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A METHOD OF APPRAISING THE LIVABILITY OF THE  
LIVING-DINING AREA OF A HOME

by

DOROTHY BLANCHE LAWRENCE

A thesis submitted to  
the Faculty of  
The Consolidated University of North Carolina  
in partial fulfillment  
of the requirements for the degree  
Master of Science in Home Economics

Greensboro

1956

Approved by

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#### ACKNOWLEDGMENTS

The writer wishes to express her deep appreciation to Dr. Irwin V. Sperry for his constant encouragement and valuable constructive criticisms throughout the time that this study was being made and to Mrs. Madeleine B. Street, Dr. Josephine Kremer, and Dr. G. Benton Johnson, Jr. for their assistance as members of the thesis committee. To the family who furnished the data for this study for their many expressions of kindness and to Miss Comfort K. Tate for her time and patience in helping to make the pathway charts for this thesis, the writer expresses her gratitude.

D. B. L.

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## CHAPTER I

### INTRODUCTION

"Most houses are not designed, they are accumulated."<sup>1</sup> The need, as expressed by authorities in the fields of housing and family life, is for livable homes - homes not accumulated but designed to fulfill the individual needs of the family which lives within its walls, homes where there is sufficient space for family activities, homes where adequate storage space is available. The need has also been expressed by these leaders for more and better methods of determining the factors which constitute a livable home.

Miss Delpha E. Wiesendanger, Assistant Dean of the College of Home Economics at Pennsylvania State University, reported to the research section of the American Home Economics Association at the 1955 annual meeting and expressed the need for housing research. The report stated that today old houses are being remodeled to meet modern needs and practices of families, and that with a rapid increase in the cost of housing, there is a trend toward smaller new houses. In these new houses there is no place provided for Junior's tricycle or bicycle, too little space provided for family activities, and there are conflicting traffic lanes, all because the size of the house has been reduced and adequate space has not been allowed for normal family activities. With this trend

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<sup>1</sup>Robert Woods Kennedy, The House and The Art of its Design (New York: Reinhold Publishing Corporation, 1953) p. 24.

direction of future housing is, one can only expect to be on firm ground provided exact and measurable information is available on present day family living."<sup>5</sup>

Blum and Candee believe also that the success of any house planning depends upon the extent to which the needs of the resident family are satisfied. If their belief is to be accepted as fundamental to good house planning, ". . . a complete, minute, and firsthand knowledge of the space needs, physical requirements, and inventory of possessions of these families . . ." <sup>6</sup> is essential.

Rierner, who studied a number of families in Stockholm, Sweden, concluded that, "Definite knowledge of the living habits of different types of families and their difficulties of adjustment to various types of houses and apartments would bring us closer to an approximate 'solution' of the problem of adequate home design."<sup>7</sup>

The same thought as expressed by Rierner is brought out approximately ten years later by Carter and Hinchcliff in their book, Family Housing. They stated that, for potential betterment in housing, studies need to be made of family living activities. Analyses of time and motions

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<sup>5</sup>Milton Blum and Beatrice Candee, Family Behavior, Attitudes and Possessions (Vol. IV of Family Living as the Basis for Dwelling Design, New York: John B. Pierce Foundation, January, 1944) p. 9.

<sup>6</sup>Ibid.

<sup>7</sup>Suend H. Rierner, "Family Life as the Basis for Home Planning," Housing for Health, American Public Health Association (Lancaster, Pa.: The Science Press Printing Co., 1941) p. 121.

in various household activities also need to be made in order to design all areas of the house for convenience and efficiency.<sup>8</sup>

As early as 1932 in the report to the President's Conference on Home Building and Home Ownership by Frank, Lynd, Gruenberg, Beatty, and Allport, it was pointed out that, "The need is for something which will show not merely the physical features of the home and their use, but what is happening to the individual in the process of their use or in their absence."<sup>9</sup>

According to Gutheim the findings of research have been applied more quickly to family living than to housing. He states that the design of American houses is still deeply rooted in tradition and precedent.<sup>10</sup> Speer cites the desire for a separate dining room as being an example of this deeply rooted tradition and precedent.<sup>11</sup>

How can research help overcome some of these traditional ideas and speed the day when American families will live in houses that are better suited to individual family needs? Although a great deal has already been done, there is still much to be desired in the way of improvement.

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<sup>8</sup>Deane G. Carter and Keith H. Hinchcliff, Family Housing (New York: John Wiley and Sons, Inc., 1949) pp. 27-28.

<sup>9</sup>John M. Gries and James Ford (ed.) Homemaking, House Furnishings, and Information Services, Chapter II. "Suggestions for Research," (Washington, D. C.: National Capitol Press, Inc., 1932) p. 47.

<sup>10</sup>Frederick Gutheim, Houses for Family Living (New York: The Woman's Foundation Inc., 1948) p. 49.

<sup>11</sup>George A. Speer, "Will Science Plan the Home of Tomorrow?" Housing Research, No. 3:40, Spring, 1952.

As Gutheim so aptly points out, "Progress lies in two directions: (1) we need to know more about family living requirements, and (2) we need to apply what we already know."<sup>12</sup>

In order to make further progress in providing homes better suited to meet family needs, it might be said that:

(1) With the trend toward smaller new houses, all available space should be used to the best advantage.

(2) Each area should be planned so that more than one activity can take place without conflict.

(3) New and more effective ways of studying families to determine individual needs and preferences should be developed and used.

(4) House planning should be based on the findings of the studies made of families.

(5) The effect of the type of housing on the individual who lives within its walls needs to be determined.

(6) Analyses have been made of the time and motion used for various household tasks. More people need to be made aware of the results of these studies.

With the present trend toward the use of each area of the house for a variety of activities, there appears to be a need for determining the livability of each area in terms of the resident family, their activities in the area, and their possessions.

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<sup>12</sup>Gutheim, loc. cit.

This study was made in the light of the need for more effective methods of housing research which will lead to homes designed to enhance family relations. The objectives of this study were:

- (1) To develop a method of appraising the livability of the living-dining area of the home.
- (2) To test the method using one family in the study.
- (3) To evaluate the method.
- (4) To make recommendations in regard to the use of the method.

The objectives stated above are discussed in the remainder of this study.



## CHAPTER II

### REVIEW OF LITERATURE

As a background for developing a method to be used in appraising the livability of the living-dining area of a home, the writer reviewed a number of the housing and family life studies conducted in the past as well as those being conducted at the present time. The techniques for data collection and analysis used in these studies were evaluated. Those techniques which would best reveal an accurate description of a house and its furnishings and the behavior pattern of a family and its relation to the house were selected. Criteria for livable houses were reviewed, and the criteria for a livable living-dining area were established from this review.

#### Housing Research

In a review of the housing studies being conducted at the present time, it was found that the Small Homes Council at the University of Illinois is now working with what is called a "space use laboratory" as a technique for truly scientific space planning.<sup>13</sup> This technique is being used in the Space Design Criteria Project. According to Rudard A. Jones:

The purpose of the Space Design Criteria project is to establish sound criteria of size and livability for dwellings in terms of

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<sup>13</sup>Speer, loc. cit.



general, regional, cultural, and income-group requirements.<sup>14</sup>

The Council reviewed and evaluated seventy-six research studies and books in an attempt to determine new uses and combinations of spaces. The "results were not helpful . . . . Further, they displayed the weakness inherent in all attitude surveys - expressed opinion could never be verified."<sup>15</sup>

In order to determine new uses and combinations of spaces, the "space use laboratory" containing movable walls and easy-to-move furniture is being used so that spaces can be changed readily. Pedometers, electric-eyes, and door counters record the physical movements of each family member. These techniques could not be used by the writer in this study since the mechanical devices used by the Council were not available, and movable walls and easy-to-move furniture were not feasible for the study of a family in their own home.

In the Illinois investigation, a family lives in the "space use laboratory" for a period of five months. Each month a different space arrangement is used. The Council plans the arrangement of the space for the first five months. The sixth month the family designs its own space arrangement. At the end of each month, interviewers ask the homemaker

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<sup>14</sup>Rudard A. Jones, "Space Use in Houses," (paper read at 8th annual Short Course in Residential Construction, University of Illinois, Urbana, Ill., 1955. Space Design Criteria project being carried on by Small Homes Council. Sponsored by Housing and Home Finance Agency.)

<sup>15</sup>Speer, loc. cit.

questions to determine the efficiency of the arrangement. During these visits, the interviewers record their observations. Three families have completed resident periods for this study. The fourth family was living in the "space use laboratory" during December, 1955.<sup>16</sup>

The investigator used a modification of the interview and observation techniques used in the Small Homes Council study. The interview with the homemaker was made less important than in the Council's study, and the observation technique was of primary importance in determining the livability of the area. The investigator in this study suggested changes in the area, but the final decision was left to the family being studied.

The present phase of the Northeast regional housing research project is being conducted to determine the space needs for farm homes. Efforts are being made to determine ". . . how the activities overlap and relate to each other and which can be done in the same space, recognizing, of course, that this varies with different families and the ways in which they manage."<sup>17</sup> This study includes a series of observations of the families in their homes. The observations are made in two-hour stretches over a period of about a week in order to follow the activities of a family from the time they get up until 9 o'clock at night. "These observations in homes also provide more accurate pictures of room

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<sup>16</sup>Jones, loc. cit.

<sup>17</sup>Wiesendanger, op. cit., p. 26.

use and time use by family members than have been previously available."<sup>18</sup>

In this study of one family, the investigator also wanted to obtain an accurate picture of room use and time use by family members, so the observation technique was used. Instead of two-hour observation periods over a period of a week, however, the investigator made a more intensive study of one family and made longer observation visits.

Thorpe and Gross in their comparative study of the use of farm and city homes stated that their major purpose was to determine whether or not rooms most used for certain activities were planned to facilitate these activities, whether materials used for these activities were stored conveniently, and whether the rooms were conveniently located for the activities carried on there.<sup>19</sup> These are just other ways of asking, "Is the room livable?"

Data for this study were obtained through interviews with each cooperating homemaker, and a three-day record of the use of the home was kept by each family member over seven years of age. Three visits were made to each home. During the first visit, the purpose of the study was explained and the consent of the family obtained. A two-hour interview with the homemaker for the purpose of getting her opinion of various aspects of housing and what might add to the livability of the house constituted the second visit. The records were also explained and

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<sup>18</sup>Wiesendanger, loc. cit.

<sup>19</sup>Alice C. Thorpe and Irma H. Gross, How Homes are Used on Farms and in Small Cities, Agricultural Experiment Station, Michigan State University of Agriculture and Applied Science, Department of Home Management, East Lansing, Michigan, Technical Bulletin 254, December, 1955, p. 6.

arrangements made to collect them during the third visit.<sup>20</sup> The record keeping technique as a means of data collection would appear to be less accurate than the observation technique since family members might tend to omit certain activities.

As for the interview to obtain the homemaker's opinion, the President's Conference committee believed that an individual can say what he has done with his present equipment but that he does not know what he might do if there were a change.<sup>21</sup> This would indicate that opinion is not too valuable in determining livability especially where a change in the area is involved.

A housing study was made in Stockholm, Sweden by Riemer of 215 families selected by random sample. The requirement was made that the families have children and live in a house of four rooms or less. For one week the families kept a record of all activities on a schedule with headings for each family member, their activities, the time, and the room in which the activity took place. Each family was interviewed to get supplementary information and to check their subjective attitudes. The social worker made a sketch of the apartment, showing the types of furniture and its position. In order to analyze the data in this study, the handwritten activities were transferred to a graphic chart. A system of patterns was used to represent each activity and a different

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<sup>20</sup>Thorpe and Gross, op. cit., p. 8

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<sup>21</sup>Gries and Ford, loc. cit.



color to represent each room. This chart showed the activities of each person for one entire day and in which room the activity took place.<sup>22</sup> Conflicting activities and those occurring in sequence could be determined by this technique; however, the investigator found the many small symbols confusing.

The investigator chose to use colors to represent family members instead of rooms as Riemer did since only one area was considered in this study. A floor plan drawn to scale showing the size and placement of furniture was necessary in this study to determine adequacy of space for certain activities.

According to Helen E. McCullough, the case study method, another method of research, had been used in nine studies in housing research through 1950. McCullough stated, "In case studies data are secured by observing the activities and reactions of one person or a group of persons to specific situations, with no special controls imposed. The group may consist of one or more families or a number of persons in a similar age, social, or economic range."<sup>23</sup> According to McCullough, it has real possibilities in the field of housing research, especially as it might be used in psychological and sociological projects. The writer used the case study technique to gain background knowledge about the house and

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<sup>22</sup>Riemer, op. cit., pp. 121-23.

<sup>23</sup>Helen E. McCullough, Housing and Household Equipment Research in Home Economics, 1925-50, Circular 712 (Urbana, Ill., University of Illinois, Agriculture Experiment Station, December, 1953), p. 14.

family to be used as a basis for determining individual needs and preferences.

Many surveys have been made to determine the facilities available, activities of families, and possessions and preferences of families. Most of the surveys have been answered by homemakers. According to Gutheim:

We have learned that very few housewives are able to speak with authority for other members of the family. Alone they are not good judges of what the whole family needs. We have also found that many people are not good judges of what their needs really are. They are creatures of tradition and precedent, and unwise desires. . . . Certainly when it comes to an expression of true family needs, the polls are least reliable for the simple reason that families who have never lived in a good house can hardly be expected to know what one consists of. Useful as they are, when properly conducted, we do not want polls of ignorance as the sole basis for designing our new homes.<sup>24</sup>

In the committee report by Lawrence Frank, Robert S. Lynd, Benjamin C. Gruenberg, Thelma Beatty, and Floyd H. Allport for the President's Conference on Home Building and Home Ownership, it was reported that in their opinion, "An interview cannot, by its very nature, reveal those effects of housing on family life concerning which the family members themselves are in ignorance through lack of observation or reflection."<sup>25</sup> The most satisfactory technique for collecting data on activities in family life, though most expensive in time, money, and energy, is that of actual observation of the members of the family over an

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<sup>24</sup>Gutheim, op. cit., pp. 49-50.

<sup>25</sup>Gries and Ford, op. cit., p. 44.

extended period of time. This may be done by continuous living with the family or by extended or repeated visits. One difficulty of this method is securing entree to homes; however, there are many ways that this can be accomplished.<sup>26</sup>

This committee report suggested that a combination of methods usually works best with the investigator using a questionnaire to gain background information such as activities which go on in the home, the type of equipment used and how often it is used. Activities of the day of individual family members are more accurate when observed.

