

AN ABSTRACT OF THE THESIS OF

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Title -- CONSUMER INFORMATION NEEDED BY THE
PROSPECTIVE HOME OWNER -- --

Abstract Approved --  --
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The purpose of this study is to determine and to evaluate some of the consumer's needs, requirements, and wishes, when planning for the construction or purchase of a home. These points are evaluated with reference to the material available through the industrial arts courses in the secondary schools of the state, as given in the State Course of Study for Industrial Arts in Oregon, and the supplement thereto titled "Carpentry and Building Construction."

From the reference material examined the following factors should be considered when judging a house.

1. Function--The house must first serve the primary function, that of providing shelter for the family. The requirements are many and compromise is necessary.
2. Finance--The cost of the house must be justified in relation to workmanship and quality of materials. The title must be "searched" and all contracts and the deed should be properly prepared and signed.
3. Neighborhood--The neighborhood should be appreciating in value not depreciating, with satisfactory facilities to satisfy the needs. Neighbors must be compatible in habits of cleanliness, orderliness, and quietness.
4. Appearance--The outside of the house must be pleasing to the eye. The house and site must be correctly related with reference to contours, boundaries, and existing trees with a logical landscape plan. The inside should have rooms of correct size and arrangement, satisfactory circulation, sufficient natural light, proper cross ventilation, adequate wall space, and adequate storage spaces.

5. Construction and Materials--The footings of the foundation should be of adequate size and set in firm soil. The walls of the foundation should be strong enough to carry the load and dense enough to resist moisture. The superstructure should be steady and solid. The framing material must be properly spaced with proper bracing.

The materials used must be durable and fire-resistant if possible. The walls should be impervious to moisture, heat, and cold, and properly protected with paint. There must be the proper combination of materials according to their natures and coefficients of expansion. The roof must have satisfactory pitch and shape to provide proper drainage, and the materials capable of resisting effects of sun, rain, ice, snow, and wind. The millwork of well-seasoned wood, correctly installed and finished, is very important.

The size and quality of mechanical equipment is another point worth consideration. The heating plant of correct type and properly located, an adequate hot water system, and provisions for sewage disposal are all important considerations. Electrical wiring of correct size and specifications, the proper number and quality of convenience outlets and fixtures should be checked.

The results of questionnaire #2 to home owners show what the average home owner would want if he were building another house. In most cases, through the experience gained from owning the present home, most of the home owners know what they would insist upon next time; but from the interviews and questionnaire #1 only about 50 per cent of them knew what to look for in the house before they bought.

According to the opinions expressed by the building contractors, only about 25 per cent of the prospective home owners know what and how to check the house before buying.

If the results of these questionnaires are significant it would seem that more information should be given to the prospective home owner, probably before he terminated his formal education. Due to the fact that relatively few persons go to school beyond the high school level, it is believed that the secondary schools might well consider the possibility of doing more for our future home owners.

From the study made and the information compiled from interview and questionnaire, it is recommended:

1. That a course of study be prepared to be used in connection with an industrial arts class, for both boys and girls, which would give more consideration to consumer values for prospective home owners.
2. That a promotion program be developed to create a desire among high school students for this course, stressing the requirements and needs of the home owner.
3. That a good check list be published with explanations for the general public, covering items which should be and could be checked by the prospective home owner before he buys a house.
4. That adult education courses be given to interested persons who have not had the opportunity of learning of the needs of home ownership through high school classes.

CONSUMER INFORMATION NEEDED BY THE
PROSPECTIVE HOME OWNER

by

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A THESIS

submitted to

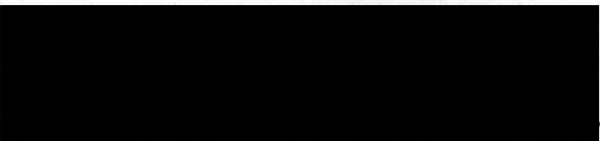
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CONSUMER INFORMATION NEEDED BY THE PROSPECTIVE HOME OWNER

CHAPTER I

INTRODUCTION

The housing problem, one of the great economic and social problems of the day, will continue to require much consideration for some time to come. Housing problems will change in the future, however, from a mere housing shortage to the problem of deciding upon the house which will serve the owner adequately or will be up for sale because it will not meet the standards or requirements set by the discriminating home owner.

