

CONSIDERATIONS FOR THE DEVELOPMENT OF  
HORTICULTURAL THERAPY DIAGNOSTIC EVALUATIONS  
WITHIN A PSYCHIATRIC SETTING

by

NANCY MOORE LEIKER

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Approved by:

*Richard H. Mattson*  
Major Professor

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## INTRODUCTION

During the past two hundred years horticultural therapy has been successfully integrated into patient treatment in psychiatric and other institutions. Gardening activity emerged as a component of hospitalization treatment and even in its earliest forms was recognized to be beneficial for those persons who had difficulty coping with their life situations. Today horticultural therapy has developed into a multi-dimensional (activity, physical, occupational, rehabilitation) therapy. "Since exposure to the arts, skills, and science of horticulture has proved to be therapeutic, it was natural that there would be a need for an organized approach to the development of horticulture as a therapy."<sup>1</sup>

Before patients enter a horticultural activity an initial diagnostic and adjustment period are required. Without the diagnostic information it would take considerably longer for the therapist to know where the patient would fit in the program comfortably, and for the patient to feel at ease with the media and the activity area. An adjustment period for both patient and therapist follows the diagnostic testing which eases the transition to the horticultural activity. The patient knows that his interests were considered and that he will participate in chosen projects. Reduction of the treatment time and consequently increasing the intensity of the treatment program is usually beneficial. With the rising cost of hospitalization most patients do not have the money to spend on extended therapy. Thus, with the prospect of future patients spending less time in the hospital the therapist could effect positive changes in the patients in a shorter period of time with emphasis on

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<sup>1</sup>Watson, Donald A. and A.W. Burlingame, 1960. Therapy Through Horticulture, (McMillan Co., New York) pp. 2.

quality of treatment. Any tool the therapist can use to improve the quality of treatment of patients is helpful.

Another point to consider is the long range direction of psychiatric hospital care. "Even overlooking the difficulties in defining mental disorder and in determining how many people need professional assistance, most writers agree that in the foreseeable future America's mental health needs are unlikely to be met, given present estimates of the incidence of disorder and of the numbers of professionals being trained."<sup>2</sup> This quote by Davison and Neale considers the psychiatrist, psychologist, and psychiatric social worker as the professional members of the hospital treatment team. If the horticultural therapist intends to move to professional status he must develop improved therapeutic treatment procedures. The preparations of diagnostic tests in coordination with an intense activities therapy program is one such way to better insure the attainment of professional status.

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<sup>2</sup>Davison, Gerald C. and J.M. Neale, 1974. Abnormal Psychology: An Experimental Clinical Approach (John Wiley and Sons, Inc.) pp. 514.

### OBJECTIVES

The objectives of this study were to demonstrate the importance of a horticultural therapy diagnostic evaluation within the framework of the horticultural activity program.

Although therapeutic success of horticultural therapy has gained popularity and the support of prominent psychiatrists, several areas within the field need further research. The use of horticulture as a diagnostic tool within the psychiatric setting, and specifically in the activities therapy department, is one such area. In this paper I will attempt to explain how horticulture and psychiatry can complement each other in patient treatment. I will offer an example of a horticultural activity program that has been preceded by a horticultural questionnaire and diagnostic test, and demonstrate the advantages of such a procedure. Also, a hypothetical situation will be constructed (within a horticultural program at a psychiatric hospital) where a patient will take the questionnaire and diagnostic test, enter the activity, and proceed to interact with the other patients. The therapist's role and possible treatment alternatives for this patient will be described.

## HORTICULTURAL DIAGNOSTIC TESTS

### I. REHABILITATION THERAPY

The psychiatric setting is not the only place that horticulture can aid in diagnostics. At The Institute of Rehabilitation Medicine, New York University Medical Center, Brooks and Oppenheim (1) used six diagnostic techniques: counting or numbers sense, color sense, coordination, alignment, space concepts and psychological aspects. To test the numbers sense they used the activity of putting shards in place over drainage holes in pots. The patient was first asked to select four shards. If the patient was not able to do this he was asked to count aloud as he made his selection or put shards in place. Since some pots have a different number of holes than others this was accurately checked by substituting, in random order, pots with different holes. A brain damaged male patient, after several weeks of potting, began to count spontaneously when initiating the first step of placing the shard. This was evidence that the numbers concept was at least partially intact. This patient had not shown this ability when working with therapists in other areas. They also checked the numbers sense with planting seeds (large enough to handle individually), potting several rooted cuttings or seedlings into one pot, or simply counting pot plants at the end of an activity period. In this area of counting or numbers sense as well as in the other areas mentioned the therapist was able to act on the results in the test and effect change in the patient through the horticultural media.