The committee also stated that objection has been raised to the observation method on the basis that a stranger in the home will affect the behavior of the family members making an unnatural situation. This committee believed that it would be almost impossible for the presence of an observer to create an unnatural situation. The Syracuse study proved that the family did not know what the observer wanted to see and others did not know that she was observing at all. "Company manners might affect etiquette, morals, or self-display but it would be unlikely to alter greatly the manner or extent to which individuals make use of their house."<sup>27</sup>

Many types of observation forms have been used during direct observation. One form suggested was the use of large tally sheets to

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<sup>26</sup>Gries and Ford, op. cit., pp. 45-46.

<sup>27</sup>Gries and Ford, op. cit., pp. 47-48.



record observations. Suggested headings for the columns were time, person, activity, article used, article stored, and other appropriate headings with space to check or write in the information under each heading.

Dr. Kathleen A. Johnston, College of Home Economics, Pennsylvania State University, made the following statement about the forms used by the Family Economics and Housing Department at Pennsylvania State University:

We use a relatively unstructured form in our observation work, and one which is similar to that used by our Child Development Department in their observations of children. We use regular legal size lined paper with headings for time, person, and place (last two in code) which go in the ruled margin, and for the writing of the activities which goes on the remainder of the sheet, taking as much space as needed. . . . from our experience in observing, unlimited space is needed for writing, and mimeograph paper becomes illegible. We type our observations later, using the same headings.<sup>28</sup>

#### Family Life Research

James Bossard who studied family behavior said in the foreword to Parent and Child: Studies in Family Behavior:

It is my firm conviction that research in the field of human behavior often makes the researcher and his methodology too conspicuous, like a suit of loud clothes. Good research techniques should place student and technique in the background . . . . Good research technique accentuates the problem, not the procedures for its study.<sup>29</sup>

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<sup>28</sup>Letter from Kathleen A. Johnston, Associate Professor, Family Economics and Housing, College of Home Economics, Pennsylvania State University, to Dorothy B. Lawrence, October 5, 1955.

<sup>29</sup>James H. S. Bossard, Parent and Child: Studies in Family Behavior, Philadelphia, University of Pennsylvania Press, 1953) Foreword.

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"One comes to the conclusion," says Bossard, "albeit reluctantly, that man is not disposed by nature to look at himself objectively. Certainly man is the last thing that man has studied scientifically."<sup>30</sup> But as Alexander Pope once said, "The proper study of mankind is man."

Bossard used the observation technique in his study of human behavior and its relation to types of housing. In his study, the behavior of a girl seven and one-half years of age was observed and recorded within an apartment and then within a house. The observer lived with the family after they moved into a house. The mother recorded behavior in the apartment and also in the house, noting changes of behavior brought about by a change in the type of housing facilities. The observer noted the new pattern of behavior without having had knowledge of the previous routines. The child had no knowledge of being observed in this study. Observations were made for seven weeks. Very definite differences in the child's behavior pattern were noted as a result of the change from one type of housing to another.<sup>31</sup>

Some helpful suggestions for learning to describe behavior were given by the staff of the division on Child Development and Teacher Personnel, Commission on Teacher Education of the American Council on Education. They classified behavior descriptions into four kinds: (1) evaluative statements, (2) interpretative statements, (3) generalized descriptions, and (4) specific or concrete descriptions. The specific or

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<sup>30</sup>Bossard, *op. cit.*, p. 2.

<sup>31</sup>Gries and Ford, *op. cit.*, pp. 47-48.

concrete descriptions are most helpful in analyzing behavior.<sup>32</sup>

Authorities have said that the observation technique is the most accurate for studying human behavior. Good, Barr, and Scates had this to say about observation:

Observation seeks to ascertain what people think and do by watching them as they express themselves in various situations, selected to typify the conditions of informal living or to represent some specific set of factors.<sup>33</sup>

Observation is recognized at once as the most direct means of studying people when one is interested in their overt behavior. In an interview people may tell what they think they do, but this is often different from what they really do, for they are not accurate observers of themselves. Furthermore, they may not wish to give accurate descriptions of themselves: few of us would care to if we could.

Regardless of questions about its scientific nature, the fact remains that there are many aspects of behavior which can be studied in no other way, and one has to choose between bearing the criticism of those who emphasize the formalities of science, and foregoing the study of many characteristics which are of large practical importance.<sup>34</sup>

Forms suggested by Good, Barr, and Scates for recording observations were: (1) note taking during direct observation, (2) short hand records during conversations, (3) still or motion pictures, and (4) making of sound records.<sup>35</sup>

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<sup>32</sup>Staff of the Division on Child Development and Teacher Personnel, *Helping Teachers Understand Children*, (Washington, D. C., Commission on Teacher Education, American Council on Education, 1945) pp. 21-41.

<sup>33</sup>Carter V. Good, A. S. Barr, Douglas E. Scates. The Methodology of Educational Research, (New York, D. Appleton-Century Company, Inc., 1941) p. 390.

<sup>34</sup>Good, Barr, and Scates, op. cit., pp. 390-91.

<sup>35</sup>Good, Barr, and Scates, op. cit., p. 397.

Observation as a scientific procedure should conform to the following:

(1) Only specific reactions should be recorded instead of everything that a person does.

(2) Observations should be systematic with length of observation periods, intervals between, etc. planned ahead.

(3) Observation is quantitative. Records of the observation should be made by a trained person immediately after or during the observation.

(4) The method makes claim to being scientific because the results can be checked and substantiated.<sup>36</sup>

It is recognized that no method is perfect. The observation method does not make this claim. Some of the errors of observation are due to:

(1) momentary lapse of attention, (2) permanent defects of the sensory equipment, (3) errors in the process of interpretation of the sensory data, and (4) errors brought about by faulty memory if the report is sufficiently delayed.<sup>37</sup>

#### Criteria for a Livable Living-Dining Area

Ray Faulkner, one of the recognized authorities in the field of housing today, states:

Interior design is the organizing of space and equipment for pleasant living. What makes a piece of furniture, a room, a whole house "good" for and contribute to pleasant living? A chair, for

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<sup>36</sup>Good, Barr, and Scates, op. cit., pp. 393-405.

<sup>37</sup>Floyd L. Ruch, Psychology and Life, (Chicago: Scott, Foresman and Co., 1953) p. 259.



example, is "good" if it has the following qualities:

First, it gives you comfortable support, thereby fulfilling well its primary requirement of use.

Second, it is worth what it costs you in terms of original price plus the time, energy, and money required to keep it clean and in good repair; in short it is economical.

Third, it gives you pleasure when you look at or touch it; beauty is another word for this.

Fourth, it is suited to you and your family so that it "belongs" in your home: then it gains individuality.<sup>38</sup>

It may then be said that the criteria for a livable living-dining area would be determined by asking four questions. Is it usable? Is it economical? Does it have beauty? Does it have individuality?

Kennedy states:

A house is, first and foremost, an attempt to influence benignly its tenants' living patterns. It can foster or inhibit relationships within and between subgroups. Its power to do this lies in the fact that its plan has a great affect on the amount of privacy the family can attain, and on the ease with which its various members can get together. Inadequate provisions for privacy and communication lead to conflict. Adequate provision fosters cooperation.<sup>39</sup>

Helen M. Parks set up the following criteria for determining the degree to which a house meets the needs of the family.

1. For good family life the house should provide:
  - Atmosphere for easy, gracious living.
  - Facilities for entertaining of personal guest.

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<sup>38</sup>Ray Faulkner, Inside Today's Home, (New York: Henry Holt and Company, 1954) p. 3.

<sup>39</sup>Kennedy, op. cit., p. 105

Opportunities for the children to meet persons of all  
 ages under wholesome conditions.  
 Facilities for each individual to enjoy and care for  
 personal possessions.  
 Opportunities for creative experiences through selection  
 of own furnishings.  
 Opportunities for sharing in decisions regarding the  
 house and its furnishings.<sup>40</sup>

Before it can be said that a living-dining area is good or bad, the  
 stage of the family life cycle in which the family finds itself must also  
 be considered. Agan has said:

The house, in whatever form it is, is the center of family life.  
 It must provide space for group and individual activities of the  
 family such as recreation, reading, and shared experiences among  
 family members. It must afford facilities for the withdrawal of  
 individuals for study, rest, or thinking during periods of family  
 activity; for sleeping and personal hygiene, including the needs  
 of infants, the aged, or others with special requirements. It  
 must make easy such service activities as food preparation, the  
 serving of meals, dishwashing, laundering, and housecleaning. It  
 must make available space for children's play and for hobbies of  
 adults and children. It must provide for the arrangement and  
 storage of articles required for all these activities.

The design of any family dwelling should facilitate these  
 essential activities, foster harmonious family life, and minister  
 to the privacy and integrity of the individuals living in it.<sup>41</sup>

Of course no one living-dining area could do all of these things  
 for Agan was referring to a whole house; however, a number of these desir-  
 able qualities do apply to the living-dining area.

Carolyn Jones' study of Housing Facilities as They Contribute to Home  
 Recreation brings out the same idea that Agan had mentioned when she states

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<sup>40</sup>Helen M. Park, "Study of a House of Average Rental Level in Terms of  
 Family Living" (unpublished Master's thesis, Cornell University, Ithaca,  
 New York, 1939), p. 2.

<sup>41</sup>Tessie Agan, "Housing and the Family Life Cycle" Journal of Home  
 Economics, 42:351. May, 1950.

that the launching family needs two living areas--one for adults and the other for adolescents. Jones found in twenty-six of the forty-six homes that she studied "when there was apparently only one social room, either the family withdrew to the kitchen or bedrooms, or the girls and their friends withdrew to a bedroom."<sup>42</sup>

Gutheim states that the living area "must provide room for the whole family and for individual members of the family as well."<sup>43</sup>

Some of the specific requirements for space use are found in Carter and Hinchcliff's book Family Housing. They state that a minimum space of  $5 \frac{1}{2}$  square feet is needed in the dining area to seat four persons if it is in an alcove. The same amount of space is needed if the four people are seated at a card table. Twenty-four inches should be allowed for each person at the table. Thirty-six inches should be allowed between the table and other furniture or the wall.<sup>44</sup>

To this some of Faulkner's space requirements might be added. He recommends that 1' 6" to 1' 10" be allowed for an occupied chair and 1' 10" to 3' for getting into a chair. For the traffic path around the table and occupied chairs for serving meals, 1' 6" to 2' should be allowed.<sup>45</sup>

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<sup>42</sup>Carolyn Tyson Jones, "A Study of Housing Facilities as they Contribute to Home Recreation" (unpublished Master's thesis, Woman's College of the University of North Carolina, Greensboro, N. C., 1951) p. 42

<sup>43</sup>Gutheim, op. cit., p. 45.

<sup>44</sup>Carter and Hinchcliff, op. cit., p. 80.

<sup>45</sup>Faulkner, op. cit., p. 419.



Storage space should be allowed to take care of the equipment used in the area. Carter and Hinchcliff say:

A closet should be located in or near the dining room for storing linens, table leaves, card tables, and electric appliances. Since the dining room is used relatively few hours each day, its usefulness may be increased by planning furniture, built-in equipment, and storage space to make the room convenient for studying, reading, and sewing or to supplement the living room in other ways.<sup>46</sup>

From the criteria just discussed one would conclude that a livable living-dining area is one that fulfills the needs of the individual family, depending on their place in the family life cycle and their particular activities and possessions. It should rate favorably when judged according to use, economy, beauty and individuality.

From these studies and the recommendations for research methodology discussed in this review of housing and family life research, the investigator arrived at a combination of techniques for this study. The chapters which follow discuss the development, testing, and evaluation of a method of appraising the livability of the living-dining area of a home and recommendations for the use of this method.

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<sup>46</sup>Carter and Hinchcliff, op. cit., pp. 80-81.

## CHAPTER III

### PROCEDURE USED IN STUDY

The review of literature seems to indicate that, although the most expensive in time, money, and energy, the observation technique is probably the most accurate yet devised for studying family behavior. This was one of the techniques selected to study one family and its ability to carry on its activities in the living-dining area of the home.

The interview technique was also used in this study. By use of this technique, the investigator gained background information not brought out through observation for the case study of the family and description of the house. In this study the homemaker was interviewed. In order to determine the livability of the living-dining area, it was necessary to have a complete picture of the family so that the area might be evaluated according to their individual needs and interest.

Thus for this study a combination of techniques was used including observation, interview, and certain physical measurements.

It was necessary to develop and test observation forms to be used in recording data about the selected family.

The first form developed contained the following headings:

(1) time, (2) person, (3) activity, (4) article used, (5) where used, (6) where stored, and (7) reactions. These were set up on a 14 x 17 inch tally sheet with columns to be checked or filled in with observation data. This form was tested by observing the girls in one of the Home Management

Houses at the Woman's College of the University of North Carolina during their period of relaxation from 7:00 p.m. until 7:30 p.m. Observations were made in the living room since the Home Management House has separate living and dining rooms. The girls were not aware that they were being observed. The observer felt that it was wise not to tell the girls since the observation period was limited to thirty minutes, and they would not have time to forget that they were being observed. The observer placed the observation form in a magazine and remained a member of the group during the observation.

This form proved very difficult to follow. An unnecessary amount of time was required to write the data in the proper column. It was impossible to jot down data without looking carefully at the form. This made the record of the observation incomplete since the observer failed to see all or parts of the activities while she was writing. The form was equally as difficult to analyze. The breakup of activities made it difficult to see a picture of the activities as a whole. It was also difficult to record simultaneous activities on this form. Therefore, when analyzing the data, one was unable to distinguish between conflicting activities and those that took place in sequence in the same floor space.

A second observation form was developed eliminating all of the column headings except three. Those were: (1) time, (2) person, and (3) activity. The observer recorded the time that each family member entered and left the area or began or ended a specific activity. An abbreviation of the family member's name was placed under the heading

"person." Under the heading "activity," the observer recorded movements of individuals, conversation, and general information about the area and family. (See Appendix.) The data were recorded in a 6 x 9 inch stenographic notebook. The size of the book and hard back made it easy and convenient to record data without being conspicuous.

This form was tested by observing the same group of girls in the Home Management House. A more accurate record of the observations was possible by the use of the second form. Notes could be made while the observer watched the activities of the girls. Simultaneous activities could be recorded. This form was used for recording observations in the living-dining area of the home of the selected family.

In order to test the method developed by the investigator, one family was selected. Since the investigator had been employed in a neighboring county as an Assistant Home Demonstration Agent, one of the families with whom she had worked was selected for study. The investigator had been in the home several times on professional visits and one time as an invited dinner guest.

A preliminary visit was made to renew the acquaintance between the investigator and the family. A period of one year had elapsed since the last contacts. At this time the investigator explained to the homemaker and her husband that the observations were being made to test a method of appraising the livability of the living-dining area. It was decided by the homemaker, husband, and observer that the children would not be told about the observations. The homemaker felt that the son "might put on a show."