Most individuals during their lifetime plan to own a home. Of these people, few have accumulated enough information or knowledge of construction principles to know which house will best fit the present and future needs of the family, and which type will necessitate the least time and money for repairs and upkeep.

There are many angles from which the prospective buyer should examine the house and lot which he is considering as his future home. Each family must decide for itself whether it will pay rent, purchase a house, or build a house. The temperament and stability of the family, security of employment, and the current world

conditions are all vital factors when deciding the housing problem.

Purchasing or building a home is often a transaction covering payments over a period of years and should neither be lightly considered nor hastily decided.

Purpose of the Study

The purpose of this study is to determine and to evaluate some of the consumer's needs, requirements, and wishes when planning for the construction or purchase of a home, in terms of the information available through the industrial arts program of the secondary schools of the state.

Inspection of numerous homes in several communities and knowledge of the shortcuts taken by many builders and contractors led to the belief that other prospective home owners might possibly gain something of value from this study. Since the home is the largest single purchase that the average individual makes, it is believed that the secondary schools could well consider the value of consumer information in this field.

Statement of the Problem

Educators and leaders in the industrial arts field believe that the curriculum should meet the needs of the

people and better prepare them for present and future social and economic conditions. This study should discover some of the reasons whether or not the curriculum of the secondary schools, especially in the industrial arts program, should place more emphasis on consumer information associated with housing.

Limitations of the Study

This study is limited to certain phases of consumer information regarding home ownership which might be included under the following headings: function, finance, neighborhood, appearance, construction, and materials. The problem will be studied from the industrial arts angle and little consideration will be given, in the writing of this paper, to home economics or any other field.

The purpose of this study is not to construct a course of study but to determine if such a course is desirable and some of the problems which might be considered in teaching such a course.

Methods and Procedures Employed in the Study

In order to obtain adequate information and facts concerning the practical consideration of home ownership, the historical method of research was used as a starting

point. This included a critical examination of reference materials on architecture, carpentry, homemaking, home-planning, design, and the building trades. Many periodicals, an unpublished manuscript, advertising booklets, government bulletins and leaflets, and courses of study for industrial arts were used in the preparation of this study. Later on, the survey or practical method of research was used to gather information and opinions for the study. Two questionnaires were formulated and taken to one hundred representative home owners in Corvallis, Oregon, a more-or-less typical home-owning community in the Pacific Northwest. Co-operation was obtained by personal interview with each of the home owners chosen. A map of the City of Corvallis showing the location of the homes of the persons interviewed will be found in the appendix.

The first of the two questionnaires to home owners deals with some of the problems of home ownership. One section is devoted to information gained before buying or building the home; another to information based upon subsequent experiences. The second of the questionnaires to home owners is a check list to show what the owner would want if he should build another home.

A third questionnaire was formulated to gain information from building contractors of the city. It deals

in particular with opinions on building trends and with how much the prospective home owners know about certain phases of consumer values when approaching the builder. A copy of each of the three questionnaires will be found in the appendix.

Definition of Terms and Objectives

The term "industrial arts" as used in this study is a development from the older term "manual training". Industrial arts, as a secondary school development (15:16)*, has passed through two somewhat well-defined periods of professional growth. From the "manual training" which emphasized the hand skills, chiefly in woodworking, to the "manual arts" which still stressed the skills but was expanded to include the useful and the well-designed, the "industrial arts" program has now developed into a program with an enriched conception where more of the child's interests and environment are involved. Industrial arts is the term designating a relatively large group of industrial activities now a part of the practical arts program of secondary education and taught on a purely nonvocational basis.

* First number refers to the correspondingly numbered item in the bibliography. The second number refers to the page of the reference.

The objectives of industrial arts have been stated in many ways. In a report by the Committee on the State Course of Study for Industrial Arts in Oregon, 1937 (19:8), the following were some of the objectives listed:

To develop in each pupil an appreciation of good workmanship and good design.

To develop in each pupil the ability to select wisely, care for, and use properly the things he buys or uses.

To develop in each pupil elementary skills in the use of the more common tools and machines in modifying and handling materials, and an understanding of some of the more common construction problems.