To test the color sense, Brooks and Oppenheim (1) used different colored pots, utensils and plants. They were also looking for color blindness or the inability to distinguish color and classify it properly. They also suggested the use of colored construction paper between the

plastic work sheet and the table surface when working with color visualization impairment. Coordination was checked by the repeated use of the shard over the drainage hole in pots. The patient had to sometimes stabilize the pot with one hand while putting the shard in place. Sometimes a patient used two shards when one would have been ample. Transporting of growing media from container to pot showed problems of excess spilling. Looking at the finished pot with media as well as the fullness of the utensil used to fill the pot was also done. They also watched the patient try to balance a rooted cutting into the pot while filling the rest of the pot with media. This had varying degrees of difficulty for patients. Finally, the last step of tapping the pot to settle the soil was impossible for some patients to do. Deficits in alignment or visual scanning were found when patients were transplanting seedlings in a flat or box with straight sides or regular shape. This deficit was also noticed when patients inserted cuttings into a container of rooting media. The following alignments were revealed: centering a single plant in a pot, placing three plants equidistant in a triangular pattern, or four plants in a square, or five plants in a square with one in the middle.

In my own experience with psychiatric patients I observed many of these same visual deficits. When sticking poinsettia cuttings in rectangular flats many patients would invariably place the cuttings too far apart after being instructed on the exact desired distance between cuttings. When asked if they thought these cuttings were placed properly they could not tell the difference between the flat they planted and a correctly planted flat. I also observed patients propagating cuttings upside down and at angles instead of vertically.

To test space concepts shards are again used. Brooks and Oppenheim evaluated presence or absence of the space concept by noticing the size

of shard the patient used to place over a certain size hole. If this concept was absent the patient would be unable to cover each of the holes with a shard of the right size. Some patients tried to use several small pieces instead of the correct large one. Loss of the numbers sense (as seen in a patient placing three shards correctly in the first pot and then trying to place three shards over four holes in the second pot), visual deficit, and other impairments were also seen to be involved. To evaluate the psychological aspect and other benefits of horticulture they tested hard-to-motivate patients. They proved that with these patients working with plants can provide an impetus and initiate a response. By placing the emphasis on the growth cycle of plants it becomes easier for the therapist to motivate the patient in correspondence with the plant's cycle.

## II. PSYCHIATRIC ACTIVITIES THERAPY

A psychological personality test was developed related to a horticultural therapy activity program using Helfey's (6) categories. Her outline details four general areas of intellectual, social, emotional and physical benefits as follows:

### Intellectual Benefits

1. The attainment of new skills
2. Improved vocabulary and communication skills
3. Aroused sense of curiosity
4. Increased powers of observation
5. Vocational and pre-vocational training
6. Stimulation of sensory perception

### Emotional Growth Benefits

1. Improved self confidence and self esteem
2. Opportunities to relieve aggressive drives in a socially acceptable manner.
3. Activities which promote interest and enthusiasm for the future
4. Opportunities for the satisfaction of creative drives

### Physical Benefits

1. Development and improvement of basic motor skills
2. Increased outdoor activities

### Social Benefits

1. Interaction with the group
2. Interactions outside of the group (and outside the hospital)

With these objectives in mind the therapist can then write specific questions that would elicit responses helpful in developing a patient treatment plan. The hospital setting must also play an important role in the development of such a test. At some hospitals the psychological testing may follow a certain pattern, or the psychologists may prefer to use specific personality index tests. In this case the therapist would have the advantage of working with the psychologists in the development of a related psychological horticultural test. But, to be useful in diagnosis, the test given to patients entering the horticultural program, should not repeat items that are on the test given by the psychologists.

## DEVELOPMENT OF THE HORTICULTURAL THERAPY DIAGNOSTIC EVALUATION

### I. PSYCHOLOGICAL TEST QUESTIONS

Four questions from a sample horticultural therapy psychological test are presented, one pertaining to each of the four areas in Hefley's outline.

