A recent advertisement in Time magazine featured a quote that reads, "I do feel that in America the most valuable thing in life is possible, the development of the individual and his creative powers." (Albert Einstein) Similar thoughts have been expressed throughout recorded history. The difficulty of the task of permitting man to grow to full capacity and self-fulfillment was expressed some 2,000 years ago by Cicero when he said "—we must decide what manner of men we wish to be and what calling in life we would follow; and this is the most difficult problem in the world."

Several weeks ago the Report of the Minnesota State Advisory Council for Vocational Education for 1970 was made public. Several statements from this report are:

- Public education must equitably serve every citizen. Public education must serve to assist each individual in determining his "needs, interest and abilities," and in developing his intellectual, civic, social and work competencies essential to human fulfillment.

- Every citizen has the right and privilege to public education based on his needs, interest and abilities.

- These few statements dealing with the development of the individual and his creative powers are certainly as appropriate for deaf people as they are for any other segment of our population.

Without fear of contradiction it can be said that all persons connected with the education and rehabilitation of deaf persons will subscribe to those programs that meet individual needs, and allow for full development of interest and abilities. The problem arises in knowing, measuring and accounting for progress towards or attainment of these goals.
Frequently when accounting for achievements of large numbers of deaf people we tell an Uncle Willie story. Uncle Willie was the ne'er do well of a prominent family. He had gone to the electric chair for murder. When it came time to record Uncle Willie's achievements in the family history, the biographer wrote that Uncle Willie occupied a chair of applied electronics at one of our leading government institutions. He was attached to his position by the strongest of ties. His death came as a true shock.

Work adjustment is a process, not an event isolated in time. Work adjustment is a process leading to self-fulfillment. This process should ideally begin in the elementary years of education and should be influenced by strong formal guidance programs or career counseling programs. Under such programs the majority of high school leavers would leave high school with several well-defined, realistic plans for implementation. Such plans would include 1) continuance of education in degree-granting programs or diploma granting programs; 2) direct entry into employment; 3) rehabilitation center programs; work adjustment or personal adjustment programs; 4) long term sheltered employment and in just a few instances; 5) homebound or other severely restrictive programs.

As one yard stick for measuring what should be expected in the number of deaf school leavers that should fit into these five categories it would be well to heed the guide lines set by a large number of public educators. These educators felt at least some post-secondary education for 85 out of every 100 high school graduates is essential for the individual before entering the world of work and adult living.

Parks and Bowe (American Annals of the Deaf; Vol. 115, No. 5, September 1970) state there are 3,000 deaf students terminating their education each year. Park and Bowe further report on 1,157 graduates or school leavers for the year 1969. Of this number, 464 or 40 percent went on to continue their education (Gallaudet College, 170 students or 15 percent; NTID, 60 or 5 percent; other programs, 234 or 20 percent). For the year 1969, there are 1,843 or over 60 percent of all school leavers for which there is no central source of definitive information. It can be conjectured that the post-secondary training experiences of this group are no better than the known population reported by Parks and Bowe. In other words, we still have a long way to go in identifying and meeting basic needs of the young deaf adult.
To make a realistic choice at the time of high school leaving, or at a later date, it is axiomatic that man must have the opportunity to appreciate his heritage, culture and society in which he lives. From such a position, man can choose a career or occupation best suited to his needs, interest and abilities, and establish a firm handle on the road to self-fulfillment. The deaf school-leaver has some serious deficiencies in his understanding of his heritage, his culture, and his society (society defined as the total society of hearing persons and including within it the deaf society or community). To illustrate one of the dilemmas facing the deaf adult today, let us take a brief look at the recent Minnesota Governor's Conference on Improved Services to the Hearing Impaired.

The Conference was the follow-up meeting which originated with the Las Cruces Conference that focused on Education and Rehabilitation of the Deaf. One of three major focuses of the Minnesota Conference was "The Habilitation Program: Education, Vocational, Psychological-Social Aspects for the Post-Secondary Hearing Impaired Adult." In each major topic area, the Conference participants heard keynote speeches, and then in discussion groups, discussed a pre-determined list of priority recommendations. These recommendations had been culled from the reports of a variety of local, regional, and national workshops. Finally, each of these items were rank-ordered by each participant and then computer analyzed. This rank-ordering process designated realistic counseling as the number one recommendation. The statement in full reads:

Realistic counseling: Hearing-impaired adolescents and young adults should receive realistic counseling for daily living and vocational guidance. Counseling activities should also include the development of higher aspiration levels and the development of independence and social competence. Parents should be involved as an integral part of the counseling process.