The homemaker told the children prior to the first observation visit that the writer, whom they had known before, was coming for a visit, that she was in school, and that she was writing a paper. This made the observer a part of the family group during the study. Also during this visit arrangements for the observation visits were made at the convenience of the family, a floor plan of the area was drawn to scale, a description of the house and living-dining area was obtained, and part of the background information about the family. An attempt was made during this visit to establish rapport. Conversations were recorded immediately after rather than during the visit. Measurements and description of the house and its setting were recorded during the visit.

Following the preliminary visit, the investigator completed a case study outline of desired information concerning the house and family. During the preliminary visit and during conversations with the individual family members when not observing and recording activities, the investigator was able to obtain most of this information. The remainder of the information was obtained through interview with the homemaker.

Three extended observation visits were made observing and recording activities in the living-dining area. The observer was present in the home for three full days and evenings; however, the family used the living-dining area only one morning during the three observation days. The observer used a 6 x 9 inch hard back notebook and made records in ink. The second form developed and tested by the investigator was used. The investigator became as nearly as possible a family member, joining in conversations and evening



activities. On the first observation day, the ten year old son had little to say to the observer when he arrived home from school. After dinner the observer made friends with him by participating in a game which he wanted to play. On the second observation visit, he asked to sit by the observer for the evening meal.

At mealtime the observer recorded observations until the family was ready to sit down to eat. The observer then joined the family at the table and ate with them. Mealtime conversation and activities were recorded while the family cleared the table and washed dishes. The two children sometimes watched the observer as she made notes. She explained to them that she was working on a paper and stopped writing until they went on to something else.

Two visits were made after the three observation days. During one of these visits the investigator interviewed the homemaker. The purpose of the interview was:

(1) To obtain information not revealed through observation of the living-dining area such as the age of the house, square feet of floor space in the house, type of furnace, and training of the homemaker and husband.

(2) To obtain additional information about such activities as cleaning, where family meals were eaten during other seasons of the year, the amount and kind of entertaining, and participation of family members in church and community activities. An accurate picture of these activities was only partially revealed through observation.

(3) To verify information already obtained through observation such

as ages of children, their grade in school, number of years that they had taken music, use of breakfront, and uses of the dining table which the homemaker had mentioned in conversation.

All data were transferred from the notebook to 4 x 6 inch cards and arranged according to content. The data were analyzed according to previously established criteria for a livable living-dining area. Pathway charts, using a different color to represent each family member, were made to determine the use of the area by each person as well as the total use of the area. Approximate time use of the area was also compiled and analyzed.

A list of recommended changes based on the analysis of the data was prepared by the investigator and discussed with the homemaker and her husband. At this time the investigator showed them the pathway charts. The family was given a week to discuss changes and decide what they would like to do and what possible changes could be made at this time. The investigator again visited the family, this time noting the changes that had been made.

Again three extended visits were made, observing and recording activities. Any changes in the family's ability to carry on its activities as a result of the physical changes in the area were noted.

## CHAPTER IV

### HOUSE AND FAMILY

The information given in this chapter concerning the house and family was obtained through observation of the house and family, interview with the homemaker, and physical measurements of the area. Most of the information for the description of the house and living-dining area was obtained during the first visit when the writer visited the family to explain the purpose of the study and to secure their permission to make observation visits. The floor plan drawn to scale was made at this time. The interview with the homemaker took place after the first three observation visits.

#### Description of Family

The family chosen to test this method of appraising the livability of the living-dining area of a home was a middle-class rural non-farm family composed of the homemaker, her husband, and two children--a boy ten and a girl twelve years of age. Both children were adopted when only a few months old.

The homemaker was an attractive brunette about 5 feet 4 inches tall. She worked rapidly; however, a back operation about five months prior to the observations had left her unable to lift heavy objects. The children performed certain jobs for her such as putting up and taking down the ironing board. They also lifted any heavy objects that needed to be moved. She expressed a liking for changing the arrangement of furniture but found it



impossible without help. She had had the operation because she said, "It cramped the family for me to feel bad. They had to stay home with me." She was in bed for two months and then wore a brace for about two months. During the Christmas holidays she taught the children in the neighborhood to make aluminum trays, made cookies with the children, painted scenery for the Christmas service at church, entertained relatives, and gave a party for the employees of the wholesale company and their families. All of this proved too much for her, and it became necessary for her to go back to bed for several weeks more.

Prior to her marriage, she was a registered nurse. She attended college for one year before entering a school of nursing. She had not had any special training in homemaking except for Home Demonstration work. She had been a member of this organization for five years.

The homemaker was active in all church activities. She served as young people's director. During one observation visit she spent two hours and thirty-eight minutes working on Bible School materials for the young people. She worked on the dining table using eight or ten books. The working time was divided into eight intervals making it necessary to move the books for other activities. On another visit she prepared materials to teach an adult class at church. For this she also used the dining table. She wrote letters concerning church business in long hand on another occasion. When the observer visited the homemaker at the wholesale company, she was spending her lunch hour preparing materials for the young people's department. The observer noted a hymn book and church magazine on the piano. Later in

the day the daughter asked why it was there. The homemaker said that she had been learning a new hymn the day before the observation visit. She wrote a devotional for a denominational publication last year. In order to work undisturbed and not have to move her materials, she told the observer that she worked upstairs.

The homemaker was also active in other community affairs. As stated previously, she was a member of the Home Demonstration Club, serving as an officer several times. This organization met in her home about once every two years. The club met with her one time while she was confined to her home following the operation.

She purchased the supplies and taught a group of women in the community to make aluminum trays. She had never made one, but after studying the directions, she was able to instruct the group successfully. For this tray-making school, the homemaker used her living-dining area and kitchen. Layers of paper were placed on the kitchen and dining tables for this activity.

The homemaker acted as community representative for Red Cross, Polio, and other service drives. Stickers, membership cards, and posters had to be stored for several weeks. It was observed that these were kept in the kitchen near the telephone.

The husband, who was self employed, was graduated from high school and business college. He was co-owner and manager of a wholesale grocery company. According to the homemaker, he was also an agent for a realty company. He collected rent from approximately one hundred Negro families each month.

He told the observer during one of the observation visits that he bought eighty building lots at a sale a few months prior to the visit. A man came to see him on Saturday, one of the observation days, about buying two lots. The husband talked to him at the side entrance, but they did not come into the house. The observer noted that another caller came to pay rent. The husband was not at home, so the homemaker took him to the kitchen to transact the business. They passed through the living-dining area.

The husband spent less time at home than any other family member. On weekdays he left for work between 8:30 and 9:00 a.m. and returned between 6:00 and 6:30 p.m. On Saturdays he worked until noon. The husband drove the business car, a late-model Chevrolet, to work. The family car, used by the homemaker, was a late-model Buick station wagon.

The husband was also active in church and community affairs. He was a member of the Chamber of Commerce, Parent Teachers Association, Masonic Order, and several church, college, and local school boards. Part of his work for these organizations was done at the office and the remainder at home. The homemaker stated that with all of the jobs which she and her husband held, they needed an office at home. The observer did not have an opportunity to see the husband at work on these activities. On one occasion while the observer was present, he left home to attend an evening meeting in town. On another night he and the homemaker took the children to junior choir practice. Mention was made several times of meetings which he had attended during the week.

The homemaker said that both her husband and their son were interested in gardening. During the time that this study was being made, they cleared a large area back of the house for a lake. The work was done on Saturdays and late afternoons after the husband returned from the office.

The husband was soft spoken and patient but firm with the children when he needed to be.

The daughter, a sixth grader in the public school, was twelve years old and at the early adolescent stage of development. She was overweight; but during the period when the writer was observing, she went on a diet under doctor's supervision. She lost more than ten pounds before the end of the study. For several years she had worn glasses. At the time of this study, she was wearing bifocal glasses.

The homemaker also stated that she was "an indoor child" and liked to read and watch television. The observer noted that she watched television some each day and also liked to go to the movies. She had had music lessons for five years but played second grade music. Her practice periods were usually short. She liked popular songs, boogie and "bop" music.

The daughter was easily influenced by fads, especially clothing fads. Each week she had a new idea about what could and could not be worn. From week to week her "must" list of new clothes had changed.

The youngest member of the family was the ten year old son who was in the fourth grade in school. He was a slender blonde with blue eyes that sparkled when he talked. His opinion of girls when the observer first saw him was "Girls, Ugh!" By the third observation visit, he had changed his

mind. He worked for three hours that afternoon making typed copies of love songs for his girl friend.

He was very fond of music. After only two years of music lessons, he played quite well. The homemaker said that he liked classical music.

The homemaker also stated that "Johnny is the outdoor type. He doesn't care too much for television." He selected certain programs to watch but otherwise preferred to play outdoors or work with his chemical set. The observer noted that he shot quite accurately with his air rifle and his bow and arrow. After school he liked to ride his bicycle to a neighbor's house to play baseball.

The homemaker stated that he went about things in a businesslike way. This was verified through observation. He returned from school with a mixture of chemicals in a bottle. A friend with a chemistry set had prepared it for him. He wanted to order chemicals to make his own preparation, so he made several calls to check the address and price. Since he was unable to obtain the price list from his friends, he decided to call the drug store. When he found that the drug store carried the necessary items, he then called his father at the office to ask him to pick these things up on his way home. This was paid for from his own money. All of this was planned and carried out without assistance.

#### Description of the House

A grey stone English style house with dark red wood trim was the physical setting for the family studied. The house was set back from the road on a hill with a number of pines, cedars, and dogwoods in the front



yard. The circular drive led to a flagstone walk coming from the front and side entrances. The side entrance was used more frequently by the family than the front entrance. The observer also noted that eight out of eleven callers came to the side door.

Four acres of land surrounded the house about half of which was the front yard. A split rail fence divided it from the adjoining property.

The house was located in open country 3.7 miles from the center of a small town in the Piedmont section of North Carolina. To the south it was possible to see one large white frame house occupied by an uncle. On the opposite side of the road to the west of the house, a small white frame house was in plain view. A brick house could be partially seen through the woods on the north side of the house.

A thickly settled section of four-room frame houses and one and one-half story white frame houses all very much alike were located between the home of the family studied and the city limits. Furniture factory workers occupied most of these houses. This section ended about one-half mile from the home studied.

A paved road linked this community with the town where a super-highway and railroad connected it with larger cities.

The homemaker and her husband had this house built before they were married sixteen years ago. The services of an architect were employed. A stock house plan was changed to fit their needs and likes. The homemaker had the windows in the living-dining area changed after the stone walls had been erected. The plan called for one window on the front, but



the homemaker wanted additional light so she had the second one added. The homemaker saw the house only on weekends while it was being built.

The house had approximately 2,000 square feet of floor space not including the garage and basement. This was divided into seven rooms, one bath, two halls, and an unfinished room upstairs. A two car garage was attached to the house on the north side. The living room, living-dining area, and entrance hall with closet for guests' wraps were located downstairs on the front of the house. A hall led from the living room to the remainder of the house. The kitchen with dining and utility alcoves was located just back of the living-dining area. The side entrance opened into the utility alcove. According to the homemaker, the original house plan called for a porch instead of the utility alcove, but she felt that the area would be more useful to their family in this form. A door from the dining alcove made it possible to go to all parts of the house from the kitchen without passing through the living-dining area. From observation it was noted, however, that the living-dining area did serve as a passageway from the kitchen to the living room, especially when there were guests in the living room. This can be noted in Figure 4, page 54. The children passed through each morning on their way to the school bus.

The master bedroom, bath, and son's bedroom were located on the back of the house. The family used the room on the south opposite the kitchen as a television room. The homemaker told the observer that they did have the television in the living-dining area but that children, especially

neighbors' and relatives' children, were ruining her rug and furniture. The daughter's room was upstairs on the back. The front room upstairs was still unfinished. The homemaker's brother had stored his furniture there while he was away in school.

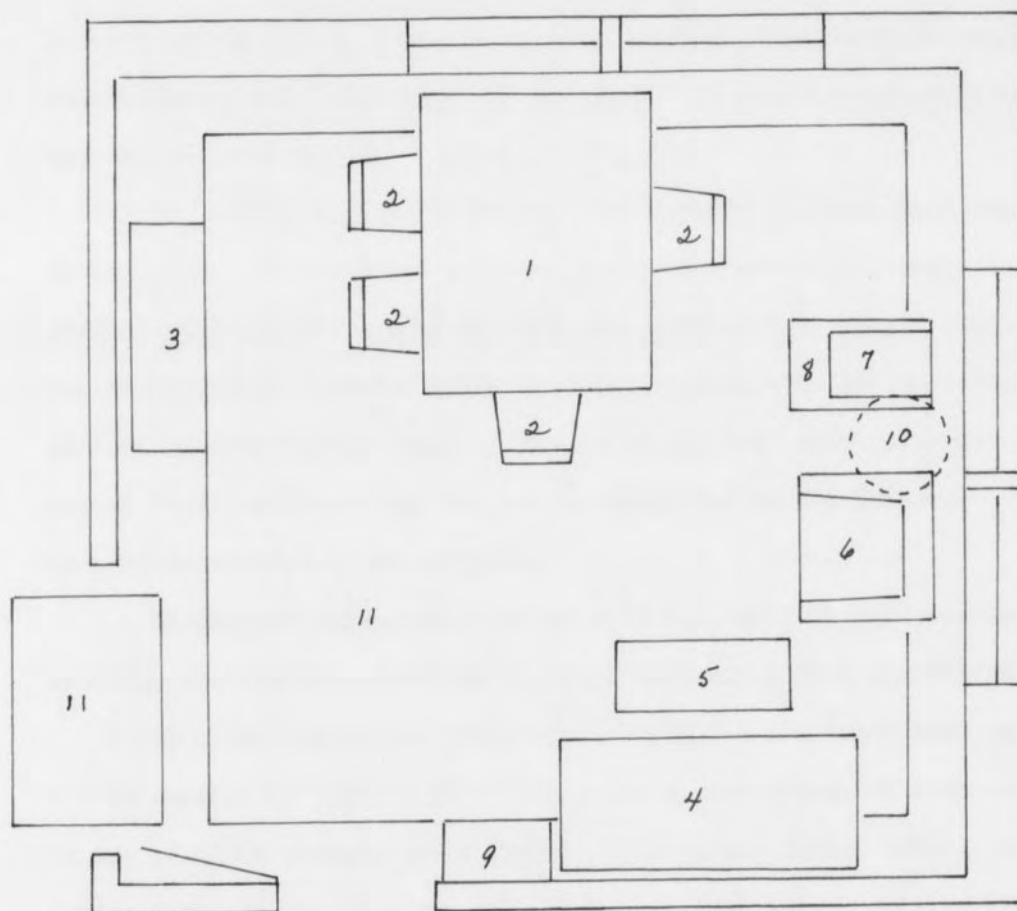
The house, which was insulated, was centrally heated by an oil furnace with baseboard registers in each room. All rooms were heated. An attic fan kept the house cool in summer according to the homemaker.