QUESTION 1

If you were with a group observing plants in a forest which one of the following would you most likely do?

- a) Pick up different shaped or colored leaves.
- b) Collect different leaves and compare with those of the group.
- c) Identify the leaves collected by looking through textbooks.
- d) Learn the names of all the leaves collected.
- e) I am not interested in participating in the activity.

QUESTION 2

If you had just finished making a flower arrangement in the greenhouse, what would you do with the finished product?

- a) Show it to your doctor and put it in a location where others can enjoy.
- b) Leave it in the greenhouse. It doesn't make any difference if anyone else sees it.
- c) Put your arrangement wherever the activities therapist thinks it would look best.
- d) Take your arrangement apart and throw the flowers away.
- e) I probably would not make a flower arrangement because I don't think I can.

QUESTION 3

Which one of the following would you rather do on a warm spring day in a hospital activity?

- a) Take a walk with friends.
- b) Help plant a flower garden.
- c) Till (rake, dig, hoe) the hospital vegetable garden.
- d) Sit under a tree and look at seed catalogs.
- e) I would rather work on a quiet project indoors.

#### QUESTION 4

Which one of the following activites would you attend on a regular basis?

- a) One in which the patients work on individual projects all of the time with some suggestions from the therapist.
- b) One in which all projects are group projects.
- c) One in which some of the projects are group projects and some are individual projects.
- d) I'm not interested in activities therapy.

#### II. DESCRIPTION OF PSYCHOLOGICAL TEST QUESTIONS

Question 1 relates to the intellectual benefits of the horticultural activity program. Within the five choices the patient may choose to work alone or with the group, follow intellectual pursuit by actually identifying each leaf specimen, work on sensory perception by comparing the characteristics of his specimens with those of another, and also satisfying his curiosity about what the other members of the group had collected. By analyzing this question the therapist would have much information to draw from, and hopefully be able to learn of the patient's interest in exploring new intellectual territories.

Question 2 relates to the emotional growth benefit of horticultural therapy. The five responses allow the patient to choose who to share his creation with, whether or not to admire the finished product and discuss it with others in the group, and most important whether or not the patient is interested in creativity at that time. Also, the therapist would have some insight into the self-esteem level of the patient.

Question 3 relates to the physical benefits of horticultural therapy. The patient can choose between indoor and outdoor activity and various

levels of motor skill development. Also, by adding the fact that it is a warm spring day to the situation one would assume that most people would prefer to be outdoors if they had their choice. Thus, a patient who chose to page through seed catalogs might be uninterested in what is going on outdoors, and this could also be seen in other areas of the test dealing with self value, boundary maintenance, or lost contact with reality. This continuity between all areas of the test can not be overlooked. The therapist could be examining the overall personality trends of the patient seen in his various responses. It would not be particularly advantageous for the therapist to draw a specific medical diagnosis for the patient. However, it would be to his advantage to see how the patient responds to questions related to horticulture, and what level of function or disfunction the patient was maintaining at that particular time.

Question 4 refers to social benefits of activities in general and can serve as a source for much information about how the patient prefers to have his time structured in a hospital setting. If the therapist's activity was one in which all projects were conducted as group projects and the patient preferred to work alone the therapist would then have to evaluate the patient's general problem areas and decide whether or not he would benefit from that type of activity.

In summary, the psychological test, when prepared to parallel the specific horticultural therapy activity program, is a useful tool to the therapist who wishes to have a better understanding of each patient as he or she enters the program. It also serves to aid the therapist in pulling together a comprehensive treatment plan for a patient in a horticulture program.

### III. EVALUATION OF PSYCHOLOGICAL TEST QUESTIONS

After developing a horticultural therapy psychological test it is advantageous for the therapist to write an evaluation on each patient. If a standardized evaluation sheet is used the therapist can save time in completing such an evaluation. The following example of an evaluation form includes space for re-administering of the test at a later time to see patient progress.

