.08	NS	3.58	2.01
H <sub>y2</sub>	7.01	2.65	7.06	2.11	NS	7.02	2.56
H <sub>y3</sub>	5.13	3.86	6.26	3.67	.05	5.32	3.85
H <sub>y4</sub>	4.29	3.76	5.85	3.62	.01	4.56	3.78
H <sub>y5</sub>	3.27	1.32	3.28	1.13	NS	3.28	1.29
Pd1	2.70	2.31	3.87	2.66	.01	2.90	2.41
Pd2	5.00	1.77	3.77	1.52	.001	4.79	1.78
Pd3	7.55	2.88	6.85	3.43	NS	7.43	2.99
Pd4A	6.62	3.49	7.28	3.07	NS	6.74	3.43
Pd4B	5.78	3.65	6.32	3.51	NS	5.87	3.63
Pd4	12.40	6.76	13.60	6.28	NS	12.01	6.68
Pa1	2.88	3.23	2.26	2.10	NS	2.78	3.07
Pa2	2.95	1.99	3.38	1.74	NS	3.02	1.95
Pa3	4.62	2.33	4.98	1.85	NS	4.68	2.26
Sc1A	3.62	3.63	5.02	3.52	.05	3.86	3.64
Sc1B	2.16	1.94	2.53	2.23	NS	2.22	1.99
Sc1	5.74	5.11	7.55	5.39	.05	6.05	5.20
Sc2A	2.53	2.81	2.74	2.77	NS	2.57	2.80
Sc2B	3.51	3.12	4.30	3.23	NS	3.65	3.15
Sc2C	2.53	1.94	3.36	2.22	.05	2.68	2.01
Sc2	8.57	7.02	10.40	7.37	NS	8.88	7.11
Sc3	3.44	3.48	4.43	3.73	NS	3.61	3.54
Ma1	2.05	1.33	2.51	6.47	NS	2.13	2.94
Ma2	5.35	2.20	5.93	1.97	NS	5.45	2.17
Ma3	3.58	1.79	3.02	1.88	NS	3.48	1.81
Ma4	2.97	1.72	3.04	1.68	NS	2.98	1.71

<sup>a</sup>Based on t test analyses between male and female means.

assumption that a subscale analysis will be more useful when the main scale score is elevated. Using low scores would have decreased the variation among the subscales. These samples, 6 for males and 6 for females, differed in size and should not be considered independent samples since any given subject could easily have been in more than one sample. The sample sizes, means, and standard deviations for these samples are shown in table VI. Standard scores derived from these statistics were found for each of these subscales by use of the formula:

$$T \text{ subscale} = \frac{\text{raw score} - \text{mean}}{\text{standard deviation}} + 50.$$

These T scores were then arranged in easy-to-use profile form, copies of which are attached. The clinician can use these profile forms in a manner similar to the published MMPI profile sheets. It should be kept in mind that a subscale T score of 50 is the average score for records with a main scale T of greater than 60. Consequently, subscale deviations as great as main scale deviations will generally be quite rare.

Despite the presumed as well as actual differences between the Langley Porter and Wilford Hall samples, subscale T scores for the two groups are surprisingly similar. This is true even for the female norms despite the fact that sample sizes for Wilford Hall females were quite small, ranging from an N of 7 on Hypomania to an N of 36 on Hysteria. All of the Langley Porter norms were based on sample sizes of 50.

Nevertheless, caution is urged in the use of these norms particularly in places where characteristics of the patient population are likely to vary widely from the kinds of patients seen by psychologists at a large military hospital. Special care should be used in applying these norms to females since sample sizes for some of the subscales were small.

#### Acknowledgment

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TABLE VI

Subscale Means and Standard Deviations for Male and Female  
Groups with Main Scale T Scores Greater than 60

Scale	N		Male		Female	
	M	F	M	SD	M	SD
D	157	33	28.86	5.66	32.49	5.10
D1			14.25	5.51	17.24	4.67
D2			7.52	2.08	8.06	1.98
D3			4.83	1.81	5.24	1.70
D4			6.50	3.63	7.58	2.88
D5			4.30	2.60	6.06	1.98
Hy	160	36	28.55	4.94	31.06	4.41
Hy1			3.66	2.03	3.39	2.16
Hy2			7.34	2.70	7.33	1.76
Hy3			6.56	3.88	7.89	2.97
Hy4			5.76	3.90	7.28	3.24
Hy5			3.43	1.31	3.17	1.11
Pd	67	16	28.37	3.69	28.00	3.74
Pd1			5.08	2.19	6.63	1.96
Pd2			5.94	1.88	4.56	1.75
Pd3			6.39	3.04	6.38	3.32
Pd4A			10.48	3.13	10.56	2.10
Pd4B			9.76	2.62	9.69	2.36
Pd4			20.24	5.07	20.25	3.87
Pa	101	28	16.05	3.84	14.61	2.79
Pa1			5.30	3.75	2.96	2.33
Pa2			4.42	1.87	4.29	1.58
Pa3			4.51	2.43	5.36	1.62
Sc	49	12	36.82	7.93	38.75	9.33
Sc1A			9.10	3.39	9.00	3.36
Sc1B			4.74	2.06	5.25	2.34
Sc1			13.63	4.61	14.25	4.99
Sc2A			6.65	2.13	6.00	2.34
Sc2B			8.06	2.63	8.08	3.06
Sc2C			5.00	1.89	5.75	2.34
Sc2			19.71	4.50	19.83	6.55
Sc3			8.16	3.69	9.17	4.28
Ma	50	7	25.86	3.01	25.57	2.07
Ma1			3.42	1.34	2.29	1.11
Ma2			8.04	1.44	7.86	1.86
Ma3			3.08	1.83	3.29	1.50
Ma4			5.02	1.39	4.86	1.86

Table VI (contd.)

**DEPRESSION**

- D 1. Subjective Depression (N = 32).
- 2. Psychomotor Retardation (N = 15).
- 3. Physical Malfunctioning (N = 11).
- 4. Mental Dullness (N = 15).
- 5. Brooding (N = 10).