Further objectives in the industrial arts program in Oregon, as stated in Carpentry and Building Construction, A Supplement to the State Course of Study (20:5), are given as follows:

It is believed that, properly presented, building construction in miniature will focus the attention of young people on trends in housing design, on construction methods, and on the utilization of native building materials which nature has so abundantly bestowed upon the Pacific Northwest. This should lead to increased "building consciousness" and to a consideration of the following "consumer values".

1. Appreciation of the value and limitations of wood as a construction material.
2. Appreciation of construction methods appropriate to the building requirements under consideration.
3. Acquaintance with materials and terminology used in plans, specifications, and building construction.

4. Appreciation of good construction; ability to detect poor construction, either in purchasing a home or in supervising the construction of a new home.

5. Acquaintance with the general procedure of home planning, financing, construction, and maintenance.

The above objectives deal directly with the imparting of consumer information to boys and girls, the home owners of the future. In speaking of the purpose of the industrial arts program, Friese (9:143) says,

"As an aid to such consumer appreciations, especially in the present complex and rather changing American life, industrial arts provides lifelike situations for the development of such attributes as initiative, judgment, attitude of inquiry, and the development of the ability to make adjustments and choose wisely. . . .".

Many people do not seem to understand that industrial arts is purely educational in nature and is not intended as a subject for vocational training.

The late Dr. Frederick G. Bonser (1:5) wrote, "As a subject for educative purposes, industrial arts is a study of the changes made by man in the forms of materials to increase their value, and of the problems of life related to these changes."

Location of the Study

As the study is centered in the city of Corvallis, Oregon, the following general information is given

concerning this community. The information is taken from a leaflet from the Corvallis Chamber of Commerce.

Corvallis, one of the attractive home cities in the Northwest, has a population of approximately 13,500, exclusive of the college student enrollment of over 7,000.

Located near the center of the great Willamette Valley, 85 miles south of Portland, Corvallis is the County Seat of Benton County, one of the richest and most diversified agricultural sections of Oregon.

The climate is mild and pleasant the year around, the annual average temperature being 51.6° and the average rainfall 41.68 inches.

It is the home of Oregon State College, one of the foremost Land Grant educational institutions in the United States. The campus comprises 189 acres and there are 35 principal buildings valued at \$8,000,000. Additional educational facilities in Corvallis include a Jr.-Sr. High School and four Elementary Schools. There is a public Library in the city in addition to the large State College Library.

Corvallis is a substantial city with approximately 200 attractive, well-stocked retail stores, ten wholesale distributing plants, and many important manufacturing and processing establishments. There are many lumber mills and planing mills within the city limits and

located throughout Benton County.

Corvallis, Oregon was chosen as a representative home-owning community. The results found by this study and research will be applicable to many other communities.

CHAPTER II

PRACTICAL CONSIDERATIONS OF HOME OWNERSHIP

"The home has been and ever must be a source of profound influence and inspiration in the lives of all citizens. It plays the chief role in the development of the children of our nation for stability and uprightness. . . . To raise the standards of the American home is, therefore, a substantial contribution to the national well-being."

Calvin Coolidge

The purchase or building of a home constitutes the largest single purchase made by most families. Some families, at certain stages in their development, unwittingly assume decidedly unwise risks in buying rather than renting. There are certain properties which, for reasons of poor construction, impending deterioration in neighborhood beyond the vision of the purchaser, or an inflated level of values not likely to be maintained, should not be purchased at all. The family living habits and the financial potentialities may be different from those of the family owning the house that looks so enticing. The main risks to successful home ownership are: inopportune time of purchase, unfavorable conditions of the transaction, unpredictable house deterioration, and neighborhood change. The following, according to Dean (4:75), are important personal considerations

which will affect the success or failure of home purchase:

1. The owner's knowledge of and attitudes toward the obligations of home purchase.
2. Youth and maturity.
3. Changing family needs.
4. Family mobility.
5. Size of income.
6. Fluctuations in income.

Despite the attempts to lower home costs, new homes are still expensive in terms of the pocketbook of the income classes who supply the mass demand for housing. In the minds of a great many American families there is the desire for home ownership. It is believed that it is possible for the families to plan their homes more efficiently, both for economy and comfort, when they know certain fundamentals of home ownership.

If a house is to fulfill its primary function of forming a background for family life, it must first satisfy a basic need by providing shelter; second, it must promote congenial home life by an efficient plan, elimination of annoyances, and provision for individual interests. A house, to be right for any particular family, must fit that family and its purse. It boils down to a fundamental understanding of the family's needs.