#### QUESTION 1 (Intellectual evaluation)

| <u>Response</u> | <u>Score</u> | <u>Initial</u> | <u>Later</u> |
|-----------------|--------------|----------------|--------------|
| A               | low          |                | X            |
| B               | medium       |                |              |
| C               | high         |                |              |
| D               | high         |                |              |
| E               | none         | X              |              |

#### QUESTION 2 (Emotional growth evaluation)

| <u>Response</u> | <u>Score</u>        | <u>Initial</u> | <u>Later</u> |
|-----------------|---------------------|----------------|--------------|
| A               | high self-esteem    | X              | X            |
| B               | low self-esteem     |                |              |
| C               | average self-esteem |                |              |
| D               | low self-esteem     |                |              |

#### QUESTION 3 (Physical activity evaluation)

| <u>Response</u> | <u>Score</u>           | <u>Initial</u> | <u>Later</u> |
|-----------------|------------------------|----------------|--------------|
| A               | med. activity outdoors |                |              |
| B               | active outdoors        |                |              |
| C               | active outdoors        |                |              |
| D               | inactive outdoors      | X              | X            |
| E               | inactive indoors       |                |              |

## QUESTION 4 (Social evaluation)

| <u>Response</u> | <u>Score</u> | <u>Initial</u> | <u>Later</u> |
|-----------------|--------------|----------------|--------------|
| A               | alone        | X              | X            |
| B               | group        |                |              |
| C               | both         |                |              |
| D               | neither      |                |              |

The above example would show satisfactory improvement of a psychiatric patient. Negative responses to a horticultural therapy activity are also measureable. Suggested frequency of testing would be at the discretion of the therapist. Questions can be administered on paper or verbally.

## IV. HORTICULTURAL INTEREST QUESTIONNAIRE

The second important tool the therapist needs in combination with the diagnostic test is a horticultural interest questionnaire. The general purpose of it being to spotlight the areas of interest in the field of horticulture for each patient. The areas covered in the questionnaire would include previous experience in horticulture, specific activities the patient would enjoy participating in and what he would expect to learn or benefit from a horticulture program. Since some of the activities would be carried out in groups, some individually, some outside and others inside, and there would be a wide range in physical activity.

1. Please check each area that you have had experience in at one time or another.

|                                                     |                                                    |
|-----------------------------------------------------|----------------------------------------------------|
| <input type="checkbox"/> flower gardening           | <input type="checkbox"/> making dried arrangements |
| <input type="checkbox"/> vegetable gardening        | <input type="checkbox"/> studying horticulture in  |
| <input type="checkbox"/> growing houseplants        | <input type="checkbox"/> school or in books        |
| <input type="checkbox"/> landscaping                | <input type="checkbox"/> making a terrarium or     |
| <input type="checkbox"/> floral arrangement         | <input type="checkbox"/> dish garden               |
| <input type="checkbox"/> belonging to a garden club | <input type="checkbox"/> growing agronomic crops   |

2. Please check the reasons you would enjoy being in a horticultural activity program.

☐ develop a hobby  
☐ learn new skills  
☐ develop a new area of intellectual pursuit  
☐ work around pretty plants and flowers  
☐ learn a new trade and qualify for a better job when you leave the hospital  
☐ make friends with others who enjoy horticulture

3. Please rate the following areas of interest according to your own personal desire to take part in such activities. For instance, put the number 1 next to the activities you would be interested in doing, a 2 next to the ones you would be slightly interested in, and an "N" in the space next to the ones in which you have no interest. Please answer all questions.

☐ learn more about houseplants and propagate some of your own houseplants.  
☐ learn how to identify trees, shrubs and flowers  
☐ learn vegetable gardening  
☐ learn flower gardening  
☐ visit local greenhouses and nurseries  
☐ make flower arrangements  
☐ learn to make a terrarium or a dish garden  
☐ learn how to preserve flowers by pressing and drying them  
☐ learn how to grow floriculture crops like chrysanthemums and carnations  
☐ look at slides of the plant materials in different areas in the U.S.

- \_\_\_\_\_ see movies about various horticulture topics
- \_\_\_\_\_ learn how to grow cactus in the greenhouse
- \_\_\_\_\_ learn how to grow unusual specimen plants in the greenhouse
- \_\_\_\_\_ wash pots
- \_\_\_\_\_ teach someone something you know about horticulture
- \_\_\_\_\_ learn how to force bulbs (daffodils, dutch iris, hyacinths)
- \_\_\_\_\_ weed the vegetable and flower gardens
- \_\_\_\_\_ go for nature walks in the woods
- \_\_\_\_\_ learn to grow herbs
- \_\_\_\_\_ learn about insect pests and plant diseases
- \_\_\_\_\_ make seasonal decorations for the hospital floors
- \_\_\_\_\_ learn to take care of the plants in doctors' offices on a regular basis
- \_\_\_\_\_ learn simple landscaping

#### V. THE HORTICULTURAL THERAPY ACTIVITY PROGRAM

This sample program was constructed as a basic framework for the formation of the psychological diagnostic test and the horticultural interest questionnaire. It also can serve as an example that the mentioned test and questionnaire are only effective when written from the perspective of a specific activity therapy program.