#### Description of the Living-Dining Area

The living-dining area was  $14 \times 14\frac{1}{2}$  feet. (Figure 1) A square arch 5 feet wide connected this area with the living room. A swinging door separated the area from the kitchen. Two windows facing west made it possible to see the front yard and road. The view from the two side windows was a fish pond with water lilies, the drive to the garage, and woods in the background.

The walls were smooth finish plaster as were all of the walls in the house. They were painted the same medium green as the living room walls. The ceiling was also plastered and painted the same shade of green as the walls. The height of the ceiling was 9 feet.

The floor was hard wood with a natural finish and wax. Only 2 feet of floor space was exposed around the rug. The floor covering was a  $12 \times 12$  foot wool rug with an abstract leaf design. The rug was grey, varying from very light to very dark shades. This matched the rug in the living room. A small rug of the same material and design was placed between the two large rugs in the doorway from the living to the living-dining area.



Scale:  $1/3" = 1'$

FIGURE 1

FLOOR PLAN OF LIVING-DINING AREA AS ARRANGED BY FAMILY

- |                 |  |
|-----------------|--|
| 1. dining table | 6. platform chair                      |
| 2. chair        | 7. record player and radio combination |
| 3. breakfront   | 8. record player table                 |
| 4. piano        | 9. table                               |
| 5. piano bench  | 10. floor lamp                         |
|                 | 11. rug                                |

The homemaker stated that these rugs were six or eight years old. Several soiled places could be seen on the rug. The homemaker told the observer that these were the result of children eating while they watched television.

At 1:15 p.m. on a bright day, light meter readings were taken in the area. At the piano there were 2 foot candles of light. The reading at the platform rocker under the side windows was 14 foot candles. The dining table, located under the west windows, had the most light with 30 foot candles on the right of the table, 29 foot candles on the left, and 32 foot candles at the end of the table facing the windows. This spot also received a lot of glare.

On another observation day at 2:00 p.m. when it was very dark and raining, the lightest place in the room had only 4 foot candles of light.

At night during the first three visits it was found that only 2 foot candles of light fell on the music on the piano, 15 foot candles on the platform rocker, and 5 foot candles on the dining table. Artificial light in the area was furnished by a dome shaped ceiling fixture and a floor lamp with one large three way bulb and three small bulbs. The floor lamp on the first observation visit was placed between the platform rocker and the piano. On the second and third visits the lamp had been moved between the chair and the record player. This cut down the amount of light at the piano. The son assisted the observer with the light meter readings at night. When he saw the 2 foot candle reading at the piano, he said, "Daddy, O.K. we've gotta start moving things."

The temperature of the area was comfortable at all times that the observer was present. There was not a stuffy feeling in the area. The homemaker stated that in the summer a nice breeze could usually be felt in the area.

The furnishings in the area consisted of a mahogany Duncan Phyfe drop leaf dining table. With both leaves extended the table was 42 x 62 inches. When the family ate alone, the homemaker told the observer that they used the table with only one leaf extended; however two leaves were usually extended when the observer was present since she ate with the family. The table remained with one end against the wall except for the two observation periods when the family had dinner guests.

The breakfront located against the living room wall was also mahogany. On the top shelves behind glass doors, the homemaker had stored place settings for twelve of her best crystal and china plus odd pieces of china and crystal. The four middle drawers at the bottom contained company linens, silver, and additional pieces of china. Behind two doors on either side of the four drawers, the homemaker had stored a coffee maker, an antique cut glass pitcher and eight matching glasses that belonged to the husband's mother, china and crystal plates. Over-all measurements of the breakfront were 15" deep x 48 $\frac{1}{2}$ " wide x 6' high. On top of the breakfront, two twenty-inch aluminum trays, one pair of crystal candle holders, and a ming tree had been stored. The homemaker told the observer that she had additional trays, a punch bowl, and several salad sets stored upstairs.

The chairs used in the living-dining area were a Christmas gift from the homemaker's father and brother who work with a furniture manufacturing company. These maple chairs were designed for bedroom chairs with padded seats and a padded section in the back. The homemaker's father had had them upholstered with wine rayon upholstery fabric. There were six of the chairs; however, two of these were usually used in the living room and only brought into the living-dining area when guests were present for meals.

The one other chair in the room was a platform rocker with maple finish. This was upholstered with a green floral plastic material. The chair was located between the piano and record player.

According to the homemaker, the upright piano was one that belonged to her mother. The mahogany veneer was crazed and chipped. The homemaker stated that they planned to buy a new piano "after the children learn to play a little better." The piano bench had a small storage space for music. This was not easily accessible since the top of the bench had to be lifted in order to use the space.

The radio-record player combination was a door prize which the husband won at a convention. This had a mahogany finish. The record player table was maple and matched the platform chair. This table had one drawer where record were kept.

A small maple table was located between the piano and the kitchen door. A basket of fruit was usually kept on this table.

The window treatment for this area was floor length draw drapes.



The two windows were treated as one. The drapes were made by the homemaker from English scenic print cotton drapery fabric and were lined. The background of the fabric was light green with dark green, red, and gold in the design. The homemaker followed instructions given by the writer in a demonstration on drapery making while the writer was working with the North Carolina Extension Service.

Only one electrical outlet was located in the room and that was behind the piano. An extension cord ran from the outlet to the floor lamp and record player. During one observation visit the daughter pushed the platform rocker on the cord causing a short circuit. The homemaker stated that the house needed additional electrical circuits and that they had already started having the circuits added.

When asked, the homemaker stated that she cleaned the living-dining area thoroughly once each week. Between times only light cleaning was done when needed. The weekly cleaning period observed consisted of vacuuming the rug, dust mopping the floor, and dusting the furniture with a dust mitt. The vacuum cleaner was stored in the closet in the entrance hall. This storage space was convenient since the vacuum cleaner was seldom used anywhere except in the living room and living-dining area. The other cleaning equipment was stored in a special cleaning closet in the kitchen. Between the last two observation visits, the homemaker with the help of another woman completed the spring cleaning for this area of the house. The woman washed the windows on the outside and inside, cleaned and waxed the floor, and helped the homemaker turn the rug around. The drapes were sent

to the cleaners. The observer noted light cleaning on several occasions. Before the minister and his wife came to dinner, the homemaker dusted the furniture. During one of the evening observations, the homemaker and son cleaned up a pile of dirt on the rug which had fallen from the son's shoes. It was observed that the homemaker reminded the children to hang up their coats when they came home from school. She also reminded them to stack their books when they had finished studying so that the room would appear straight at all times.

This case study of the family and comprehensive description of the physical surroundings gave the writer basis for determining individual family needs and preferences.

## CHAPTER V

### ANALYSIS OF ACTIVITIES

As stated in Chapter II, three observation visits were made. During these observation days, a great deal was learned about the family's needs and preferences and about the livability of the living-dining area.

#### Data Obtained During First Three Observation Visits

Data obtained from the first three observation visits and interview with the homemaker dealt with time use of the area, activities observed, those activities which occurred in the area and were not observed, and storage facilities.

Time Use. One type of data which the observation technique revealed was the approximate time use of the area and the activities which occurred during this time. The observer used a wrist watch to note the time that each family member entered and left the area. Table I shows the approximate number of hours spent in the area by each member of the family during the first three observation periods. This table indicated the time as accurately as it was possible to record without using a stop watch.

TABLE I  
TIME USE OF LIVING-DINING AREA BY INDIVIDUAL FAMILY MEMBERS  
DURING FIRST THREE OBSERVATION VISITS\*

Day	Homemaker		Husband		Daughter		Son	
	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
Weekday	4	30	1	33	4	9	1	43
Saturday	4	44		36	2	4	2	2
Weekday	4		1		3	4	1	4
Total	13	14	3	9	9	17	4	49

\* Total observation time--34 hours 35 minutes

Approximately forty-five minutes of the homemaker's time during the first visit were spent in the area conversing with the observer. During the second and third visits the amount of time spent in the area talking to the observer was less. Two hours and thirty-eight minutes of the second observation visit were spent studying available Bible School materials in order to be able to select the material best suited to their church.

Activities Observed in Living-Dining Area. A wide variety of activities were observed in the living-dining area during the three visits. Table II lists the activities and the number of observation days in which these activities occurred. The table also indicates which family member

participated in each activity. The entire family assisted with the entertaining of two dinner guests on the third observation evening.

TABLE II  
NUMBER OF OBSERVATION DAYS ON WHICH ACTIVITIES  
IN LIVING-DINING AREA OCCURRED

Activity	Homemaker	Husband	Daughter	Son
Eating				
Lunch	1		1	1
Dinner	3	3	3	3
Snacks			1	
Setting table	3		2	
Serving meal	3	3	1	
Clearing table	3	1	2	3
Studying				
School work			2	
Assisting with school work	2			
Church materials	3			
Writing			1	
Reading				
Books			1	
Magazine			2	
Newspaper	1	1		
Crossword puzzle	1			
Music				
Practicing piano			3	2
Playing for fun			1	3
Playing records	1		1	
Listening to radio	1		1	
Group game		1	1	1
Hobbies				
Earrings	1		1	
Lanyard	1			1
Wrapping package	1			
Conversation	3	3	3	3
Clipping paper	1		1	
Cleaning	2			1

Activities not Observed. The seasons of the year and the weather affect the number and types of activities which this particular family carried on in the area. In conversing with the homemaker it was learned that the family used the area for family meals more frequently in summer than in winter. The living-dining area was cooler than the dining alcove in the kitchen. She also stated that they had more dinner guests in summer than in winter. During the winter months breakfast was eaten in the dining alcove. Only the homemaker was at home for lunch during the week. She ate in the kitchen. All of the family was at home for dinner in the evening. The homemaker stated that they did not always eat in the living-dining area; however, during the observation visits they ate there. On weekdays in the summer the homemaker and children usually ate lunch in the dining alcove in the kitchen. On Saturdays and vacations in the winter they also ate there. Dinner and supper on Sundays were eaten in the living-dining area. The homemaker also stated that her family liked an occasional meal on the terrace. The husband came home from work on a warm day in February with steaks and charcoal and suggested that the family eat outdoors. A business caller arrived while they were eating. The homemaker later told the observer that she knew that those people thought they were "affected--anyone who would eat outdoors in the winter."

Another activity which the observer did not see during the first three observation visits was sewing. When the observer asked the homemaker where she sewed, she stated, "It depends on what I'm working on. When I made the (living-dining area) drapes, I worked in here (living-dining area)



on the table. When I made Susie's evening dress, I worked in here (living-dining area), but usually I sew in the den or the kitchen. I have a portable Singer machine that I got during the war." The observer during later visits observed this activity in the dining alcove of the kitchen. When discussing sewing, the homemaker and observer talked of the possibility of using the unfinished room upstairs for sewing, but the difficulty was that the telephone was downstairs. As the homemaker expressed it, "As soon as you start working, the phone rings."

The living-dining area was also used for the two tray-making schools which the homemaker conducted.

The homemaker used the dining table as a work surface for painting Christmas scenery for the church. She covered the table with layers of paper and let the children help her.

In addition to dinner guests on the average of three times per month, the homemaker also named Christmas parties, teas for brides, and refreshments for callers as other types of entertaining which they did in the area. When meetings were held in the living room, the overflow of people sat in the living-dining area. They were able to see and hear because of the large opening between the two rooms.

Storage of Items Used for Activities. The observer recorded the articles used for each activity and where each was stored. The homemaker stated several times that she needed another piece of storage furniture. The punch bowl, several salad sets, and trays were stored upstairs due to the lack of storage space. The china and silver used for family meals were stored in the kitchen. Music was kept on the piano except for a

few music books and sheet music which were stored in the piano bench. Books were stored in the living room. It was observed that no special place was set aside for pencils, ruler, and scissors.

#### Analysis of Observation Data

Based on the criteria for a livable living-dining area described in Chapter II, the following techniques were used to analyze the living-dining area in this study.

Pathway Charts. In order to analyze the use of the area, pathway charts were made of selected periods during the day. A floor plan of the area was drawn to scale. The colored lines indicate the number of trips which each person made and which parts of the area these trips covered.

Figure 2 represents the dinner hour which took place from 6:00 p.m. until 7:15 p.m. during the first observation visit. This period began with the setting of the table and ended with the clearing of the table. The homemaker and daughter brought all silver, china, and glassware in separately. These were stored in the kitchen. For each step of table setting, a trip was made around the table. A caller arrived while the homemaker was setting the table. She met him at the front door, and they passed through the living-dining area into the kitchen where the business was transacted. The husband returned from work at 6:05 p.m. and assisted in getting the meal on the table. He used a tray to bring glasses of milk, cream, and butter to the table. The son played the piano during this period of time before dinner. During the meal the daughter poured a second cup of coffee for the observer, homemaker, and husband. She also returned

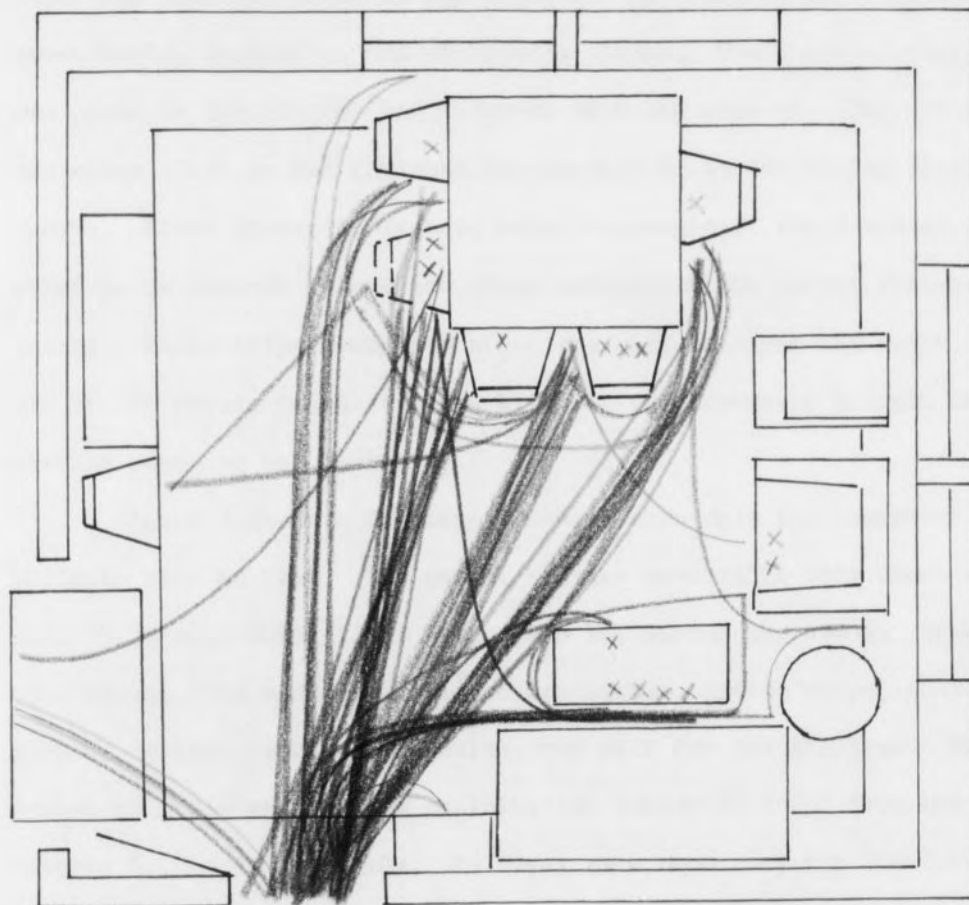


FIGURE 2

## USE OF LIVING-DINING AREA FOR FAMILY DINNER

- |             |            |            |
|-------------|------------|------------|
| - Homemaker | - Daughter | - Caller   |
| - Husband   | - Son      | - Observer |

to the kitchen to get a second glass of milk. The son finished his meal first and took his plate to the kitchen. He returned and removed the homemaker's, husband's, and observer's plates. The daughter took her own plate to the kitchen and returned with the dessert. The son played the piano after he had finished his dessert while the family finished theirs. After dinner he went to watch television. The daughter also asked to be excused before the other members of the family finished eating. Three trips were made after the meal to clear the table. On one of the return trips from the kitchen, the homemaker brought the evening paper to her husband.