Family Demands on the Home

It is obvious that before any serious attempts can be made at planning for a home, it is necessary to know as much as possible about the family which is to occupy the home. The occupation, size, and financial status are important, but a study of the less tangible and more personal aspects of family life should be considered. Families may be grouped, according to Pickering (16:53), as follows:

1. Those without children;
 - a. Both husband and wife working; often living in a small apartment.
 - b. Wife not working; enough interest in homemaking and community life to live in a house or adequate apartment.
2. Those with children;
 - a. Wife working, or with many interests outside the home, whether house or apartment; housework and care of children delegated to cook, maid, or relative.
 - b. Wife managing the home and family activities; doing most of the work.
3. Those with adult dependents;
 - a. Dependents capable of helping with or assuming responsibility for housework.
 - b. Dependents requiring care and attention.

Gordon and Ducas (10:59-60) prepared a list of questions which should receive some consideration by prospective home owners.

1. How many people are going to occupy your house, both now and in the future? Will they live there permanently? Summers? Winters?

2. What sort of transporation is available? How much will it cost? What are traffic conditions in the neighborhood?
3. What are the hobbies and active sports engaged in by members of your family?
4. Do you prefer sun for awakening or for cheering you while you dress for dinner?
5. Do you read in bed?
6. Do you use the telephone frequently?
7. Is there any member in the family who is very tall? Very short?
8. Do you have an extensive wardrobe? Many hats? Shoes?
9. Do you use an electric heating pad frequently? Curlers? Iron? Chafing dishes? More than one radio? Electric razor? Sun-ray lamps?
10. Does anyone bring home office work to do at night?
11. Do the children have special equipment like bicycles, model boats, planes, etc.? Do they like to sleep outdoors?
12. Does anyone in the family travel frequently? Have much luggage?
13. Do you have many guests? Afternoon? Evening? Overnight?
14. What type of parties do you give? Bridge? Dinners? Dances? Teas? Garden parties? Home movies? Musicals? Buffets? Children's parties?
15. Do you have many books in your library? Use them much? When?
16. Where do you do your reading?
17. Have you a phonograph? How many records?

18. Have you any special sculpture, paintings, or draperies for which you want special places?
19. Have you servants? How many? Does a maid serve the food or is it served at the table?
20. Have you much linen and silverware? Mechanical dishwasher? Other bulky household equipment?
21. Is your laundry done at home?
22. Is any dressmaking done at home?
23. Is any canning or preserving done at home?
24. Is yours a group family, or made up of individuals who prefer to be alone much of the time?

Many who plan to buy or build houses often make the mistake of assuming that the requirements never change. While the necessities of life remain fairly stable, the so-called requirements, which have been added from time to time, are constantly changing. Some of these changes, according to Pickering (16:54), are in:

1. Activities:
 - a. The changing activities of a growing family.
 - b. The changed manner of living when moving from a minimum to an adequate house or reverse.
2. Interests:
 - a. Changes in size of family and effect on space requirements.
 - b. Changes produced by completion of family cycle, or birth, growth, and departure of children.
 - c. Changes in economic and social standards of a family; their effect upon the quality of housing.

- d. The changing ability of families to analyze their needs, as they become aware of defects in living and attempt to remedy them.
- e. The improvement in taste in exterior and interior design and furnishings through contacts and education.

3. Culture:

The changes in social and economic conditions beyond the control of the individual or family, and their influence on home life and domestic architecture.

There will be many individual demands on the future home. Individual demands refer to the requirements of the different members in the household. Some of these individual demands are given by Field (7:11-12):

Father's point of view:

- a place to rest up after work
- a place to entertain
- a workshop for a hobby
- a private study
- a store place for valuables--guns, fishing rods, collections, etc.

Mother's point of view:

- a place to work in and to show
- a work place for cooking, sewing, washing, and ironing
- a habit training center for school and adolescent children
- a family community center for fun
- a place for entertaining guests at meals--at games--conversation
- office space for correspondence, ordering, planning, accounts, equipment for care of family's health
- storage space for family property
- storage space for personal property

Children:

Infants:

- space for quiet and isolation
- space and equipment for special infant care

Toddlers:

space for experimenting and learning by
trial and error--free from nagging
play space--running

School children:

play space for jumping, tumbling, play
84 square feet per child
place for equipment--hobbies
place for storage of treasure

Adolescents:

a place to retire for privacy
a place to entertain friends
a place to hide things from the family

These are the things we seek in a home, and if we don't find them there we go elsewhere to satisfy our needs--family interests are dissipated among various outside interests and the family pulled apart until we wake up some day to wonder why the children won't stay home, why mother spends all her time at bridge and study clubs, why father is a golf and bridge fiend and too busy to help with the children's upbringing. They lead to divorce, delinquency, and all sorts of family ills.