#### Description of the program:

This horticultural program is part of the activities therapy department at a private psychiatric hospital. The therapist in charge works in conjunction with the hospital treatment team, consisting of doctors, psychiatric nurses, psychiatric aids and activity therapists.

Facilities available:

## 1. Greenhouse, 15' x 40'

Space used for: house plants for offices and patients' rooms  
 patient projects  
 specimen plants  
 chrysanthemum fall crop  
 Christmas poinsettia crop  
 spring pot plants  
 propagation mist system  
 stock plants

## 2. Headhouse and workroom:

arts and crafts area  
 office  
 reference books and materials  
 storage of materials for dried crafts  
 flower arranging space for work and storage  
 fresh flower cooler  
 general potting space  
 storage for soil mixes, fertilizer, etc.  
 storage for pots, flats, trays and containers  
 washroom and sink

## 3. Outdoor facilities:

small vegetable garden plot, 10' x 30'  
 small annual and perennial garden plot, 18' x 45'  
 plastic covered storage area for holding bedding  
 plants and vegetable starts, 10' x 10'

General description of the yearly program:

clean up greenhouse and headhouse  
study books and periodicals  
experiment with cacti, violets and other individual projects  
arts and crafts due to individual interest  
special growing projects with two or three patients  
forcing bulbs  
vegetable gardening  
propagation of bedding plants  
planting the annual garden  
weeding and renovating the perennial garden  
replenishing perennial garden each year  
rotating crops and specimen plants in the greenhouse  
propagation of crops in season  
servicing house plants to doctors' offices and hospital floors  
identifying woody plants by a key  
identifying herbaceous plants on the hospital grounds  
nature walks through the woods  
field trips to local florists and nurseries  
making terrariums and dish gardens  
making dried arrangements  
collecting pine cones and dried materials on the grounds  
crafts using pressed flowers and other dried plant materials  
washing pots  
scrubbing potting area  
mixing soil potting media  
weeding and watering greenhouse and gardens

Most of the activities in this program are done in groups. However, at least once a week there is the opportunity for patients to work on individual projects. Each activity tends to lean toward the needs of the groups at that particular time as well as the specific jobs that need to be done in the greenhouse, etc.

## VI. CASE STUDY EXAMPLE

In order to demonstrate the effectiveness of the overall treatment program when planned in conjunction with the psychological diagnostic test and the horticultural interest questionnaire an example is given of a patient who has taken the tests and entered the sample horticultural therapy activity. This patient demonstrates how the therapist needs to be flexible in developing a program suited to the particular needs of each patient.

The patient is a twenty-three year old female who is clinically diagnosed as "depressed." The results of the psychological diagnostic test given in the greenhouse were as follows. The patient has very low self esteem and does not feel confident in accomplishing an individual task. She prefers to work alone but seems to want to comply with the wishes of the therapist when attending the horticultural activity program. She does not prefer to work with the group at any time, and appears to be apprehensive about trying anything on her own. She prefers inactive projects over active ones and does not like to be outside any more than is necessary. She has few friends outside the hospital and her general affect is best described as "depressed." The results of the horticultural interest test were as follows. She has had experience in growing houseplants and flower gardening. She plans on entering the activity to develop a new hobby. Her first three choices of activities are to 1.) learn more about house plants and propagate some of her own, 2.) learn how to preserve flowers