Name \_\_\_\_\_

Age \_\_\_\_\_ Sex \_\_\_\_\_

<u>MALE</u>						<u>FEMALE</u>					
T	D1	D2	D3	D4	D5	T	D1	D2	D3	D4	D5
100						100					
98						98					
96						96					
94						94					
92						92					
90						90					
88						88					
86		15				86		15			
84			--			84			--		
82	--					82	--				
80						80					
78	30		10			78	30		10		
76						76				15	
74						74					
72			--	15	10	72			--		
70	25					70					10
68						68					
66						66	25				
64						64					
62		10	--			62					
60	20			10	--	60		10	--		
58						58				10	
56						56	20				
54					5	54					
52	15		5			52					
50						50			5		
48						48					
46				5		46	15				5
44						44					
42	10					42				5	
40						40					
38		5				38					
36						36					
34	5					34	10	5			
32						32					
30						30					
28						28					
26						26					
0						0					
T	D1	D2	D3	D4	D5	T	D1	D2	D3	D4	D5
Raw Score						Raw Score					

Table VI (contd.)

**HYSTERIA**

Name \_\_\_\_\_

- Hy 1. Denial of Social Anxiety (N = 6). Age \_\_\_\_\_ Sex \_\_\_\_\_  
 2. Need for Affection and Reinforcement from Others (N = 12).  
 3. Lassitude-Malaise (N = 15).  
 4. Somatic Complaints (N = 17).  
 5. Inhibition of Aggression (N = 7).

**MALE**

**FEMALE**

T	Hy1	Hy2	Hy3	Hy4	Hy5	T	Hy1	Hy2	Hy3	Hy4	Hy5
100						100					
98						98					
96						96					
94						94					
92						92					
90						90					
88						88					
86						86					
84						84					--
82						82					
80				--		80				--	
78						78					
76					--	76		--			--
74				15		74			15	15	
72			15			72			--	--	
70					--	70		--	--	--	
68						68					
66		--				66			--	--	5
64						64		10			
62	--				5	62	--				
60		10		10		60					
58			10			58		--	--		
56	5					56	5		10	10	--
54						54					
52						52					
50						50					
48				5		48					
46			5			46					--
44						44					
42		5				42				5	
40						40			5		
38						38					--
36	--					36		5			
34						34					
32						32					
30					--	30					--
28						28					
26		--				26			--		
0						0					
Raw Score	Hy1	Hy2	Hy3	Hy4	Hy5	Raw Score	Hy1	Hy2	Hy3	Hy4	Hy5

Table VI (contd.)

**PSYCHOPATHIC DEVIATE**

- Pd 1. Familial Discord (N = 11).
- 2. Authority Conflict (N = 11).
- 3. Social Imperturbability (N = 12).
- 4. Alienation (N = 33).
- 4A. Social Alienation (N = 18).
- 4B. Self-alienation (N = 15).

Name \_\_\_\_\_

Age \_\_\_\_\_ Sex \_\_\_\_\_

MALE							FEMALE						
T	Pd1	Pd2	Pd3	Pd4	Pd4A	Pd4B	T	Pd1	Pd2	Pd3	Pd4	Pd4A	Pd4B
100							100						
98							98						
96							96						
94							94						
92							92						
90							90						
88							88						
86							86		--				
84							84					--	--
82							82				--	--	
80							80		10			--	--
78							78						
76	--	--					76						
74				--	--		74		--		30	--	
72	10	10		--	--		72	--	--				15
70				30	--	15	70	--	--			15	
68	--		--	--	--		68						--
66		--	--	--	--		66	10		--	--	--	--
64	--		--	--	15		64	--	--	--	--	--	--
62	--		10	--	--		62	--		10	25	--	--
60	--		--	25	--		60	--		--	--	--	--
58			--	--	--		58	--	--	--	--	--	--
56			--	--	--		56	--		--	--	--	--
54	--		--	--	--		54	--		--	--	--	--
52			--	--	--		52	--	5	--	--	--	--
50	5	--	--	20	--	10	50	--		--			10
48			--	--	10	--	48	--	--	--	20		--
46	--	5	5	--	--		46	--		5	--	10	--
44			--	--	--		44	--		--	--	--	--
42			--	--	--		42	5	--	--	--	--	--
40	--		--	15	--		40	--	--	--	--	--	--
38			--	--	--		38	--		--	--	--	--
36	--		--	--	--		36	--		--	15	--	--
34		--	--	--	--		34	--	--	--	--	--	--
32	--		--	--	5	5	32	--		--	--	--	--
30			--	10	--		30	--	--	--	--	--	5
28		--	--	--	--		28	--		--	--	--	--
26			--	--	--		26	--		--	--	--	--
-							-						
0							0						
T	Pd1	Pd2	Pd3	Pd4	Pd4A	Pd4B	T	Pd1	Pd2	Pd3	Pd4	Pd4A	Pd4B
Raw Score							Raw Score						

Table VI (contd.)

PARANOIA

- Pa 1. Ideas of External Influence (N = 17).  
 2. Poignancy (N = 9)  
 3. Moral Virtue (N = 9)

Name \_\_\_\_\_

Age \_\_\_\_\_ Sex \_\_\_\_\_

<u>MALE</u>				<u>FEMALE</u>			
T	Pa1	Pa2	Pa3	T	Pa1	Pa2	Pa3
100-				100-	--		
98-				98-	--		
96-				96-	--		
94-				94-	--		
92-				92-	--		
90-				90-	--		
88-				88-	--		
86-				86-	--		
84-				84-	--		
82-				82-	--		
80-	--			80-	10	--	
78-	--			78-	--		
76-	15			76-	--		
74-	--	--		74-	--		
72-	--			72-	--	--	--
70-	--			70-	--		
68-	--		--	68-	--		
66-	--			66-	--		--
64-	10	--	--	64-	--		
62-	--			62-	--		
60-	--		--	60-	5	--	--
58-	--	--		58-	--		
56-	--		--	56-	--	5	
54-	--	5		54-	--		--
52-	--		5	52-	--		
50-	5			50-	--		
48-	--	--	--	48-	--	--	5
46-	--			46-	--		
44-	--		--	44-	--		
42-	--	--		42-	--	--	--
40-	--		--	40-	--		
38-	--			38-	--		
36-		--	--	36-	--	--	--
34-				34-	--		--
32-		--		32-	--		
30-				30-	--	--	--
28-				28-	--		
26-				26-	--		
-				-	--		
-				-	--		
0-				0-	--		
T	Pa1	Pa2	Pa3	T	Pa1	Pa2	Pa3
Raw Score	---	---	---	Raw Score	---	---	---

Table VI (contd.)