The major recommendation of the Minnesota Conference fairly represents the major dilemma facing the deaf school leaver today. The historical absence or fragmentation of realistic counseling has precluded a satisfactory work adjustment status for large numbers of deaf workers in employment today. An aggressive, state-by-state establishment of counseling services, both in school and post-school, designed to solve problems, will do a great deal to enhance the work adjustment of deaf workers of the future.
School-leaving deaf people face post-secondary experiences from a position of compromise when contrasted to their hearing peers. The educational lag of deaf persons is well documented in the literature. What is not so well documented are actual examples of what this lag means when transferred to actual life situations. Two tests routinely administered at the St. Paul Technical Vocational Institute to Preparatory Deaf Students provide some insight into the compromise resulting from the educational lag. The students at St. Paul TVI are a screened population and not representative of all school leavers. On the other hand, they provide a captive group and do represent a large segment of deaf school leavers who are motivated to continue their education.

The following test items are sample questions taken from a test of 25 items in a Personal Management diagnostic test.

1. Explain what making a deposit at a bank means.
2. If I make a withdrawal from my checking account, what happens to the balance in my check book?
3. I have $120 in the bank in my checking account. I write two checks; Rent $35, Food $10. Each check costs 10 cents to write. What is my new balance?
4. Why do you need a budget?
5. Explain down payment.
6. Give me 2 references that you would use when applying for a job.
7. Have you had an employer? If so, give the name.
8. What is your residence while in St. Paul?
9. What is your marital status today?
10. Which car insurance is most important?

Of one group of Preparatory Students, only 6 students, 22 percent, were able to answer more than one-half of the 25 test items correctly. The average number of correct responses was 6 items (of 25) or 24 percent. Further translated this displayed test knowledge into the actual living situation of managing independent living arrangements including management of money, apartment rental and so forth and a measure of the gravity of the situation becomes immediately apparent.

On the TVI arithmetic diagnostic test, the same general pattern exists. Several sample arithmetic problems, followed by the percentages of errors for each item based on an ‘n’ of 83 with multiple choice answers are as follows:
A score of 16 answers correct on this test indicates arithmetic proficiency in addition, subtraction, multiplication, division, fractions, decimals and so forth. Of 83 students taking the test to date, only 6 students have scored 16 correct answers or better.

By now you are probably wondering what all this has to do with the work adjustment of the deaf worker. The point is that there are not only compromises for large numbers of deaf persons in their work situations but there are also serious compromises necessary in simple, routine activities of daily living. It is repetitious to state that non-working activities, if not in a state of harmony, seriously and adversely affect working situations.

To come into more of a focus, let us think of a given job. Most jobs have three basic parts. They are:

1. Make ready
2. Do the job
3. Clean up

The way in which a worker approaches the work task will affect his ability to do the task, his productivity, and his rate of pay. Also affected are factors related to fatigue, both mental and physical. With proper instruction the deaf worker can perform a wide range of semi-skilled and skilled jobs. In fact, the deaf worker excels in the performance of Part 2 or “do the job” aspects of most tasks. For his performance he is paid a fair wage. This accounts for the above average wage that the deaf person receives in comparison to national norms.

Industry pays top dollar for employees who can competently perform Part 1, of the “make ready” part of jobs. This is work that
is performed by the qualified craftsman or technician. Traditionally, deaf workers have not been employed as qualified craftsmen or technicians in equal proportion to the hearing working force. A major reason for this inequitable position has been the inability of the deaf worker to competently perform Part 1, or the "make ready." This condition accounts for the "instant job plateau" as described by Boyce Williams, and the truncation or compression of the deaf workers' earning power.

To transpose this concept into an actual job, analyze a simple peg board task. The peg board task is to determine the most efficient manner for inserting 30 pegs, squared on one end, and rounded on the opposite end, into a board. One surface of the board is flat, while the other side has indented holes. The holes are laid out in rows of five vertically and rows of six horizontally. This particular job is a repetitive job that requires efficiency and speed to obtain a profit.

Simple? Yes, if the worker is properly trained in job analysis. Not quite so simple if the job is approached in a haphazard manner. There are five steps to be performed in job analysis, or "make ready." They are:

1. Place the board on a table with the indented side facing up.
2. Place the board so the rows of six holes face the worker.
3. Divide the pegs into two groups of fifteen.
4. Place the pegs in rows of 15 with the rounded edges facing the board.
5. Be sure the work is laid out on a high friction table to eliminate sliding or rolling of the pegs.