by pressing and drying them, and 3.) see movies about various horticultural topics. The general plan for his patient at the time of entry into the activity is to encourage her to try to enter into the group with confidence. Through group interaction and support she should be better able to accomplish tasks thus slowly building up her self esteem. Since she prefers to work indoors these types of projects will be emphasized first, and then outdoor group projects will follow. She should be introduced to each member of the activity personally to avoid embarrassment for her when being set in front of the group as a new member. Since she likes houseplants and has had some experience growing them she should be shown that area in the greenhouse and encouraged to visit it at any time. The first problem that the therapist faced with this patient was trying to get her to share in group decisions. She reluctantly followed the group when working on projects, but refused to show any emotion when asked her opinion. The therapist then had to actively encourage her to speak up and remind her that the group members were her friends. The next problem was that when she had finished an individual project she would never take it with her to her room or to the floor. She was never satisfied with anything she had made no matter how nicely it had turned out. She would work extremely slowly and always fall behind the pace of the activity. The therapist interpreted this as a plea for attention and proceeded to praise her on each step of her project. Thus, when she had finished a project, the therapist would make a place for the display of her project in the greenhouse and ask her if she thought it would look nice there. The patient seemed pleased to display her work in the greenhouse, and eventually the therapist was able to get her to take each finished project back to the floor, and then to her own room.

After this improvement in self-confidence the patient stopped attending the activity on a regular basis. The therapist referred to her original

test and questionnaire and saw that she had checked other areas of possible interest. It was then felt that she should be ready for some other areas with group participation. He encouraged the patient to return to the activity because the program was seasonal and the group was moving on to other activities that she had never experienced. She said she was tired of the same thing day after day and did not want to return. However, she was back in the greenhouse the next morning. The projects went well with her for a few months and then she seemed to hit a slump again.

If the therapist did not have the initial test and questionnaire to refer to he would have had to spend much time trying to figure out the next step in the treatment program. After this slump period the therapist confronted her with whether or not she was even interested in horticulture and being around her friends in the greenhouse. She said she was tired of "playing" in the greenhouse and would rather learn some basic skills so that she could possibly get a job when she left the hospital. This was a big step for the patient and a chance for the therapist to make further progress with her in her treatment program.

First of all, by stating that she wanted to learn some new skills she demonstrated that she had shifted her area of interest in horticulture from the development of a hobby to the attainment of new skills. This showed her willingness to move toward the future and an increase in her self-esteem. She also showed herself that she could move from areas of experience to unexplored areas with more confidence. She also learned to make friends in an activity and to accept her accomplishments more enthusiastically. The case does not necessarily have a happy ending. The patient, as would many others, headed toward health for long periods of time and then slumped downward to a stationary position. This is an example of how the therapist must be prepared to adapt to the needs of each

patient as well as adjust his tempo to meet the demands of the group at the same time.

## VII. OTHER EXAMPLES OF PATIENT PROBLEMS IN THE HORTICULTURAL THERAPY ACTIVITY

When trying to plan a daily activity schedule the therapist is faced with various patient personality problems. The first example is a twenty year old female schizophrenic patient who has just recently been admitted to the hospital. The hospital treatment team understands her to be "disorganized" in her surroundings, and she has been scheduled into the greenhouse activity without the therapist in charge being consulted. The first day in the activity she locks herself in the restroom and sings out loud. The therapist immediately has to shift his attention to her and abandon the group. This causes group unrest, and the therapist dismisses the activity early. The second day the patient seems to be subdued as she enters the greenhouse. She takes a seat on the outside of the group and waits for the therapist to start the activity. However, as soon as the therapist begins to explain the day's activity the patient begins screaming that she does not know where she is. Apparently she has forgotten that she was in the greenhouse the day before. The therapist is again forced to divert all his attention to the patient at the expense of the group. He has to return the patient to the floor because she is causing a disturbance. The floor staff is angry with the therapist because he returned the patient to the floor early. This causes the therapist to feel guilty for not being able to handle the situation better. The third day the patient attends the activity and rushes out into the greenhouse and exclaims that the plants are going to eat her. At this point the therapist realizes that the patient is too disorganized to function effectively in that type of group activity, and also she is confused by the arrangement of plants and the various shapes

of the leaves. The horticultural activity would not be beneficial for this patient until she was able to attend the activity with self confidence and the absence of fear.

This example demonstrates that the therapist who is equipped with a diagnostic evaluation and a well planned activity program would be in the position to recommend that a patient not enter his program until a higher level of functioning was reached.