**SCHEIDTMAN**

- Sc: 1. Object Loss (N = 32). Name \_\_\_\_\_  
 A. Social Alienation (N = 21).  
 B. Emotional Alienation (N = 11). Age \_\_\_\_\_ Sex \_\_\_\_\_  
 2. Lack of Ego Mastery, Intra-psychic Autonomy (N = 35).  
 A. Lack of Ego Mastery, Cognitive (N = 10).  
 B. Lack of Ego Mastery, Conative (N = 14).  
 C. Lack of Ego Mastery, Defect of Inhibition and Control (N = 11).  
 3. Sensorimotor Dissociation (N = 20).

SCALE

T	Sc1	Sc1A	Sc1B	Sc2	Sc2A	Sc2B	Sc2C	Sc3
100								
98								
96								
94								
92								
90	--							
88	--							
86	30	--						
84				35				
82	--	20		--			--	20
80	--	--	--	--				--
78	--	--		--				--
76	25	--	10	--			--	--
74		--		30		--		--
72	--	--		--				--
70	--	--		--			--	15
68	--	15		--				--
66	20	--		--	10		--	--
64	--	--		25				--
62	--	--		--				--
60	--	--		--				--
58	--	--		--				--
56	--	--		--		10		--
54	--	--		--			--	10
52	15	10		--				--
50	--	--	5	20			--	5
48	--	--		--			5	--
46	--	--		--			--	--
44	--	--		--			--	--
42	10	--		--	5			--
40	--	--		15				5
38	--	5		--		5	--	--
36	--	--		--			--	--
34	--	--		--			--	--
32	--	--		--			--	--
30	5	--		--			--	--
28	--	--		10			--	--
26	--	--		--			--	--
24								
22								
20								
18								
16								
14								
12								
10								
8								
6								
4								
2								
0								
T	Sc1	Sc1A	Sc1B	Sc2	Sc2A	Sc2B	Sc2C	Sc3
Raw Score								

Table VI (contd.)

**SCHIZOPHRENIA**

- Sc 1. Object Loss (N = 32). Name \_\_\_\_\_  
 A. Social Alienation (N = 21). Age \_\_\_\_\_ Sex \_\_\_\_\_  
 B. Emotional Alienation (N = 11).  
 2. Lack of Ego Mastery, Intra-psychic Autonomy (N = 35).  
 A. Lack of Ego Mastery, Cognitive (N = 10).  
 B. Lack of Ego Mastery, Conative (N = 14).  
 C. Lack of Ego Mastery, Defect of Inhibition and Control (N = 11).  
 3. Sensorimotor Dissociation (N = 20).

**FEMALE**

	Sc1	Sc1A	Sc1B	Sc2	Sc2A	Sc2B	Sc2C	Sc3
100-								
98-								
96-								
94-								
92-								
90-								
88-								
86-	--	--						
84-	--	20						
82-	30							
80-	--	--						
78-	--	--						
76-	--	--						
74-	--	--	--					20
72-	25	--		35				--
70-	--	--	10	--			--	--
68-	--	15		--		--	10	--
66-	--	--	--	30	10			--
64-	--	--	--	--	--	--	--	15
62-	20	--	--	--	--	--	--	--
60-	--	--	--	--	--	--	--	--
58-	--	--	--	25	--	--	--	--
56-	--	--	--	--		10	--	--
54-	--	--	--	--	--	--	--	--
52-	15	10	--	--	--	--	--	10
50-	--	--	5	20	--	--	--	--
48-	--	--	--	--	5	--	5	--
46-	--	--	--	--	--	--	--	--
44-	--	--	--	--	--	--	--	--
42-	--	--	--	15	--	--	--	--
40-	10	--	--	--	--	5	--	5
38-	--	5	--	--	--	--	--	--
36-	--	--	--	--	--	--	--	--
34-	--	--	--	10	--	--	--	--
32-	--	--	--	--	--	--	--	--
30-	5	--	--	--	--	--	--	--
28-	--	--	--	--	--	--	--	--
26-	--	--	--	5	--	--	--	--
-								
0-								
T	Sc1	Sc1A	Sc1B	Sc2	Sc2A	Sc2B	Sc2C	Sc3
Raw								
Score								

Table VI (contd.)

**HYPERMANIA**

- Ma 1. Amorality (N = 6).
- 2. Psychomotor Acceleration (N = 11).
- 3. Imperturbability (N = 8).
- 4. Ego Inflation (N = 9).

Name \_\_\_\_\_

Age \_\_\_\_\_ Sex \_\_\_\_\_

<u>MALE</u>					<u>FEMALE</u>				
T	Ma1	Ma2	Ma3	Ma4	T	Ma1	Ma2	Ma3	Ma4
100					100				
98					98				
96					96				
94					94				
92					92				
90					90				
88					88				
86					86				
84					84				
82					82	--		--	
80					80				
78				--	78				
76			--		76				
74					74	5		--	
72					72				--
70		--	--	--	70				
68	--				68		--	--	--
66			--		66	--			--
64		10		--	64				
62	5		5		62		10	5	--
60					60				
58		--		--	58				
56			--	--	56	--	--	--	--
54	--				54				
52					52				5
50		--	--	5	50		--		
48					48	--		--	
46	--				46		--		--
44		--	--	--	44				
42					42			--	--
40	--		--		40		--	--	--
38					38	--			
36		--		--	36		5	--	--
34					34				
32	--				32				
30		5		--	30		--		--
28					28				
26					26				
-					-				
0					0				
Raw Score	Ma1	Ma2	Ma3	Ma4	Raw Score	Ma1	Ma2	Ma3	Ma4

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## RANKING ACCURACY AS A FUNCTION OF SORTING PROCEDURE AND DIFFICULTY OF STIMULUS DISCRIMINATION

Joe T. Hazel

The purpose of the present experiment was to investigate the effect of various sorting procedures on ranking efficiency with two sets of stimuli that differed in degree of discriminability. Results should indicate whether ranking efficiency varies as a function of difficulty of stimulus discrimination.