The job is now ready. Part 2, of "do the task" consists of:

1. Using both hands simultaneously, pick up two pegs, place in top center holes.
2. Working downward and outward, repeat until task is completed.

The critical input into the peg board task is in the job analysis, or Part 1, "make ready." Part 2, "do the job," requires proper instruction together with physical attributes to perform the job.

On another level of employment the Sperry Rand Corporation is employing a concept of Big-think, Middle-think and Little-think. Big-think illustrates researchers probing or "blue-skying" for the
Big Idea. Middle-think is defined as the areas where improved products are developed. Middle-think is devoted to marketing new and existing products in the most competitive manner possible. Little-think is the area in which the ideas emanating from Big-think, refined by Middle-think are actually produced. In the Little-think stage, assembly and actual production take place. Currently Sperry Rand has its best thinkers and brain-busters working in the area of Middle-think. Sperry Rand on a different job level is emphasizing the "make ready" aspect of work.

If those of us in the education and rehabilitation of deaf people are going to change the status of the deaf worker into a closer proportional hierarchy of employment with the total population, with skill in job "make ready" and Middle-think as representative goals, it is apparent that the deaf worker must develop an improved appreciation for, and understanding of the skills required to perform the tasks required of Make Ready and Middle-think jobs. These include as minimums a much higher level of math proficiency as illustrated in this paper, an improved understanding of physics, an understanding of graphs, of formulas, ratio scales, metrics, etc. and areas related to the activities of daily living.

Before leaving this concept of job performance it would be well to look at one very significant aspect of work adjustment, or work maladjustment of the deaf worker. The deaf worker, John, provides the vehicle for this illustration. John worked at Company XYZ for three years. John's performance on the "do the job" and the "clean-up" phase are superior. He can do repetitive "make-ready" work which he has learned through careful observation. He can't quite grasp how to do original "make-ready" work. Because of John's superior performance he is frequently assigned by the shop foreman to train new workers hired in the shop. In the course of three years John has trained a number of hearing workers in the shop. One day the foreman is promoted to shop superintendent. George, a hearing worker that John trained 18 months ago, is promoted to foreman. John fails to understand why a man he trained, "taught him all he knows," is promoted over him, to a position of more responsibility and more money. John is not aware that George received training in technical-vocational education, or if he knows, what difference does it make, because John trained him anyway. John does not realize that while he spent his evenings bowling, and tried that adult education course on Improved Language for Deaf People at the local deaf club, that George was
attending the local technical-vocational institute taking advanced
training in his field. Consequently, John has suddenly become a
maladjusted worker, with little recourse. John's counselor, if he has
one, may be faced with the problem of John's job retention.

Despite significant advances in employment opportunities of
deaf people in recent years, the most difficult task the deaf worker
has is in seeking employment, in passing pre-employment tests,
personnel interviews, and becoming employed at the proper skill
level. Language, communication, and lack of sophistication in job-
seeking skills still present obstacles to the deaf worker in seeking
employment.

There are three programs that could assist the deaf worker in
seeking employment. They deal with:
1. further education of industry
2. assistance to the deaf job seeker
3. further education of the deaf worker before he seeks em-
   ployment.

These three suggestions are certainly not original. They have
been reiterated on numerous occasions before. Because of their
importance, and their continuing need they are being reiterated
again. By further education of industry, it is intended that not only
personnel interviewers and personnel departments continue to
receive information on the deaf worker, but also the company's
foreman, the superintendents and the company workers. A very
strong feeling is emerging among those of us in post-secondary
programs of deaf persons. The feeling is that the form of integrated
education we are involved with will have significant future benefits
for the deaf worker. For example, at St. Paul TVI an understanding
of the deaf worker is being developed on a daily basis among almost
2,000 hearing students. Deaf students have already begun to
graduate from St. Paul TVI, from the same classes that hearing
students graduate from. Deaf and hearing graduates are beginning
to become employed side by side in the same companies, not as a
deaf worker and a hearing worker, but as graduates from the same
school. The same pattern is and will be reflected wherever similar
programs of education are carried out. This form of public
awareness is the very best kind of awareness we could hope for
when thinking of proper employment opportunities for the deaf
worker. The late Dr. Martin Luther King, Jr. said, "People fail to
get along because they fear each other. They fear each other
because they do not know each other. They don't know each other
because they have not properly communicated."