A second example illustrates a situation where the patient can eventually fit into the structure of the activity with flexibility on the part of the therapist. This patient is a twenty-year old paranoid schizophrenic male. He enters the activity without objection but hesitates to become involved with the group. He follows the therapist from one task to the next doing exactly what is asked of him, but never finishes a project properly. For example, he would make a Christmas wreath using half as many materials as were necessary, thus the finished project would look sparse and undesirable. He would rush to finish each task, and never involve himself with the interaction between group members. After constant attempts to include the patient in the group interaction the therapist decided not to push the patient, but to let him work alone near the group. The patient seemed to enjoy working near the other patients but still would not interact. The therapist then had to decide whether or not the special attention awarded to this patient would harm the theme of the group activity. The group displayed the answer. They were not disturbed by the patient sitting near them and occasionally would offer to include him in their discussion. The therapist decided that the patient's presence in the group was beneficial to both the group and the patient. In a situation such as this, if the patient had taken the horticultural diagnostic evaluation, it might have shown that he was not yet able to cope with a group activity.

The therapist would then have been able to determine the value of such a structured activity for this patient. Even though some patients may not be interested in a particular type of activity they might still benefit from that activity.

### SUMMARY

The horticultural activity program in a psychiatric hospital should serve as a stimulus for disturbed patients and encourage them to incorporate their experience in horticulture into their total life pattern. If the program is set up to function at maximum efficiency with a certain number of patients, and the therapist has a total understanding of these patients, then it can be expected that the outcome will be satisfactory. The basic strong points of a therapeutic activity are 1. the increase of patient motivation, responsibility, and the feeling of achievement, 2. the encouragement of productiveness in society, 3. and an emphasis on creation and the plant life cycle. By keeping these in mind the therapist is able to function as a treater. "An activities therapist through the specific tool of their individual skills, personality, and psychiatric understanding offers to the patient a treatment program designed to re-direct his attitudes, strengthen his relationships with others, and develop his self-expression, thus insuring a healthier functioning when the patient returns to his own environment."<sup>3</sup> Unpublished material contained in the A.T. Conference Report, Jan. 12, 1971, The Menninger Foundation).

If patients were given a diagnostic test and a horticultural questionnaire before entering an activity program the therapist would then be better equipped to meet the specific needs of each individual patient as those needs develop. The diagnostic test would consist of questions similar to those found in subjective psychiatric tests (MMPI) with horticultural areas of interest emphasized. The questionnaire would include all areas of horticulture specific to the activity program. By using this combination of

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<sup>3</sup>Anonymous, Activities Therapy Department, The Menninger Foundation, A.T. Conference Report, January 12, 1971. (unpublished report)

data the therapist would initially have insight into the patient's overall personality, pathology, specific problems in social settings, and areas of interest in horticulture. Armed with these tools the therapist would know his patients better, and thus be better able to plan an effective daily schedule. Even more specifically the therapist would be able to visualize a treatment plan for a patient that would seek to work out the patient's various problems in conjunction with his personal interests in horticulture. Furthermore, if the patient did not respond to the therapist's initial plan then the therapist would be able to refer to the tests and try another treatment plan. After many unsuccessful attempts with a patient the therapist would then be able to recommend that the patient be moved to another activity area, and would have the facts to back up his recommendation.

At the present time the usual routine in a psychiatric hospital is for the psychologists to test the patient shortly after admission and send an abbreviated "problem list" to the various activity areas. The patient is given a tour of all the activity areas by an assigned activities therapist and asked which activities he would enjoy most. With a problem list that sometimes contains only a few general statements like "disoriented," "has trouble with authority figures" and "motivational difficulty," and the patient's request for a certain area the therapist then schedules the patient into a specific area. It is at this point that the patient is more or less shifted to an activity area and the therapist responsible is expected to incorporate the patient into his activity with very little previous knowledge about a suitable activities treatment program for that patient. This form of scheduling can provide a high level of success if the therapist in charge of a specific activity, such as horticulture, can play a more active role in the selection of patients for his area. To help the

therapist decide whether or not a particular patient would benefit from a specific activity program, a diagnostic test and an interest questionnaire would be highly useful tools. With these, the therapist would have a record of specific responses by a particular patient on paper which could be used to determine what use the activity would be in treatment of the patient.

In developing a psychological diagnostic test one should keep in mind the specific categories that need to be covered. In relation to a horticultural therapy activity program the test should include questions that pertain to certain social problems, personal problems, and areas of potential stress that might occur during the activity. By adding horticultural terms and situations to these personality index questions the therapist would be setting the stage for the patient's horticultural activity as well as familiarizing him with these terms and the nature of a horticultural program. Also, the therapist might be able to obtain additional information about the patient's interest areas that might not be covered on the horticultural interest questionnaire given in conjunction with the psychological test.