Figure 3 shows a Saturday luncheon when only the homemaker and children were at home. The period of time covered in this chart was from 11:30 a.m. until 12:25 p.m. This was during the second observation visit. The menu consisted of sandwiches, potato chips, sliced tomato, cookies, coffee for adults, and milk for the children. The number of items on the menu explains the number of trips from the kitchen to the dining table. No trays were used to bring the food or table appointments to the table from the kitchen. The daughter played the piano most of the time while the meal was being put on the table and helped very little. The homemaker asked her to stop and help set the table. It was necessary for the homemaker to return to the kitchen during the meal to remove some cookies from the oven. She smelled them burning. The homemaker and observer cleared the table, making a total of six trips to the kitchen.

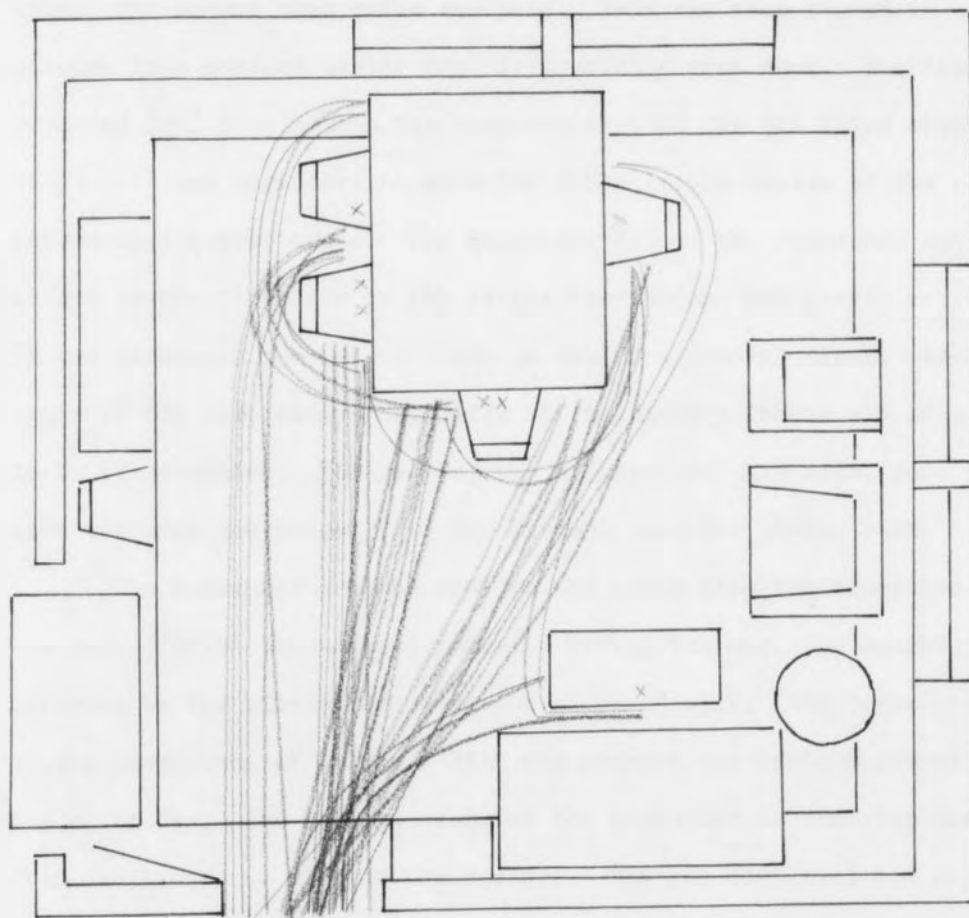


FIGURE 3

USE OF LIVING-DINING AREA FOR LUNCHEON

— Homemaker	— Son
— Daughter	— Observer

In Figure 4 the activities which accompany a guest meal can be seen. The second best china was used. This was also stored in the kitchen in a cabinet beside the living-dining area door. The table was extended full length when the observer arrived for the third observation visit. It was necessary to move the table to the center of the room to accommodate seven people. The homemaker dusted the furniture and built a fire in the fireplace in the living room before the guests arrived. It was necessary for her to check on the fire several times. An extra chair of the same design but different upholstery fabric was brought in by the daughter. The guests, the minister and his wife, came in the side entrance and passed from the kitchen into the living room.

The homemaker put the meal on the table with the exception of the coffee which the husband poured. During the meal the daughter returned to the kitchen for a second glass of milk. The homemaker poured the second cup of coffee. With the dessert the husband poured a third cup of coffee. The husband assisted the homemaker in removing the plates from the table and serving the dessert. The son completed his meal first and left the room for a short while but returned for dessert. He again excused himself and played several pieces of music while the adults talked at the table.

The homemaker and her husband cleared the table while the children accompanied the guests into the living room.

Figure 5 represents a typical period of approximately one hour. The daughter was studying her homework on the dining table during this



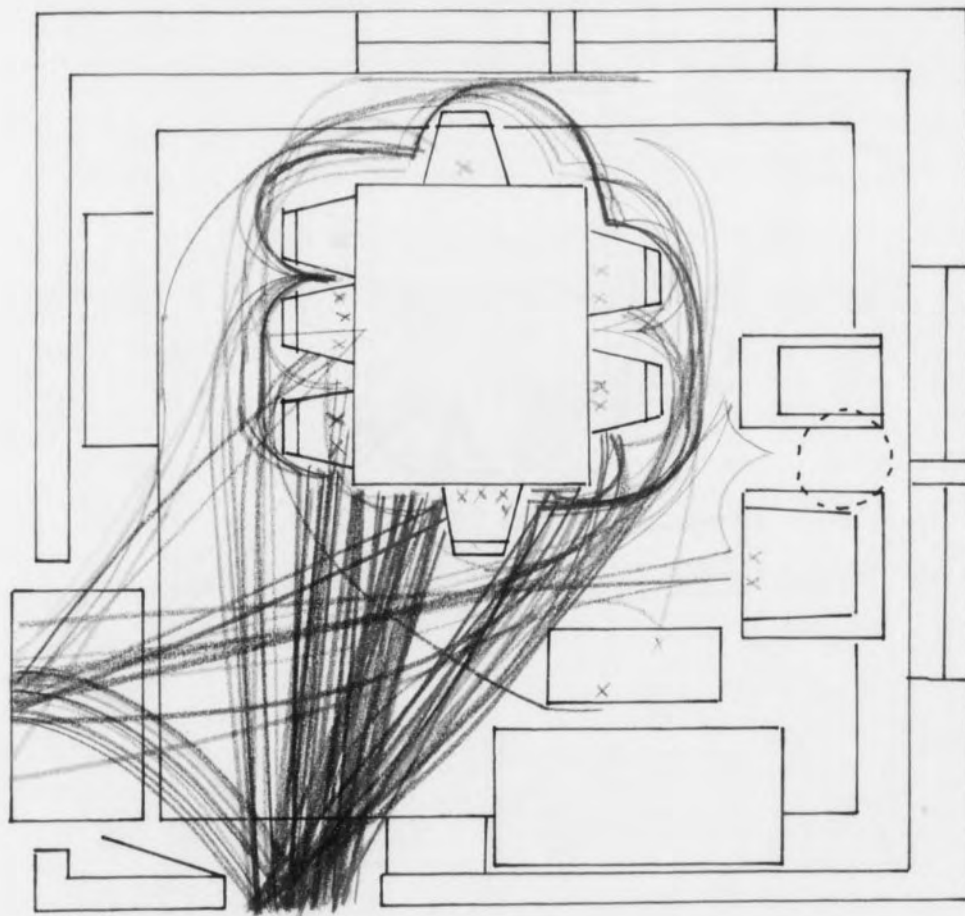


FIGURE 4

USE OF LIVING-DINING AREA FOR GUEST MEAL

- |             |            |                  |            |
|-------------|------------|------------------|------------|
| - Homemaker | - Daughter | - Guest (Male)   | - Observer |
| - Husband   | - Son      | - Guest (Female) |            |

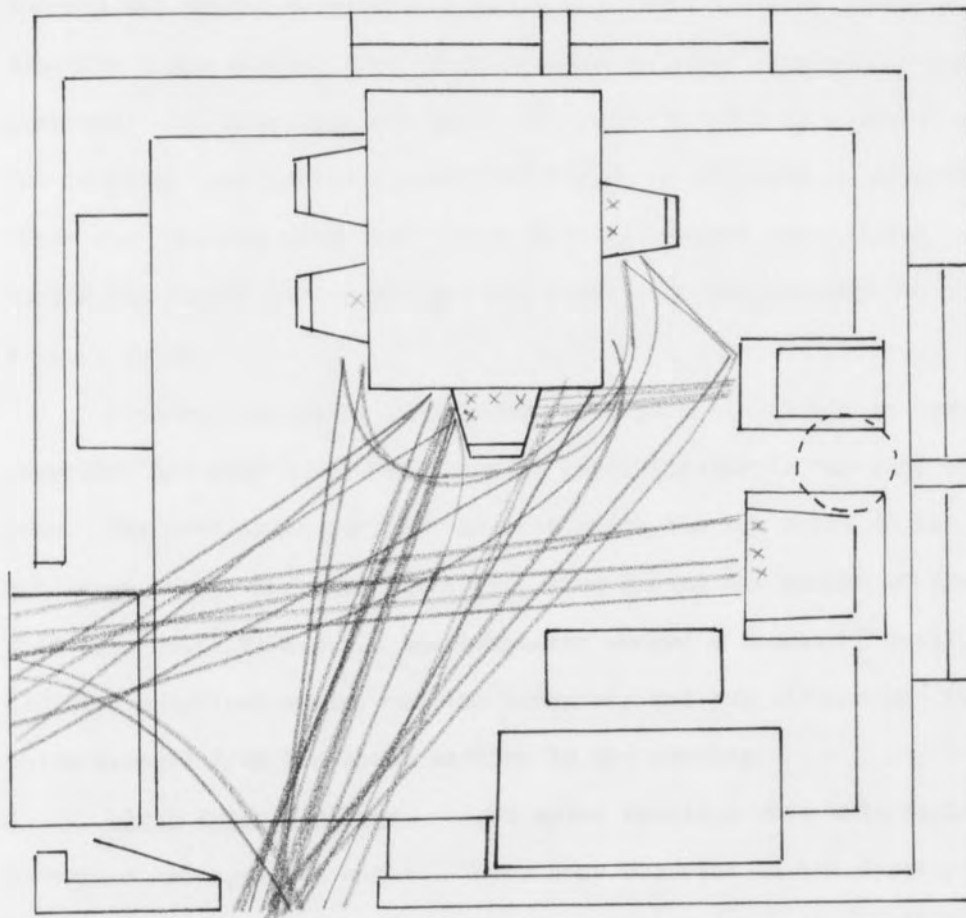


FIGURE 5

USE OF LIVING-DINING AREA DURING AFTERNOON PERIOD

- |             |            |
|-------------|------------|
| — Homemaker | — Son      |
| — Daughter  | — Observer |

period. She asked the homemaker numerous questions about her homework. The son was typing in another room of the house and made frequent trips into the living-dining area to get copies of songs from his sister's notebook. The homemaker was using the table to work on a church program. The daughter listened to records and looked at pictures in several books after she finished studying. After several records were played, she turned the record player off and the radio on. She listened to that for a short while.

Evening recreation is recorded in Figure 6. It was necessary to rearrange the chairs so that everyone participating in the game could be seen. The particular part of the area which the son chose to use was not large enough for this activity. Also during the period of time from 8:00 p.m. until 9:20 p.m., the homemaker worked a crossword puzzle, the daughter practiced music, and the homemaker and son cleaned up dirt which dropped from his shoes earlier in the evening.

Light Meter Readings. Light meter readings were made during the afternoon and again at night. These were recorded in the description of the living-dining area on page 39. From the readings it was learned that only the platform chair received sufficient light at night and on dark days for reading and other close work. The overhead light gave only enough light for rough work.