Madden et al. (3) and Hazel and Bourdon (2) found significant differences in efficiency among various sorting procedures for rank-ordering visual stimuli. In the earlier study the stimuli were two circles drawn on cards so that the differences in area between circles increased progressively from card to card. In the later study the stimuli were 50 irregularly curved figures, each figure drawn on a card so that there was a uniform increase in area from card to card. In both studies the criterion of efficiency was the absolute difference between the judged rank-order of a stimulus based on its physical measurement.

In the circle-area experiment the hypothesis was offered that a free procedure is more efficient than procedures designed to simplify the ranking task. Information from the subsequent experiment suggested modification of this hypothesis because there appeared to be some interaction between type of stimuli and sorting procedure. The ranking error for irregular figures was much less than the error found for circle differences, and the most efficient procedures differed for the two tasks. For more complex tasks (e.g., ranking circle area differences) a free procedure may yield more accurate results, and for simple tasks (e.g., ranking irregular figures) several procedures may be of comparable efficiency. Before this modified hypothesis was accepted, however, further investigation of these findings seemed desirable. In both prior experiments there was a decrease in mean ranking error with an increase in either the size of the figure area or the amount of difference between circles. Not only may ranking efficiency vary as a function of qualitatively different tasks, but also as a function of the difficulty of discriminability of stimuli within a specified task.

## METHOD

The stimuli used to investigate stimulus discrimination difficulty and procedure effects were the 50 irregular figures used by Hazel and Bourdon (2). To create two ranking tasks which differed in degree of perceptual difficulty, the 50 figures were divided into two sets. (Copies of the two sets of stimulus figures may be obtained from the author.) One set contained the 25 figures with an area less than 1.0 sq. in., and the other set contained the 25 figures with an area greater than 1.0 sq. inch. The areas of the two sets of stimuli are given in table I. Because of the previously mentioned decrease in error with an increase in stimulus size, the set of smaller figures was assumed more difficult to rank-order because the differences in area between adjacent stimuli were less for this set than the set of larger figures. For both sets, the basis for ranking the stimuli was the increase in figure area from card to card.

Four sorting procedures were selected which represented a progression in the number of decision points or stages required of Ss before final ranking of the stimuli (i.e., 0, 1, 2, 3 stages). Each stage consisted of S dividing a pile of cards into two subgroups. The procedures were assumed to represent a continuum of structure designed to simplify the ranking task. The essential steps in each sorting method were as follows:

(I) Free sort: Ss were instructed to rank the cards from the smallest to largest figure using any procedure desired, then to verify that all the cards were in the order considered correct.

(II) One-stage sort: The cards were sorted into two piles, one for small and another for large figures. Next, each pile was ordered from the smallest to the largest figure. The two ordered piles were then combined and the ranking reviewed.

(III) Two-stage sort: The cards were sorted into two piles, one for small and another for large figures, then the subgroup with the most cards was sorted into two more piles. Next, the three piles were ordered, then combined, and the final ranking reviewed.

(IV) Three-stage sort: The cards were sorted into two piles, one for small and another for large figures. Next, the tallest of these two piles was sorted into two stacks and the largest of the three resulting piles were again sorted. The four derived piles were then ordered, combined, and reviewed.