## CONCLUDING REMARKS

"The concepts used in horticultural therapy as well as other psychiatric activity therapies is based on the psychodynamic approach and as philosophy changed so has the treatment approach used in the activities changed. In the past two hundred years the use of agriculture as some form of activity has gone through a number of major evolutions. Only a generation ago the dynamics of the activities was a result of reliance upon the media and associated tasks, but now the therapist has become a major therapeutic factor."<sup>4</sup>

It is the opinion of Green, et al. (5) that psychological testing is best handled by psychologists and psychiatrists; and the activities therapist acts as an observer of patient behavior in various situations. Even though the activities therapist's observations add specific information to the treatment team's evaluation the therapist is not considered a diagnostician.

It is my contention that the activities therapist should be more actively involved in professional diagnostic testing. The use of diagnostic testing within the horticultural setting is one way the horticultural therapist can explore new therapeutic techniques and challenge his knowledge of horticulture.

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<sup>4</sup>Barber, Andrew, 1975, National Council for Therapy and Rehabilitation Through Horticulture Newsletter, 2:2, pp.4.

SELECTED BIBLIOGRAPHY

1. Brooks, Howard D. and C.J. Oppenheim, 1973. Horticulture as a Therapeutic Aid, Institute of Rehabilitation Medicine, New York University Medical Center.
2. Davison, Gerald C. and J.M. Neale, 1974. Abnormal Psychology: An Experimental Clinical Approach, John Wiley and Sons, Inc., New York.
3. Ethridge, David A. and M. McSweeney, 1971. Research in Occupational Therapy, Kendall-Hunt Publishing Co., Dubuque, Iowa.
4. Fadiman, James and D. Kewman, 1973. Exploring Madness: Experience, Theory and Research, Brooks-Cole Publishing Co., Monterey California.
5. Green, Phillip et al., 1975. Activity Therapists' Participation in the Psychiatric Case Study, Bulletin of the Menninger Clinic, 31:1, January, pp. 75.
6. Hefley, Paula Diane, 1973. Horticulture: A Therapeutic Tool, Journal of Rehabilitation, January-February, pp. 23.
7. James, Muriel and D. Jongeward, 1971. Born to Win, Addison-Wesley Publishers.
8. Kramer, Jack, 1973. Gardening Without Stress and Strain, Charles Scribner's Sons, New York.
9. Rogers, Carl R., 1967. The Therapeutic Relationship and its Impact - A Study of Psychotherapy With Schizophrenics, University of Wisconsin Press, Madison, Wisconsin.
10. Watson, Donald P. and A.W. Burlingame, 1960. Therapy Through Horticulture, McMillan Co., New York.

11. White, A.S., 1972. The Easy Path to Gardening, Readers Digest Association in Conjunction with the Disabled Living Foundation, Great Britain.

CONSIDERATIONS FOR THE DEVELOPMENT OF  
HORTICULTURAL THERAPY DIAGNOSTIC EVALUATIONS  
WITHIN A PSYCHIATRIC SETTING

by

NANCY MOORE LEIKER

B.S., KANSAS STATE UNIVERSITY, 1970

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

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MASTER OF SCIENCE

Department of Horticulture and Forestry

KANSAS STATE UNIVERSITY

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This report describes potential uses of horticulture as a diagnostic media in a psychiatric hospital activities therapy program.

The author developed a horticultural interest questionnaire to be completed by newly admitted patients before possible entry into a horticultural therapy activities program. The questions were drawn from specific horticultural tasks within the activity therapy program. Personality index questions were written to assist in diagnosing intellectual, social, emotional and physical personality traits.

The role of the activities therapist as a member of a hospital treatment team was discussed in relation to the responsibility of maintaining an effective horticultural therapy program. Case study examples, including specific patient problems encountered within the horticultural activity, were used to demonstrate the need for the horticultural therapist to function as a diagnostic evaluator.

The following conclusions were made as a result of the study:

1. A horticultural interest questionnaire and a personality index test will aid in determining which patients may or may not benefit from specific horticultural therapy activities.
2. Evaluation of patients before entering a horticultural therapy activity program may reduce initial adjustment and hospital treatment time.
3. The horticultural therapist is better able to plan a daily activity program when he has determined individual patient needs and expectations through horticultural diagnostic tests.