Time and Activity Charts. In analyzing the area in terms of use, the writer also studied the time chart (Table I) showing the time spent by each member of the family and the number of days on which each

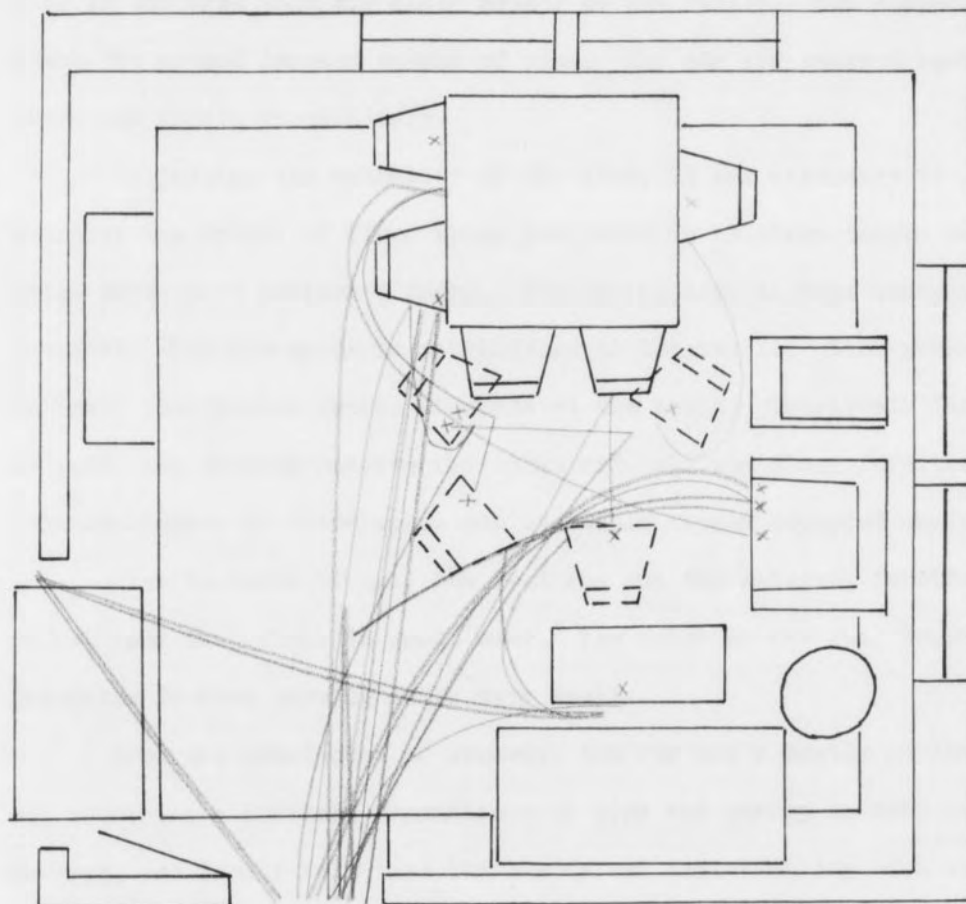


FIGURE 6

USE OF LIVING-DINING AREA DURING EVENING PERIOD  
FOR RECREATION AND OTHER ACTIVITIES

— Homemaker	— Daughter	— Observer
— Husband	— Son	

activity occurred (Table II). The homemaker in this study spent more time in the area than any other member of the family. The daughter spent the second largest amount of time. The son and husband ranked third and fourth respectively.

In judging the usability of the area, it was necessary to consider the amount of floor space available in relation to the activities which were performed there. The eating area in this study rated favorably with the criteria established in Chapter II. Each person had at least twenty-four inches of space at the table. Thirty-six inches of space was allowed between the table and wall and other furniture. Eighteen inches of floor space was available around occupied chairs.

Also in terms of use, the wool rug and the mahogany furniture do not lend themselves to rough wear. The color of the rug, however, prevented it from showing soils very easily.

From the standpoint of economy, the rug was a costly purchase and one requiring a constant expenditure of time and energy to keep it clean. However, the family felt that the beauty and individuality of a wool rug offset the disadvantages of its cost and maintenance. Both the rug and furniture were in keeping with the furnishings in the remainder of the house.

The homemaker chose lined draw drapes as the only window treatment. The fabric was a firm weave making them less likely to hold dust. She made her own drapes, thus lowering the cost.

The chairs were a gift. If the finish had been dark rather than

a maple finish, they would have been more pleasing in the area; however, scratches and dust were less noticable on the maple finish. The design was simple but good, and they were comfortable.

The area was well placed in relation to the kitchen, living room, and other parts of the house. It did not serve as a main passageway in the house. It was used as a passageway from the living room to the kitchen or front entrance to the kitchen. The constant use of the side entrance made this passageway less important.

The view from the living-dining area windows was very pleasing and added much to the beauty of the room during the day.

#### Recommendations for Change in the Area

Based on the evaluation of the area, the following recommendations were made to the family. These recommendations were made during a visit with the homemaker and her husband at his business office.

(1) A tea cart could be purchased to be used in both the living-dining area and kitchen to cut down on the number of trips required to serve a meal and clear the table.

(2) A tray or trays could be used to cut down the number of trips if it was not possible to obtain a tea cart.

(3) A place could be provided in the dining area for napkins, salt, pepper, and sugar.

(4) A pitcher of milk could be placed on the table or tea cart for the two children.

(5) A place could be provided for temporary storage of school books,



church materials, etc.

(6) A place could be set aside for scissors, ruler, pencils, etc. to be used in activities recorded in the area.

(7) Some place could be provided for the storage of table games.

(8) The son and daughter's music could be separated with a place set aside for each to store his or her music.

(9) A record file could be made for easy access of records.

(10) Storage could be provided for large items such as trays, punch bowl, and other accessories.

(11) The lighting could be improved by

- a. moving the floor lamp between the chair and the piano,
- b. painting the ceiling off white,
- c. washing the present overhead fixture and putting new and larger bulbs in the present fixture.

(12) The rug could be turned to prevent wearing the one corner nearest the kitchen and living room doors.

(13) In the future, when the chairs are reupholstered, a fabric could be used that would not soil easily and could be cleaned.

#### Changes Made in the Living-Dining Area

The family discussed these recommendations and made decisions as to the changes which they would make. The changes were made before the writer's next visit.

(1) Trays were used in setting the table, serving meals, and clearing the table.

(2) A space was provided on the bottom shelf of the breakfront to

store napkins, salt, pepper, sugar, and dry cream.

(3) A refrigerator pitcher was used for milk, making trips to the kitchen for milk during the meal unnecessary.

(4) An unused mahogany chest was moved from the daughter's room to the living-dining area beside the piano for storage of music, picture albums, and a few table games. (See Figure 7)

(5) The top of the chest served as temporary storage for books and church materials.

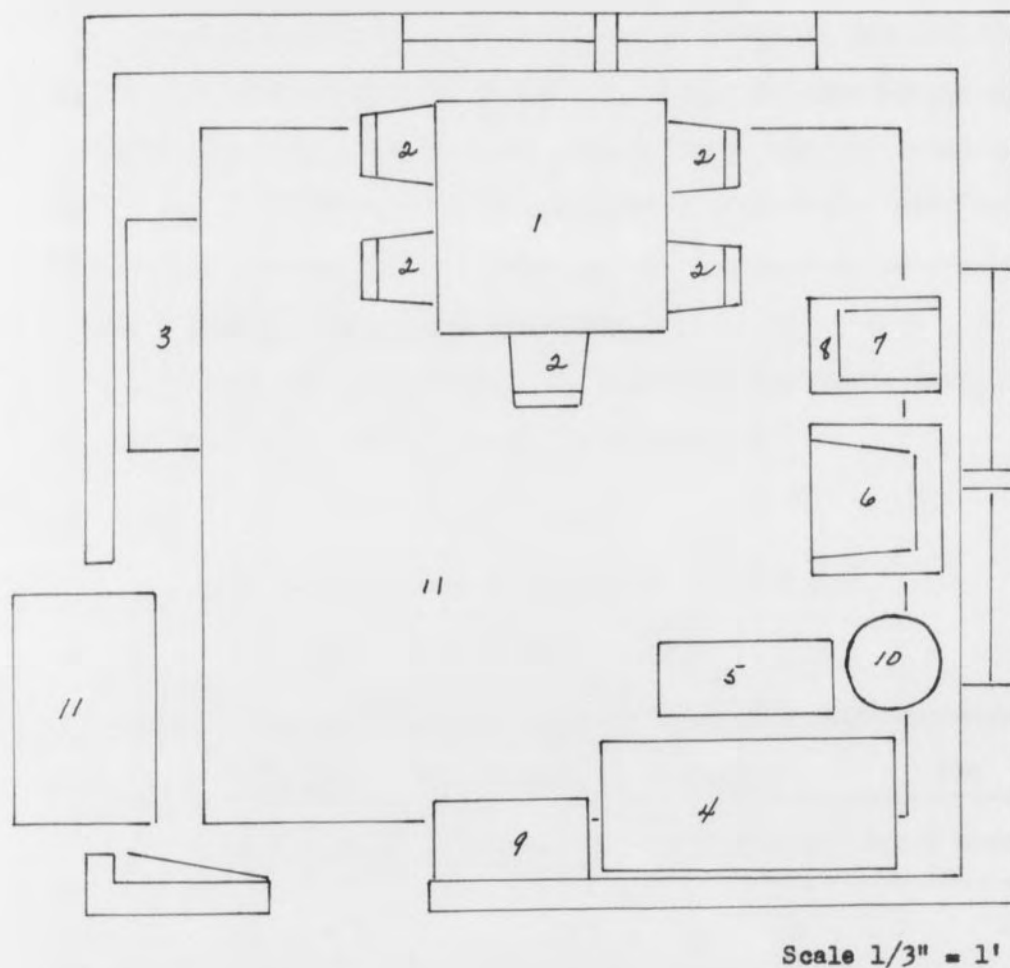
(6) A plastic tray from a piece of luggage was placed in the record player table drawer for pencils, ruler, and scissors.

(7) The overhead light fixture was washed and new bulbs put in, increasing the light meter readings on the table from 5 foot candles to 13 foot candles of light.

(8) The floor lamp was moved between the platform chair and the piano. (See Figure 7) The light meter reading at the piano changed from 2 foot candles to 15 foot candles. The chair continued to receive 15 foot candles of light.

(9) The rug was turned. This made it necessary to turn the living room rug also, since the design was not reversed. The homemaker realized that the living room rug was receiving hard wear on only one end also.

(10) An unanticipated change in the family pattern occurred when the homemaker went to work in her husband's office.



Scale 1/3" = 1'

FIGURE 7

FLOOR PLAN OF LIVING-DINING AREA AFTER CHANGES WERE MADE

- |                 |  |
|-----------------|--|
| 1. dining table | 6. platform chair                      |
| 2. chair        | 7. record player and radio combination |
| 3. breakfront   | 8. record player table                 |
| 4. piano        | 9. chest                               |
| 5. piano bench  | 10. floor lamp                         |
|                 | 11. rug                                |

Data Obtained from Observation Visits After Change in Living-Dining Area

Three observation visits were made following the physical changes in the area. The homemaker was working outside the home during this period of time. Only one full day and evening's observation was possible. The two other observation visits were made from 2:00 p.m. until bedtime. The homemaker arrived around 3:00 p.m., and the children came home between 3:20 p.m. and 3:30 p.m. each day.

Time Use. The approximate time spent by each family member in the area during these visits is shown in Table III.

TABLE III  
TIME USE OF LIVING-DINING AREA BY INDIVIDUAL  
FAMILY MEMBERS AFTER CHANGES\*

Day	Homemaker		Husband		Daughter		Son	
	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
Weekday	3	26		49	3	14	1	25
Weekday	2	16	1	49	2	45		46
Weekday	3	6		49	4	9	2	44
Total	8	48	3	27	10	9	4	55

\* Total Observation time for three visits--24 hours 45 minutes

The homemaker spent from one to two hours less time per day in

the living-dining area during these three observation visits than during the first three visits when she was at home all day. When she returned in the afternoon, she was busy in other parts of the house, especially in the kitchen. On the second observation day when she spent only two hours and sixteen minutes in the area, it would appear that she had been away from home all day. However, this was her day off from work, and she spent the morning running errands. The remainder of the time she spent sewing in the dining alcove of the kitchen.

The total observation time during the last three visits was less than the first three visits; however, the observer was present all of the time that the family was at home except for a forty-five minute period on the two mornings that the homemaker left for work.

Activities Observed in Area After Change. The family used the living-dining area for about the same activities that they did before the change was made. Table IV indicates the activities in the area and the number of observation days on which the activity occurred.

The family used the area for breakfast on two observation days because the homemaker had her sewing machine and unfinished garments on the table in the dining alcove. The observer was not present for one of these meals. The homemaker told the observer, "I can get my family up, we can eat, and all be on our way in forty-five minutes. Of course, that doesn't give Susie much time."

TABLE IV

NUMBER OF OBSERVATION DAYS ON WHICH ACTIVITIES OCCURRED IN THE  
LIVING-DINING AREA AFTER CHANGES WERE MADE IN AREA

Activity	Homemaker	Husband	Daughter	Son
Eating				
Breakfast	2	2	2	2
Dinner	3	3	3	3
Snack			2	1
Setting table	3		2	
Serving meal	2	2	2	
Clearing table	3	2	2	
Music				
Practicing piano			3	1
Playing for pleasure			3	2
Playing records	1	1	1	1
Studying				
Homework			2	
Assisting with homework	1			
Church materials	1		1	
Writing letters	1		1	1
Reading				
Magazines		1	1	
Catalogue	1		1	
Paper		1		
Conversation	3	3	3	3
Cleaning	1			
Group Game	1		1	1
Repairing bow and arrow				1

#### Analysis of Data After Change

Data were analyzed by the use of the same techniques and according to the same criteria as before the changes in the area.

Pathway Charts. Pathway charts were made of evening meals, a guest meal, an afternoon period, and one evening recreation period.



Figure 8 represents the use of the area between 6:20 p.m. and 7:15 p.m. during the first observation visit after the changes were made. The activities begin with the setting of the table for the evening meal and ends with the clearing of the table. This chart might be compared to Figure 2, on page 50. Trays were used in Figure 8 to cut down on the number of trips made from the kitchen to the dining table. Since the changes had recently been made, on several occasions the homemaker had to show the daughter where things such as the cream and sugar were stored. On other occasions she had to remind the daughter to use the tray or to put her music in the drawer. The daughter set the table. Plates were served in the kitchen and brought to the table by the homemaker and daughter. The homemaker and husband removed the plates from the table in one trip each. The husband served the dessert while the homemaker served a second cup of coffee to the adults. The son left the table at 6:50 p.m., selected music from his drawer in the chest, played for ten minutes, returned the music to the drawer, and went out of the room. The homemaker, husband, and observer each made one trip to clear the table.