The deaf job seeker today continues to need assistance in seeking employment at the proper level. Several years ago on an early Monday morning in June, I had a "drop-in" client at my office in Vocational Rehabilitation. My client was a young deaf man that I had worked with for the previous five years. He was now ready to go to work. His home town was in the northern part of the state. He wanted employment in the metropolitan area. He wanted to work soon so he could get married. His major at college was math and he had all the available courses in data processing. He wanted to be a programmer. I asked if I could see his college transcripts, he did not have them with him. I asked if he had a resume or a vita. He had not yet written these. I asked him where he was going to stay while seeking employment. He had not yet made those plans. I asked him if he had a car for visiting different companies. He had none. I asked him if he had funds to live on and eat with. He had a few dollars that would last a few days. I suggested to him that he go home, get a car, get some money, write his resume, get his transcripts and map out a plan for finding the type of job he felt he was qualified for. This he did. We had several more counseling sessions and he was making good progress in interviewing with prospective companies. About two weeks after our initial interview he came into the office and announced that he had found a job, through a deaf friend of his, working in a meat processing plant in the suburbs, a company that was employing about four or five deaf workers at a time. He could wait no longer for a job in data processing. Through some fairly directive counseling he did not take the meat processing job. Fortunately, within another several weeks he, along with one other Gallaudet graduate did get employment in the data processing field.

There are still a large number of deaf people who need assistance and guidance in seeking employment. Assistance may come from a variety of trained people including trained counselors and placement officers. Situations such as the one just described may not be entirely eliminated within our time. Yet they can be alleviated to a certain degree with continuing education designed to assist the deaf person in the proper techniques for seeking employment. Role playing, mock interviews, media usage, closed circuit television productions are some of the established techniques for developing these skills.

On the job, the deaf worker possesses a great many desirable attributes. Some of these include dependability, adaptability, a
sense of responsibility, attentiveness to work, lack of distractibility, a keen sense of observation, above average safety record, to name a few. Generally, the record shows that unemployment is not an overwhelming problem among deaf workers. The concept of underemployment is another issue which has received a great deal of attention, and is deserving of further attention. Looking at some problems of deaf workers employed today we can still establish a list of priorities. As mentioned, dependability is one of the attributes of the deaf worker. There are some deaf workers, mostly the younger generation, who stray from dependability when it comes to taking part in athletic contests, doctor appointments, counseling appointments and other non-work related concerns. Frequently employers tend to be lenient initially when requests for absences are made, or forgiving when unknown and unexcused absences take place. When the privilege becomes abused, and subsequently withdrawn, the deaf worker feels he is being discriminated against. This type of situation could be avoided if employers would not extend special favors to deaf workers initially, but rather treat them equally with all employees.

The observation powers of deaf workers are generally well developed. There are numerous deaf workers that are achieving well in work today because they have the ability to learn through observation. This ability is quite effective for many routine types of tasks, but loses its efficiency with increased complexity of the job. Several years ago, a young deaf man was hoping to get into the magical world of data processing. The lack of training did not pose a barrier to him. His intention was to obtain a job as a custodian in a data processing plant, and to observe until he was qualified to perform the job. At last report he is still observing.

Honesty is generally another trait of the deaf worker. As in all other areas of human behavior there are exceptions here. One of the frustrating tasks facing the Rehabilitation Counselor is the deaf worker seeking work for which he is not qualified, but nonetheless has the credentials. There are numerous stories about the young deaf worker, who in moving from job to job, from state to state, and through the posting procedure has been able to obtain for himself the ITU card, the International Typographical Union card, which will entitle him to employment in certain graphic arts areas when there is a job opening. More than one employer has been 'stung' by this type of tactic. Those of us in deaf education-rehabilitation cannot afford this type of employer disenchantment. Part of this
particular problem seems to be that a large majority of young deaf workers are ingrained with the concept that to be successful in life they must enter the graphic arts area. Early counseling directed towards realistic goals which may or may not include the graphic arts would help alleviate this type of concern. The deaf individual would benefit by following a realistic vocational developmental plan, and there would be fewer disenchanted employers.