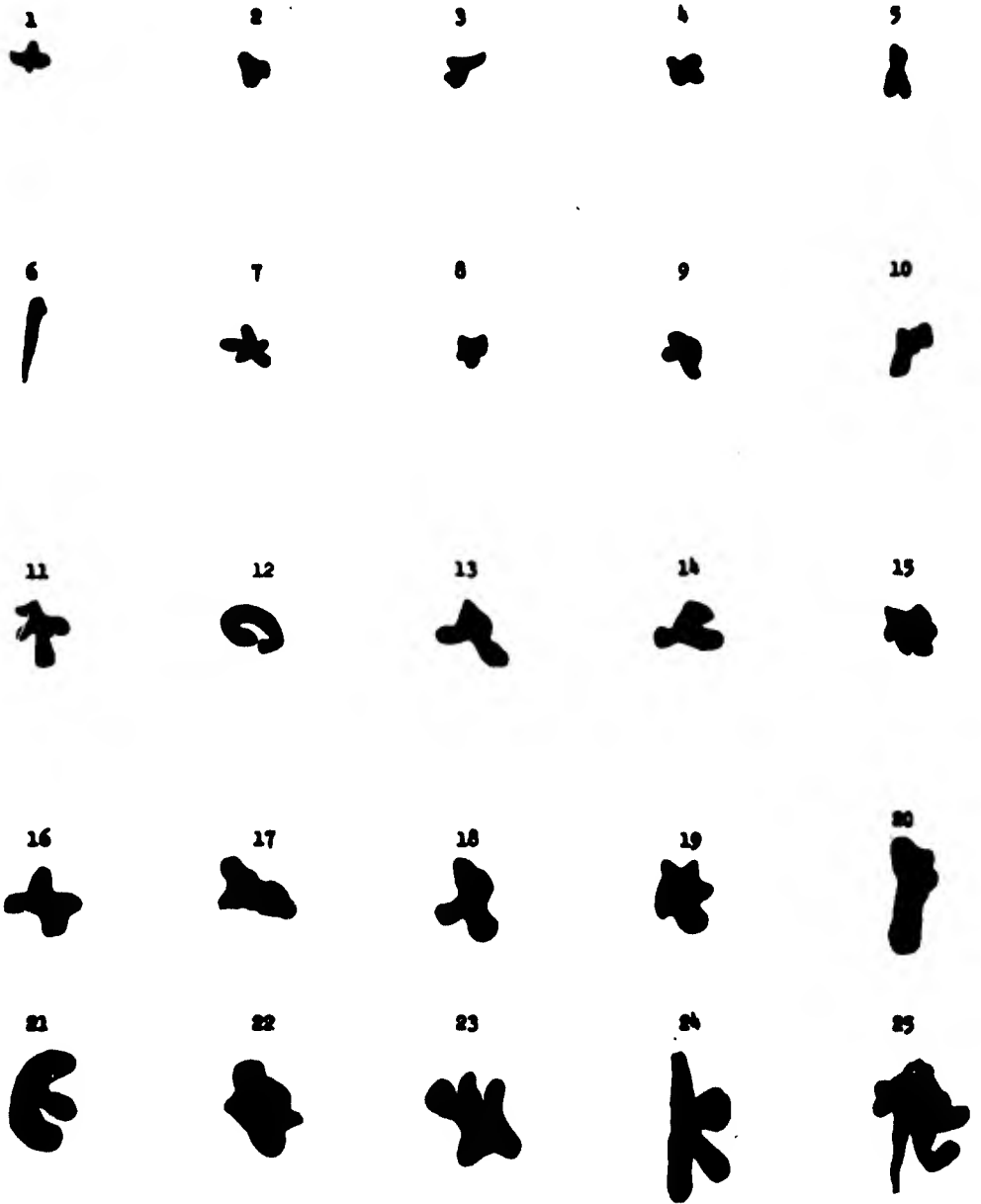


FIGURE 1. Twenty-five irregular figures in the small stimuli set.

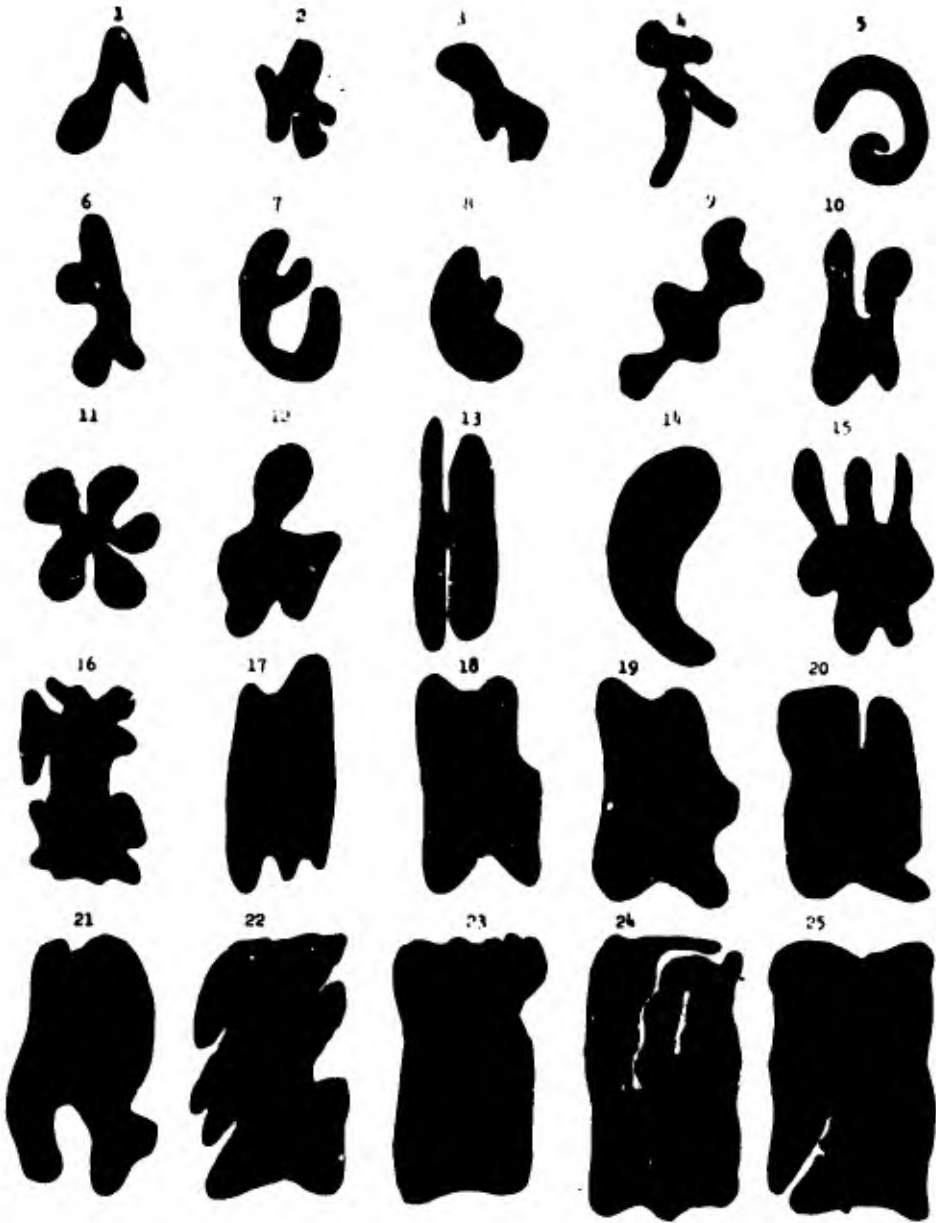


FIGURE 2. Twenty-five irregular figures in the large stimuli set.