The period from 5:08 p.m. until 7:30 p.m. on the second observation day is shown in Figure 9. This also includes an evening meal with only the family and observer present. The husband called at 5:06 p.m. to say that he was ready to come home. The homemaker gave the daughter instructions about what to do while she was away. The homemaker got out the second best silver to be used at dinner. This was stored in the breakfront. The daughter was to set the table, watch for a neighbor to

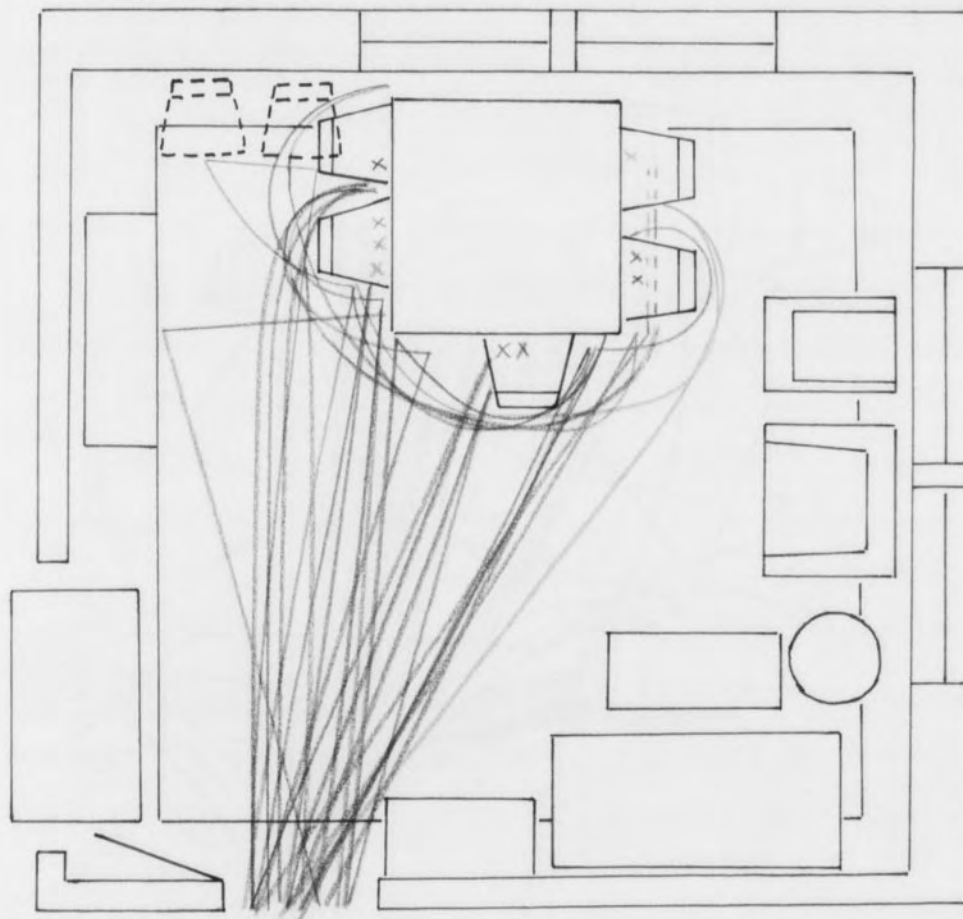


FIGURE 8

USE OF LIVING-DINING AREA FOR FAMILY DINNER AFTER CHANGES

— Homemaker	— Daughter	— Observer
— Husband	— Son	

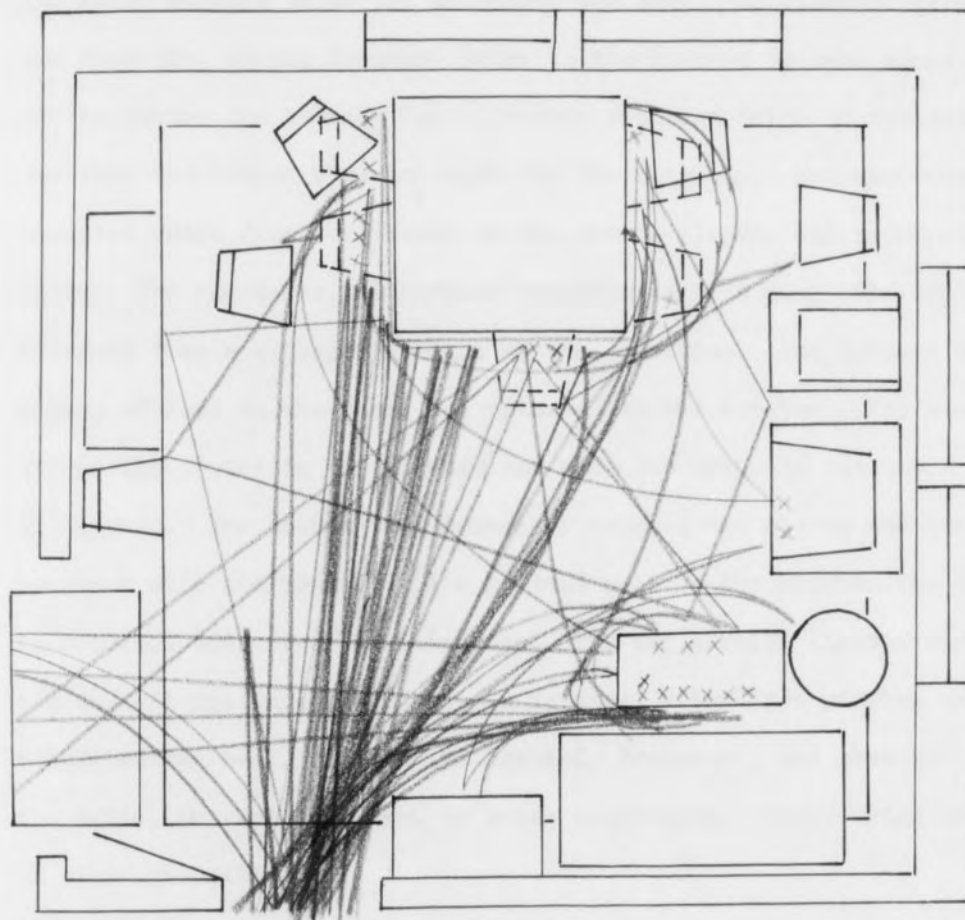


FIGURE 9

USE OF LIVING-DINING AREA FOR FAMILY MEAL

AND OTHER ACTIVITIES AFTER CHANGES

— Homemaker	— Daughter	— Observer
— Husband	— Son	

come home, and go to the neighbor's house when she returned. During the fifty minutes while the homemaker was away, the daughter talked to the observer, making frequent trips to the kitchen to make phone calls and to answer the phone. She also made frequent trips to the window and into the living room to watch for the neighbor. Between trips she selected music from her drawer in the chest, played, and returned the music. The homemaker and husband returned at 5:58 p.m. The son returned from a neighbor's house at the same time. The husband brought a tray of food to the table and returned to the kitchen. The homemaker served the plates in the kitchen and made two trips to the table to bring them. The husband and homemaker removed the plates and both returned with the dessert. The husband went to the kitchen for coffee. He returned and served a second cup. The son excused himself during the dessert and left the room. He returned after five minutes and completed his meal. Before the husband, homemaker, and observer left the table, the children went to watch television. Three trips were made to clear the table.

Figure 10 is a guest meal. On this particular day the minister's wife was in the hospital so the family invited him for dinner. The table was in the center of the room when the observer arrived that day. The homemaker brought a tray of dishes to the table, and the daughter set the table. The homemaker returned with another tray. This time she poured coffee. The homemaker suggested to the daughter while they waited for the husband and minister to arrive that she put the new albumn of records on

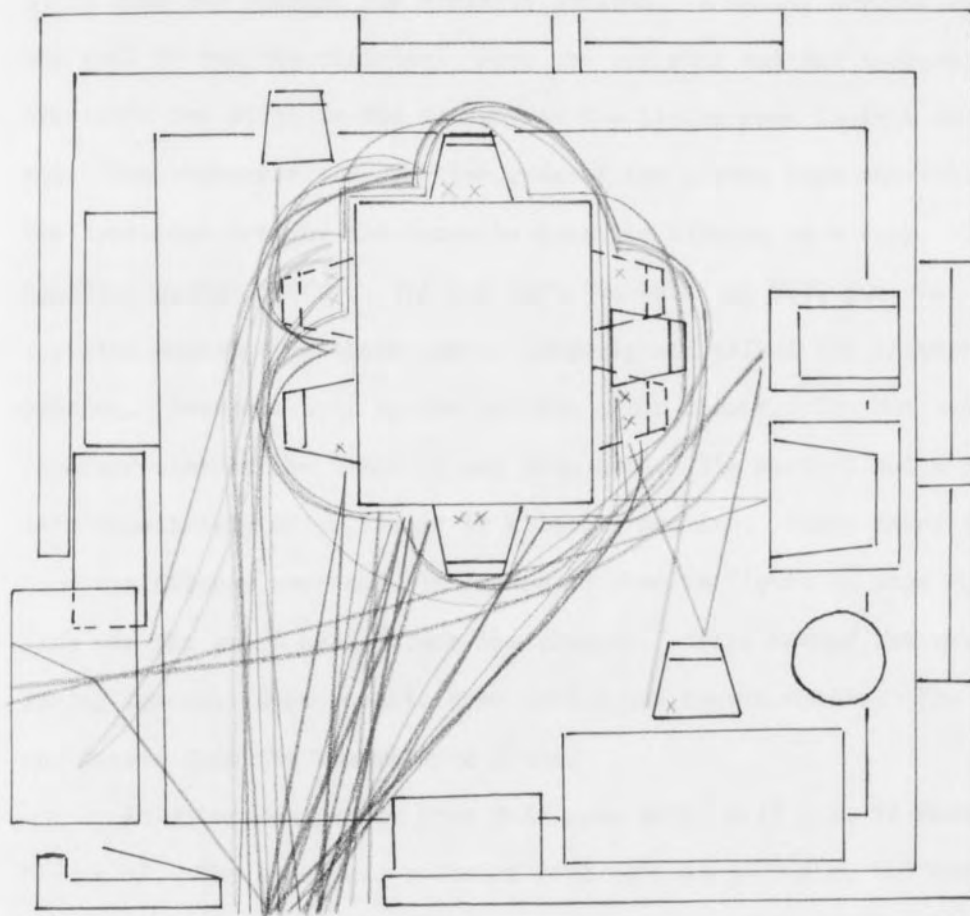


FIGURE 10

USE OF LIVING-DINING AREA FOR GUEST MEAL AFTER CHANGES

- |             |            |                |
|-------------|------------|----------------|
| — Homemaker | — Daughter | — Guest (male) |
| — Husband   | — Son      | — Observer     |

and be ready to play them during dinner. The meal was waiting on the table when the husband and minister arrived. A caller arrived during the meal to see the minister. Both the minister and the husband left the table and stood in the doorway to the living room to talk to the man. The homemaker and daughter removed the plates from the table. The homemaker brought the desserts from the kitchen on a tray. The daughter served coffee. The son left the table at 7:20 p.m. but everyone else pushed back their chairs slightly and talked for another ten minutes. Everyone went to the kitchen after dinner. The homemaker and observer cleared the table in one trip each. The husband and minister left immediately after dinner to attend a meeting. Fewer trips to and from the kitchen were made in Figure 10 than in Figure 4, page 54. This was the guest meal before the changes. Trips around the table during the meal were made to pour coffee and remove plates. The dessert was passed from the homemaker's place.

An afternoon period from 3:45 p.m. until 4:45 p.m. is shown in Figure 11. The homemaker returned from work at 3:00 p.m. and the children at 3:20 p.m. The homemaker had been watching as the daughter addressed cards to her church group. At 3:45 she sent the daughter to the car to get stamps for these cards. She told her to bring both her handbag and billfold. The daughter returned with only the billfold. The daughter answered the phone and called the homemaker. The son, who was sitting on the piano bench repairing his bow and arrow, moved to the dining table to show it to the observer. He put his foot in a chair while talking to the observer. The son went to the kitchen to make a phone call before



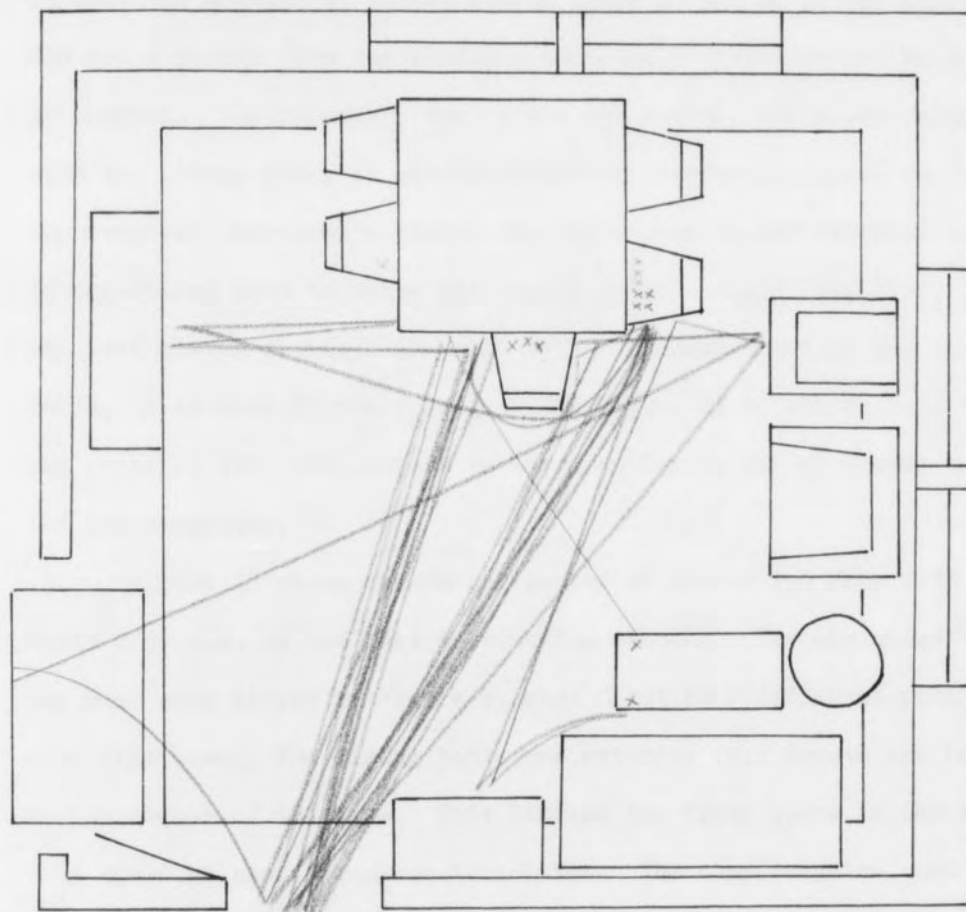


FIGURE 11

USE OF LIVING-DINING AREA DURING AFTERNOON PERIOD AFTER CHANGES

— Homemaker  
— Daughter

— Son  
— Observer

going to play with a neighbor. The daughter prepared a snack in the kitchen and brought it to the dining table to eat while she studied. She got a pencil from the record player table drawer to use to work arithmetic. The homemaker used a box and folder, which she brought from the living room, in writing a letter concerning church activities. The daughter sharpened a pencil for the homemaker and returned to the living-dining area to bring the pencil and to discuss her diet. She had lost eleven pounds. She studied her calorie chart on the dining table. From both Figure 5, page 55 and Figure 11 it can be seen that the children were more active in the area during the afternoon than was the homemaker.