Communication, language, and basic educational skills are all important factors affecting the work adjustment of the deaf worker. Most areas of employment are directly affected by ability to communicate effectively. To deny this would be less than honest. There are however, some compensations that can be made. These are: 1) an increasing appreciation for deafness on the part of hearing workers; 2) an increasing development of communication skills on the part of the hearing worker to specifically include finger spelling and sign language and; 3) the extension of interpreting services to industry. Major breakthroughs in each of these areas are occurring almost daily. To cite one example, we can look at one deaf student at St. Paul TVI. Bernie is in his 2nd quarter studying the Sheet Metal Trade, an apprenticable, unionized area of employment. Bernie, after completing his preparatory studies entered his major area. Bernie is an average deaf student—essentially manual and a visual communicator. On the math diagnostic test, he scored 10 correct responses, 6 points below the test-out, or competency level. His test performance in areas of language, personal management, achievement were comparable. But Bernie has excellent hand skills, ambition, desire, and a high 'personality I. Q. In Sheet Metal, he impressed his fellow students and instructors. To assure employability, it was necessary for select staff members to face the J.A.C. (the Joint Advisory Committee for Sheet Metal), the ruling by fellow students, and instructors, which occurred largely through the interpreter's efforts, Bernie will be accepted into the Sheet Metal Trade upon successful completion of his day school program. Bernie will enter his craft area with an immediate potential wage of $15,184 per year (journeyman's rate of $7.30 per hour, full paid work year of 2080 hours). Of course, apprenticeship comes first.

A special comment is in order on the use of the interpreter, both in education and in industry. A meaningful parallel lies in the nationwide services for blind people. For years, blind people in education have been entitled to the services of a reader. The 1968
Amendments of Vocational Rehabilitation permit interpreters for deaf students pursuing educational programs. It would seem that expanded use of interpreters (manual, oral) in all phases of education; the grades as appropriate, through all post-secondary programs, and extended into industry, would have numerous benefits for the deaf student worker. The various state agencies of Vocational Rehabilitation apparently have not aggressively pursued the interpreter provision of the '68 Amendments. Based upon our experiences at St. Paul TVI, and experiences at NTID, and the other post-secondary programs, qualified interpreters are a major key in opening up new horizons for the deaf student worker.

Accepted as a truism is that the most important aspect of any working situation is the ability to get along with co-workers. Once again, deaf people generally excel in this trait, provided the opportunity. Deaf people are generally most anxious to cooperate with hearing co-workers who show an interest in them. In an educational setting, this is equally true. At St. Paul TVI, in the past 15 months, approximately 8,000 of Elizabeth Benson's book on Sign Language have been distributed. An even larger number of manual alphabet cards have been distributed. The impetus of this interest has been provided by the deaf students.

As the deaf worker becomes an accepted member of a working group, he in turn accepts several levels of responsibility. These are:

1. A responsibility to the immediate working team.
2. A responsibility to the larger team, the company.
3. Fairly or unfairly, a responsibility to other deaf workers currently employed, and to prospective future deaf employees.

Not all workers, deaf or hearing, achieve passing grades in accepting their responsibilities to their employer. It was earlier stated that work adjustment is a process, not an event. As deafness has disrupted the "normal" developmental process, so has deafness disrupted the development of social sophistication. Dr. Larry Stewart speaks of social habilitation as a process of preparing the individual for effective and satisfying relations with other people. Stewart further states that in the area of social habilitation our main concern must be HOW we can foster such habilitation. Examples of the need for improved social sophistication are legion. One brief example from recent weeks follows. Jerry is a special student pursuing a late afternoon evening course of study. He
presented himself, coughing violently, and asked to be excused from class. It was suggested he see the nurse for his cough. Jerry said he could not do that because then he would miss basketball practice. When informed he would go to the nurse or class, and not play basketball, his cough mysteriously disappeared.

Perhaps a system of work-study programs, part-time and summer employment programs, operant conditioning or behavior modification programs structured towards the development of social sophistication, social habilitation and subsequent work adjustment will help foster the acceptance of responsibility as workers.

**SUMMARY**

The work idiosyncracies of the deaf worker are as diverse as the work idiosyncracies of all workers. Deafness, per se, does not create a uniform set of work behavior responses. The fact of deafness does alter the work behavior pattern of the deaf worker. To lessen this difference there is a continuing need for the strongest educational programs possible, ranging from the pre-school level through all post-secondary programs and beyond into adult or continuing education programs. Counseling programs that are well defined and aimed at specific goals are more abundant today than they were five years ago; but these programs are not yet sufficient to meet the need. A continuing need appears to be in job entry and job retention. Too little meaningful information is available on all deaf workers. To gauge the success of our programs we must renew our efforts in collecting data for this form of accountability. Deaf workers and deaf leaders are becoming more involved in decision making processes which is as it should be. Interpreters are assuming a prominent and rightful role in post-secondary education. How can the work of the interpreter be extended to specifically include the deaf worker? The deaf worker in the decade of the 60's developed higher aspirational and expectancy levels for himself through the advent of additional post-secondary programs (NTID, Seattle, New Orleans, and St. Paul). Surely the 70's will continue this trend. Perhaps the greatest gains made in the past and the most significant gains to be made in the future lie in further and greater public awareness of deaf people . . as people like you and me.