TABLE I

Area and mean ranking error for two sets of stimulus cards

Smaller figures			Larger figures		
Card No.	Area (sq. in.)	Mean error	Card No.	Area (sq. in.)	Mean error
1	.10	1.24	1	1.08	.86
2	.11	.98	2	1.10	.81
3	.12	1.14	3	1.31	.61
4	.13	.99	4	1.44	1.36
5	.14	1.16	5	1.58	1.38
6	.15	2.75	6	1.74	1.28
7	.17	1.10	7	1.91	1.20
8	.19	2.49	8	2.10	1.66
9	.21	.98	9	2.31	1.40
10	.23	1.02	10	2.54	1.16
11	.25	1.12	11	2.79	1.29
12	.28	1.67	12	3.07	.83
13	.31	1.32	13	3.38	.77
14	.34	1.17	14	3.72	1.22
15	.37	1.87	15	4.09	1.10
16	.41	1.17	16	4.50	1.10
17	.45	1.09	17	4.95	.90
18	.50	1.12	18	5.45	.89
19	.55	1.37	19	5.95	.75
20	.61	.71	20	6.55	.69
21	.67	.96	21	7.21	.60
22	.74	1.23	22	7.93	.58
23	.81	.49	23	8.72	.51
24	.89	.53	24	9.59	.45
25	.98	.35	25	10.55	.48

\* Overall M: smaller figures, 1.20; larger figures, .97.

Independent groups of 50 basic airmen served as Ss for the eight conditions (N = 400). The task for S in each condition was to arrange one of the sets of stimuli in order from smallest to largest figure according to one of the assigned procedures. The cards were shuffled before presentation and Ss were asked to familiarize themselves with the stimuli before starting the ranking task. When completed, the number of minutes required by each S was recorded.

TABLE II

Analysis of variance of the ranking error  
for procedures and sets

Source	d.f.	M. Sq.	F	P
Procedures (P)	3	1623.69	5.49	<.001
Sets (S)	1	3516.49	11.90	<.001
P x S	3	858.11	2.90	<.05
Error	392	295.60		
Total	399	317.88		

TABLE III

Multiple-range tests for differences in mean rank error

Set	Procedure means <sup>a</sup>				SSR (P = .01)
	I	II	III	IV	
Small figures	1.04	1.04	1.27	1.47	R <sub>4</sub> = .36 R <sub>3</sub> = .35 R <sub>2</sub> = .34
Large figures	.69	1.02	1.03	1.13	R <sub>4</sub> = .40 R <sub>3</sub> = .39 R <sub>2</sub> = .38

<sup>a</sup> Procedure means not underscored by same line, P < .01

## RESULTS

The observations used for analysis were the absolute differences between the ranks assigned 25 figures by each S and the ranks of these figures based on physical area. Results of an analysis of variance of the ranking error for the two sets of stimuli and four procedures are given in table II. For both variables the null hypothesis was rejected. The mean error for the larger stimulus set was significantly lower than the mean for the smaller stimulus set (table I).

The mean ranking error of the four procedures for the two stimulus sets, averaged across cards and Ss, are given in table III. To investigate differences among procedures for each set, multiple-range tests were computed (1) based on the mean of the errors over 25 cards for each S. For the small stimuli set the only significant differences were between the most restrictive procedure (IV) and the least restrictive procedures (I and II). For the large stimuli set only the two least restrictive procedures (I and II) were significantly different.

Table I shows the mean ranking error for each of the 25 cards in the two sets, averaged across Ss and procedures. For both sets of stimuli there was a tendency for ranking error to decrease with an increase in size of the stimulus figures (small set:  $\bar{r} = -.51$ ; large set:  $\bar{r} = -.70$ ).

The results of multiple-range tests of the mean time differences (min.) among the four procedures for the two sets of stimuli are given in table IV. For the small figure set the free sort (I) required significantly less time than the three other procedures. For the large figure set the two least restrictive procedures (I and II) required less time than the most restrictive procedure (IV).

## DISCUSSION

The present findings confirmed the assumption that the two sets of stimuli differed in degree of discriminability. The set of smaller stimulus figures produced significantly more ranking errors than the set of larger stimuli. When these results are considered in conjunction with the previous finding by Hazel and Bourdon (2) that the ranking error of simple tasks (e.g., irregular figures) was much less than the error for complex tasks (e.g., circle area differences), further extension seems justified of the hypothesis that ranking efficiency varies as a function of task complexity. Nor

TABLE IV

Multiple-range tests for mean time differences  
among procedures

Set	Procedure means				SSR (P = .01)
	I	II	III	IV	
Small figures *	8.88	<u>10.30</u>	<u>10.50</u>	<u>11.04</u>	R <sub>4</sub> = 1.54 R <sub>3</sub> = 1.48 R <sub>2</sub> = 1.42
Large figures **	9.80	9.86	<u>10.64</u>	<u>11.34</u>	R <sub>4</sub> = 1.32 R <sub>3</sub> = 1.27 R <sub>2</sub> = 1.21

\* Procedure means not underscored by same line,  $P \leq .01$

\*\* Procedure means not underscored by same line,  $P < .05$

only may differences in ranking error occur between qualitatively different tasks, but also between perceptually easy and difficult tasks when the stimuli in both tasks are similar (i.e., when all stimuli consist of irregular figures). If such is the case when a large number of stimuli are divided into subgroups before ranking, it is possible that a differential degree of error may occur for various subgroups depending on the level of discriminability of the stimuli within a subgroup.

As shown in table III, the efficiency of the four sorting procedures varies as a function of difficulty of stimulus discrimination. For both sets of stimuli, however, there appears to be an optimal degree of structure beyond which additional restrictions designed to simplify the tasks reduce ranking efficiency. For the more difficult-to-discriminate task, a higher degree of structure was required than for the easier task. For the smaller and more difficult stimuli, the significant difference in mean error occurred between the most restrictive sort (IV) and the two least restrictive procedures

(I and II). For the larger and easier set, the significant difference in mean error was between the two least restrictive procedures (I and II). These results suggest that, when qualitatively similar stimuli are divided into subgroups before ranking, a small amount of structure may be desirable for ranking stimuli which are more difficult to discriminate, and a free or unstructured procedure may be desirable for more easily discriminated stimuli.