Figure 12 shows an evening period of recreation from 7:38 p.m. until 8:38 p.m. on the last observation evening. The son chose to play the same game played in Figure 6, page 57 but in a different part of the area this time. The dining table was extended full length and located in the center of the area. This limited the floor space in the area that could be used for other activities. The son, daughter, and observer participated at first. The homemaker watched for a while and then took the daughter's place when she went to watch television. At 8:20 p.m. the son went to watch television also. The homemaker and observer conversed for about ten minutes before the son and daughter returned. The daughter played the piano until 8:38 p.m. when she went to watch television again. The homemaker sent the son to take a bath at the same time.



Comparison of First Three Observation Visits with Three Visits  
After Changes Were Made in the Area

The total observation time of the last three visits was nine hours and fifty minutes less than the first three visits. Although the homemaker's total time spent in the area was also less, it still remained approximately one-third of the total observation time. Despite the fewer hours of observation, the daughter spent a total of fifty-two minutes more time in the area during the last three observation visits. This can be accounted for by the longer periods of playing for pleasure. There was little change in the husband or son's time use of the area.

The use of trays and storage space made available in the area reduced the number of trips required to set the table, serve the meal, and clear the table. A family member continued to serve coffee during the meal making a trip around the table necessary. The homemaker's trips relating to the meal were reduced. The husband and daughter assisted more with each meal than during the first observation visits.

By using a refrigerator pitcher on the table for milk during the last three visits, neither child got up during the meal to get a second glass of milk.

The piano was used more frequently and for longer periods of time during the last three visits. It was also used for pleasure playing more during these last three visits. It is not known whether the new storage facilities for music had any affect on this.

The turning of the rug and the improvement in lighting did not cause noticeable changes in the behavior pattern of the family.

The daughter continued to study on the dining table. On one occasion she used the pencils stored in the record player table drawer.

The homemaker spent less time on church activities during the last three visits. This may have been due to the fact that she was not at home as much.

## CHAPTER VI

### SUMMARY, EVALUATION OF METHOD AND RECOMMENDATIONS

Authorities in the fields of housing and family life have expressed the need for livable homes. Many methods of research have been used in an attempt to determine the characteristics of a livable home. The purposes of this study were to develop, test, evaluate, and make recommendations for the use of a method of appraising the livability of the living-dining area of a home.

The writer studied and evaluated the methods used in past and present housing and family life studies. From the review of techniques, the writer concluded that the observation technique is the most accurate for studying family behavior and its relation to the house. Six observation visits were made to observe the activities of a family in their living-dining area. The case study approach was used to obtain a clear understanding of the family's needs and preferences. The information for the case study not obtained through observation was obtained from an interview with the homemaker. Light meter readings were made to check the adequacy of the lighting in the area. A floor plan drawn to scale presented an accurate picture of the arrangement of the furnishings.

The method was tested by studying one family intensively. The family selected by the observer was a rural non-farm family composed of the homemaker, husband, and two children.

A preliminary visit was made to explain the purpose of the study, secure permission to conduct the study, arrange observation visits at the



convenience of the family, draw a floor plan to scale, and gather information concerning the living-dining area.

Three full day and evening observation visits were made observing and recording all activities of the family in the living-dining area of the house. Observations were recorded in a small notebook. The form used to record data had three headings. These were time, person, and activity. The observer became a part of the family group, and recorded events as they happened except during meals when the observer ate with the family. Immediately following the meal while the family cleared the table and washed dishes, the observer recalled and recorded observations.

Data were analyzed according to previously established criteria. Techniques such as pathway charts, schedules of time use, charts recording the number of days on which the activities occurred, and light meter readings were used in the analysis.

Based on the analysis of the data obtained through observation and interview with the homemaker, the writer recommended changes in the living-dining area. Two visits were made to recommend the changes and to check on the changes that the family was able to make.

Three additional observation visits were made, again observing and recording activities of the family in the living-dining area, noting any changes in behavior. The same techniques of data analysis were used.

Some of the changes noted in the study of this family were: (1) the number of trips from the kitchen to the dining table related to meal service was reduced, (2) the piano was used more frequently and for longer periods of time during the last three visits, (3) the homemaker's

job outside the home made the total time spent in the area less, and (4) the husband and daughter assisted more with mealtime activities during the last three visits.

#### Evaluation of Method

It is believed that the use of the observation technique as tested by the writer will enable one to determine the livability of the living-dining area of a particular family. It is recognized that this method requires a large expenditure of time, energy, and money, but it is believed that this is one of the most accurate ways of determining the livability of any room or area of the house. As shown in this study of one family, it is possible to note changes in behavior by the use of the observation technique.

A large portion of the success of this study is attributed to the willingness of the family to cooperate with the investigator. It is believed that the family acted in their usual pattern of behavior. They apparently did not know what the observer wanted to see. The homemaker told the observer that a friend asked what she wore and what she did when the observer was present. Her reply to the friend was, "I do just what I would do if she weren't here. I wear what I would wear anyway and have the children to do the same." On one occasion the husband told a guest in the presence of the observer, "We enjoy having her. I don't know what she is writing about us. She comes and writes and leaves. If this ever becomes famous, I'm going to say, 'That's me'." The children were never told that they were being observed.

The 6 x 9 inch hardback notebook and pen made the mechanics of recording observation as inconspicuous as possible. The observer participated in some family activities such as eating and playing games and recorded the data immediately after the activity had been completed. At times the children watched the observer. In such cases the observer immediately stopped writing. This caused the record of activities to be incomplete for short periods of time. The observer was usually able to complete the missing parts in the record when the children became engaged in another activity.

Expressed needs and preferences of a family can be evaluated as a result of data obtained through observation. In testing the method described in this study, the homemaker expressed a need for additional storage space in the living-dining area. Through observation the writer found that additional storage was needed. The homemaker also stated that the living-dining area was not used much. This was interpreted by the observer to mean seldom. The observer noted, however, that the homemaker spent approximately two to five hours in the area each day in addition to the time spent by other members of the family. Through interview the writer learned of other activities which took place in the area in addition to those observed.

The use of the light meter revealed data about the area of which the family was not aware. Observation alone cannot reveal the amount of light in an area.

It was not possible by the techniques used in this study to record

time use of the area accurately to the second. In testing this method, the observer used a wrist watch. A stop watch would make it possible to determine accurately the amount of time spent in the area by each individual member of the family; however, it would be impossible for one observer to operate a stop watch for each family member. Approximate time seems sufficient for evaluating time use of the area for these purposes.

The writer believes that six extended observations, including full day and evening, would not be necessary to gain the desired data concerning the house, family, and their pattern of behavior. Two extended visits in addition to the observation of the serving, eating, and clearing the table for a guest meal would give a picture of the activities in the area. In this study the wrapping of a package and the guest meal on the third day were the only two activities which were different from those carried on during the first two observation days. Two observation days and a guest meal would seem to be a sufficient amount of observation time before and after a change in the area. Since a guest meal in this study required the rearranging of furniture, it is believed that this is an important activity to observe.

The case study makes it possible to appraise the area in terms of the individual family. This should not be omitted if livability of the area is to be determined. The interview was used to supplement information gained through observation.

The pathway charts used in the data analysis were valuable in help-

ing the writer and the family see the need for certain changes. A line chart was more effective in pointing out the number of trips which each member of the family was making than numbers would have been.

#### Recommendations for Use of Method

This method of appraising the livability of the living-dining area of a home is recommended for use by an investigator who is flexible and has the ability to establish good rapport. The method will work best with families who show a desire for appraising an area of their home or an activity. Cooperation and willingness to change are essential qualities of the family to be studied especially if the investigator plans to suggest physical changes. The final decision concerning changes to be made should be left to the individual family and not determined solely by the investigator.

The following are recommendations for future use of this method.

(1) Although this method could be used for the study of a large number of families, at a considerable cost of time and money, to reveal general characteristics of a livable living-dining area, its principal use would be for the study of individual families to determine specific characteristics of livability in terms of a family and house.

(2) A similar method could be used to determine the livability of most rooms or areas of a house or the study of any one activity such as sewing, eating, or studying. Modifications in the procedure would be used depending on the activity or area being studied.

(3) This method could be used by Home Economics teachers, Extension



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workers, homemakers, or students of Home Economics as a basis for recommending changes in a home. This would provide a more objective basis for making desired changes than is usually the case in homes where changes are made.

(4) The investigator should gain experience in observation to make more accurate and inclusive the observation and recording of data. Some gaps were recognized in this study in the recording of data since there were a few instances in which conversation and activities were recalled which did not appear in the written record.

(5) More intensive studies of the housing problems of families need to be made. This study shows the type and amount of information which a method of this kind will reveal. Research of this intensive type needs to be done with more families and in other areas of the house.

(6) It is recognized that this method is time consuming and costly. Perhaps for the improvement of housing it would be more meaningful if this method were used following studies of the needs and preferences of families as obtained through surveys. This would provide a validating method and would also reveal information concerning needs which thus far survey techniques alone have not revealed.



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# SCENE DESCRIPTION

4:00      Mr. Jones      Mr. Jones

1:27      Mr. (Johnny)      Entered from Mr. (Kitchen) with piece of paper.  
 Talked to Mrs. (Doris) chair.  
 "What's that, Doris?"

Mr.      "What's that?" asked it out for me.

1:38      Mr.      "What's that?" asked it out for me.

Mr.      To Mr. (Johnny): "What's that?" asked it out for me.

Mr.      "What's that?"

Mr.      Reported same.

Mr.      "What's that?" asked it out for me.

Mr.      Took another picture to Mr. (Johnny) about length of a picture.

4:05      Mr.      "What's that?" asked it out for me.

Mr.      Reported same.

Mr.      "What's that?" asked it out for me.

Mr.      "What's that?" asked it out for me.

Mr.      Took, in view of Mr. (Johnny).

4:05      Mr.      Took from Mr. (Johnny) brought typed copy and showed it to Mr. (Johnny) and Mr. (Johnny).

Mr.      Looked at sheet of paper. "What's that?"

Mr.      Took paper from Mr. (Johnny) and looked at it. Mr. (Johnny) asked.

Mr.      Took paper from Mr. (Johnny) and gave it back to Mr. (Johnny). "Let's do this with it."

4:05      Mr.      Brought paper around to show Mr. (Johnny). She suggested and to Mr. (Johnny) through Mr. (Johnny).

# SAMPLE OBSERVATION

TIME	PERSON	ACTIVITY
3:57	Jo. (Johnny)	Entered from kt. (Kitchen) with piece of paper. Walked to Su.'s (Susie) chair. "What's that, Susie?"
	Su.	"Mem'ries." spelled it out for him.
3:58	Jo.	"Well dot your i." Ret. to kt.
	Su.	To Hm. (Homemaker) "Could it rain 32 in. in an hour?"
	Hm.	"What?"
	Su.	Repeated same.
	Hm.	"Heaven's no. That would be a cloudburst."
	Su.	Read another problem to Hm. About length of a skirt.
	Hm.	"Huh." Still working on church materials.
	Su.	Repeated problem.
	Hm.	"18.2 in. Jane must not be a very big girl."
	Su.	"Brother!"
	Hm.	Cont. to work on ch. mat.
4:03	Jo.	Ent. from kt. Brought typed song and stood between Hm. and Su.
	Hm.	Looked at sheet of paper. "Good."
	Su.	Took paper from Hm. and looked at it. No comment.
	Hm.	Took paper from Su.'s hand and gave it back to Jo. To Su. "Let's do this arithmetic."
4:05	Jo.	Brought paper around to show observer. She commented and he ret. through kt. door.



TIME	PERSON	ACTIVITY
	Hm. and Su.	Work on math.
	Hm.	Hummed line of song.
	Su.	Joined in for a few seconds. Both stopped.
4:15	Jo.	Ent. from kt. to ret. song to Su.'s notebook and get another out. Went to left of chair. Ret. to kt.
4:18	Su.	Turned on radio.
	Hm.	Read church catechism to observer.
4:22	Hm.	"Susie, you'll have to turn that down."
	Su.	Got up and lowered volume on radio. Did not speak. Sat down in same chair. Wrote a few words. Got up and stood beside Hm. to read problem.
	Hm. and Su.	Discussed arithmetic problem.
4:27	Su.	Adjusted radio and sat down. Same ch.
4:27	Jo.	"Where's Susie? Susie, I want that song. Where is it?"
	Su.	"It is upstairs and you can't go get it."
	Hm.	Looked up. "What is it, Susie?"
	Su.	"He wants a song and he can't go get it."
	Hm.	"Now Johnny you stay here. Susie has so many books."
	Su.	Ran to get book from bedroom upstairs. Went out through LR (living room).
	Jo.	"I'll be back." Threw paper on floor.
	Hm.	"Now pick up that paper."
	Jo.	Picked up paper and went from Hm. chair around table to ob.'s chair. Talked to ob.

TIME	PERSON	ACTIVITY
4:31	Su.	Ret. through LR.
	Jo.	Went out kt.
4:37	Su.	Sat down. Worked on Homework. Finished homework. Went to LR and ret. with 4 annuals. Laid 3 on Rp. (record player). Looked at one. Sat in Flat. ch. (platform chair). Radio stopped playing as she sat down. Got up and lifted ch. off ext. cord. Radio came back on.
	Hm.	Stood up and gathered books together. Took 8 books to LR. Ret. and picked up Susie's books. Took to LR. "Now Su., here are your books for in the a.m." In doorway.
	Su.	Listening to radio and looking at annuals. Talked to Hm. and snapped fingers.
	Hm.	"Don't snap those fingers at me." Passed from doorway to LR into kt.
4:42	Jo.	Came in with sheet of paper. Middle of room. "I want the book."
	Su.	"No, you can read that."
	Jo.	"Silly, I can't."
	Hm.	Came to door. "Jo., how about getting some wood and I'll build a fire in the LR."
	Jo.	"Maybe."
	Hm.	"Su., you put on a jacket and get an armful."
	Su.	"He's a boy. He should get it."
	Hm.	"Both of you go. You need to get some air and I need two armsful of wood."
4:43	Jo.	Got up and went out through kt. Was sitting in end ch.