For both sets of figures there was an increase from sort I to sort IV in the mean time required to rank the stimuli. For the smaller and more difficult stimuli, the free sort required significantly less time than the three other procedures. For the larger and easier stimuli, the two least restrictive procedures required less time than the most restrictive procedure (IV). Further, when the four procedure error means for the smaller stimuli (table III) were compared to the four time means for smaller stimuli (table IV), there was an inverse relationship between ranking efficiency and time for ranking. As error size increased, the amount of time required to rank the stimuli also increased. For the larger stimulus figures such a relationship did not occur, although the time and error means were smaller for the free procedure than the three other methods.

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GOD, GENES, AND DR. WOOLEY: A BRIEF INQUIRY INTO THE  
IMPLICATIONS OF DIFFERING CONCEPTIONS OF MENTAL DISORDER

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Mental illness has been variously construed as being caused primarily if not exclusively, depending on whom one reads, either by so-called functional factors or by organic changes. It is the purpose of this paper to explore, in part, the basis and implications of these positions, consider the problems and unfortunate dichotomies created and, finally, suggest a preliminary yet potentially fruitful way of approaching this most important facet of the human condition.

Historically, European and Oriental views have stressed either the "blood" factor or "possession" as most crucial in the causation of human behavior. In the religious sphere, Calvinistic thought exemplifies the former position in the extreme via the doctrine of predetermination. It was assumed if not axiomatically stated that what man made of himself in life was based on factors which he could possibly comprehend but certainly not control. Thus, the genius, the criminal, the lunatic, and all others became such in a preordained fashion. In the folklore, blood lines were the dominant factors in determining a man's status. Peasants were such because they were born to this fate. Bluebloods were obviously superior not because of what they accomplished; rather, their accomplishments reflected the salutary effects of a most noble heredity. Sociologically, Pareto distinguished the elite from the masses on substantially similar grounds, fitness to rule being based on innate superiority. If not afflicted by bad blood, man could still be possessed and wracked by evil spirits who would enter, take control of his very being and if not exorcised would wreck a fearful havoc on his destiny. The common folk of medieval days thus stood in awe, if not fear, of the horrible incubi and succubi who roved through the world seeking to enter into the very being of some hapless individual--possessing him and making him subject to his will. It is no small accident of history that it was during this period that exorcistic practices of the most cruel nature developed and exemplified by, among others, the preparation of a Holy Writ, the Malleus Malificarum, designed to release an individual from his spiritual bondage.

The modern student of human behavior is very apt to quite easily dismiss doctrines of blood and of possession with easy grace, claiming to have reached a level of sophistication which precludes the utilization of such primitive conceptualizations. Yet, all the foregoing views appear different in content but structurally identical in form in positions which stress the primacy of organic causes of mental disorder. Much as was the case of the Calvinistically predetermined individual or the one who was possessed, the patient in the modern view does not become mentally ill or emotionally disturbed because of poor learning or maladaptive behavioral patterns; rather, his illness is construed as a manifestation of structural changes, damage of some type in the generic sense of which he is the passive and unwilling recipient. Small wonder that the psychiatric patient in recent history has been subjected to a variety of exorcistic devices aimed, in part, at making his very body a most uncomfortable arena for an illness to inhabit. Varied concepts of the processes involved, of course, have developed; we do not speak of possession but, rather, of an individual showing signs of schizophrenia much as he would show physical signs of tuberculosis as if the phenotypical expression represents the genotypical effects of factors over which he has no explicit control.

Now, if we consider the sociologic aspects of such positions it soon becomes clear that they reflect a logical extension of social and political philosophies and practices which have held sway for many years, not only in European but, also, in Oriental thinking. Accordingly, the individual in a general way is often viewed as the unwilling pawn of powerful forces which dictate the conditions of life and, indeed, his very destiny. Though he complains and rails against his lot, his impotence subjects him to the problems and turmoils and effects of forces over which he has little or no control. Small wonder that such conditions and views have provided fertile soil for the development of philosophies of crisis such as existential philosophy which has been nurtured by the European and Oriental socius. It further comes as no surprise that even the Freudian view is at its roots organically based. All the stages through which man proceeds from infancy to adulthood are predetermined. The environment serves as the stage, sometimes benign and sometimes not, on which the unfolding process occurs. Of course, the seeds of more purely functional positions appear in Freud and it is to the latter that we may turn as they appear on the American scene.

"Go west, young man," "Pull yourself up by your bootstraps," "He overcame his humble beginnings," "Poor boy makes good," "Invictus." The American credo expresses a firm conviction in man's ability to overcome the environment, be it external or internal. Humble beginnings, even "bad blood" can be overcome given patience, perseverance, and considerable endurance. Small wonder that an American, J. P. Watson, the father of modern behaviorism could espouse a strongly environmental position and claim that he could take a child, any child, and make of him what he would. Man could learn, man could modify, man could adapt, "blood" could be overcome. In more recent form, this position is enunciated in views which disclaim the existence of presumably organic entities known collectively as mental illness; rather, they claim, we are dealing with problems of coping, defects of adaptation, the here and now which can be altered by learnings of various kinds. Included are views based on learning theory, utilizing conditioning procedures, reciprocal inhibition, desensitization, and what have you. O. Hobart Mowrer, utilizing a humanistic framework in his integrity therapy, essentially negates organicist views via his doctrine of sin as well as in his explicit demand during the course of treatment that the individual become cognizant of his manifold transgressions and the acts in which he must engage in order to expiate or exculpate. Man, therefore, in these views is not a passive recipient but, rather, an active participant in the development of processes whose import for his integrity and stability can be most devastating.

Now who is correct, the organicist or the functional/environmental proponent? It is contended that both are, to a degree, but as is the case with many extreme positions they dichotomize, albeit unintentionally, an area of human behavior which is more productively viewed as a continuum. Certainly, it cannot be gainsaid that a goodly number of mental disorders have known familial or genetic or biochemical basis. PKU, a metabolic disorder of phenylalanine metabolism, has been shown to be due to an action of a recessive gene. Other disorders are reflected in disturbances of protein metabolism, lipids, and carbohydrates, and all are known to have demonstrable, familial, and genetic components. Conversely, other disorders, particularly those often described as neurotic, can be more effectively construed in terms of disturbed functional or environmental factors.

To hold to the exclusive primacy of one or the other view is to perpetuate the venerable but outmoded Cartesian dualistic philosophy. Man is not composed of a mind and a

body; he represents a unified, albeit complicated and imperfectly understood, multifaceted system. In an effort to bring order and understanding of this universe known as man, differing conceptualizations are possible. Man can thus be viewed from an organic as well as a functional point of view. Unfortunately, when these ideas, when these conceptual tools become reified, they acquire a functionally autonomous existence of their own, quite distinct from the reality of the human being whose structure and functions we are attempting to understand. We thus unwittingly, yet pervasively, reflect our bondage to our language forms and resultantly become embroiled in conflicts which, somehow, as time elapses, leave consideration of that system known as man further and further behind. A modern demonstration of such a development appears in the psychosomatic concept which, though not so intended, has unwittingly contributed to the dichotomizing of man into mental and physical functions. Thus, we speak of psychologic factors as having somatic effects as if the two aspects were separate and distinct; yet we forget that both mind and body are concepts. They are ways of construing the manifold aspects of the human condition. Viewed as such and handled as conceptual inventions, they serve us well in our efforts to unravel the mystery surrounding man and his nature; but when reified and handled as independent "things," chaos often ensues. It is, therefore, suggested or better reiterated that mind and body are one, one in the sense of reflecting the obverse and reverse sides of a coin. Ryle has explicated this position philosophically while Pavlov in his work exemplified this view in a practical physiologic/psychologic/organic and environmental framework.

To what conclusions may the foregoing bring us? Suggestions include the following: A general consensus could probably be established to the effect that certain conditions of man are most assuredly a result of physical factors over which he has little practical control in the immediate sense (the organic framework) while other conditions exemplify an active interaction between the functioning organism and his circumstances which may lead to outcomes of both a positive and negative nature. Though both frameworks, the organic as well as the functional/interactional, would describe a phenotypical picture which is identical, much as is the case with schizophrenia, they posit a different series of etiologic bases and therefore, genotypical causative factors underscoring what is seen in overt behavior. In both instances man is construed as sick, or disturbed, or mentally ill, and certainly not productive; but in the former instance, aside from having to make the decision to seek assistance, he frequently must

necessarily be passively involved in whatever therapeutic regimen is prescribed. By extension from the purely individual therapeutic into the political and social life of the individual, an initial philosophical basis is established for the imposition of superordinately determined conditions in order to effect changes in symptoms and behavior which are considered positive in nature. The ethical problems and the problems of values herein generated are obviously manifold and certainly have been given serious consideration by a host of writers in the mental health disciplines. From the point of view of the functional position, the individual must actively participate in whatever treatment process is instituted. It is not considered sufficient for a superordinate authority to specify the conditions that must be met. It is crucial for the individual to use whatever means he has at his disposal, interacting with others, himself, and his life circumstances in order to effect positive changes.

In the view of this writer, man may most productively be construed as exemplifying a complicated series of circular rather than linear continua positioned on a sphere with a soft permeable surface. Because of what may be viewed in the physical sense as a "ripple" effect, the operation of factors on one portion of this sphere's surface or disturbance thereof would have effects on other portions. Conceptually these different areas would be construed as representing maximum contribution of either organic or functional factors to the production of a given resultant; these areas thus would be independent yet interacting since all of them would share interfaces with the environment, both external and internal. Viewed in this framework man is no longer a somatic creature or a psychic creature but a self-contained and unitary system.

Prototypical statements and conceptualizations suggesting this approach are implicit in the work of Razran and Heath, among others. Heath, it may be recalled, elaborated an approach to schizophrenia bringing into account genetic and biochemical factors as qualified by functional components within a Radovian framework. Within this framework, genetic factors would have a determining effect on an essentially schizotypal adaptation which, however, would not proceed to schizophrenia unless certain pathologic and environmental circumstances intervened. Razran has attempted to develop a first-level synthesis between Freudian psychology and Pavlovian physiology via a partial delineation of the manner in which unconscious factors as exemplified by autonomic nervous system operations could be made manifest while, simultaneously, the second signal system which is essentially cognitive in

nature could be related to certain autonomic consequences. Therefore, both Heath and Razran have utilized an implicitly Hegelian approach combining heretofore discretely conceptualized elements under a unified framework.

As one final point to exemplify this orientation, we may allude to studies in the general area of sensory deprivation particularly as it affects normal development of the young organism. Certainly, both the work of Spitz and Ribbele have amply demonstrated the strongly deleterious effects of a sensorially reduced environment on organisms which initially were physiologically quite intact. The work of Hess and Lorenz on critical periods and imprinting further amplifies upon the explicitly interactive nature of organic and environmental factors in generating predictable behavioral outcomes. Accordingly, a similar conceptualization can readily be applied to the adult organism in which neither one nor the other set of factors would be considered the sole determinants but, rather, of etiologic significance with one qualifying the other.

As applied to the therapeutic process, due regard could then be given to the utilization of modalities which at different temporal intervals would involve the patient either as a passive recipient or as an active participant. Importantly, even passive acceptance of given treatment regimens would have behavioral consequences since at least a modicum of acquiescence is required to further even a somatic treatment program particularly chemotherapeutic ones--this, in turn, involving cognitive factors which would, however, have visceral components.

By way of overview, it is suggested that scientific knowledge of man has progressed to the point where a redefinition of the behaving organism, both at genetic and purely behavioral levels, would facilitate the therapeutic process. Conceptualizations adhering to the primacy if not implicit exclusiveness of one or the other point of view would, within this framework, be viewed as undeniably parochial in nature and, therefore, limited in perspective and most cogently of doubtful validity in the treatment process as it affects large numbers of individuals. Implementation of such a philosophy of approach by facilitating the clarification of relationships would increase the likelihood of truly scientific growth and development possibly involving further quantifications while simultaneously providing far more than lip service to humanistic demands that the organism be viewed as a totality.

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