Although the many physical aspects of the family must be considered, a number of compromises will be necessary in planning for the future home. These compromises may be listed as follows: (16:55)

1. Compromise between desires and actual needs.
2. Compromise between actual needs and financial restrictions.
3. Compromise between actual needs and resulting space restrictions.
4. Compromise between conflicting family interests and space restrictions.
5. Final compromise, resulting in the plan for a house.

Financing the Home

The question of financing the home is one of the first considerations for the prospective home owner. The home normally should cost two or two and one half times the annual income. If definite plans are not made for meeting not only the original cost but also the expenses of taxes, insurance, depreciation, upkeep and repairs, the family might find itself in a difficult situation.

Cost and value are two elements with which the future home owner should be concerned in studying the problem of home building or home ownership. Cost is the price paid for the house. Value is dependent upon the utility of the house as much as upon the original cost. Gordon and Ducas (10:65) say, "Don't buy if you come under any of the following headings:

If the breadwinner of your family is not sure of continuing to work in the same city in the not-so-distant future.

If the money you put into your house will be needed--in cash--at any given time.

If you expect to get full value for your house, including the money, spent for modernization and repairs, when you sell the house.

If you plan to make money on a rise in land values.

If you are unwilling or unable to pay a certain amount over a period of ten, fifteen, or twenty years for the cost of shelter.

It is necessary, when planning for a home, to examine the yearly income and decide how much can be used for housing. The house will not retain its value over a span of years, and the prospective buyer should be aware of the fact that he must pay rent, even on a house he buys. Rent as used here, means the expenses incurred by purchasing property, other than the original cost. The rent which is paid is composed of the following: (16:68)

1. Interest on mortgage, which in recent years has varied from $4\frac{1}{2}$ to 7 per cent.
2. Interest on amount invested by owner, or the 2 to 5 per cent return which would otherwise come from savings.
3. Physical depreciation, or 2 per cent of the cost of the house.
4. Neighborhood depreciation, or $\frac{1}{2}$ to 1 per cent of the cost of the entire property.
5. Upkeep, or $2\frac{1}{2}$ per cent of the cost of the house.
6. Taxes, or $2\frac{1}{2}$ per cent of the cost of the entire property.
7. Insurance, or $\frac{1}{2}$ of 1 per cent of the cost of the house.

Or, if all the various items are figured carefully and added, it will be found that the average home owner pays 10 per cent of the total cost of the entire property each year in rent in the form of expenses enumerated.

The lot, according to authority, should cost approximately one-fifth as much as the house. "The cost of the house and lot should not exceed two years'

income." (16:67) Current figures, however, show that with government aid and long term loans, families are spending three to three and one-half times their yearly incomes.

A. Assessments

Considerable saving may be made by choosing a home where the tax rate is low. Another point worth considering, however, is the possible future assessments. These might include pavement, sidewalks, curbs, sewers, gas mains, and new boulevards. Gordon and Ducas (10:41) write of these considerations:

Don't buy a house without knowing something about the future assessments. Perhaps your land is in a beautiful section where the roads are nicely graveled and the absence of sidewalks lends a rural touch to the beauty. But after you build your house, the Town Council may vote to give you a pavement and new cement sidewalks and you and your neighbors will pay a large share of the cost. The same is true of sewers, gas mains, electric lights, establishing new parks, cutting new boulevards. Such things are desirable, but you should know about them in advance--or they'll throw your budget off.

B. Title

One factor which is seldom mentioned during the first considerations of a future home is the title. The title to the property should be "searched" by a competent attorney or other qualified agency capable of performing this service. The search should reveal any legal claims against the property in the form of mortgages,

judgments, liens, taxes, assessments, and similar items.

C. Deed

The deed is a legal document which expresses the intention of the seller and buyer and should meet the following requirements: (12:40)

1. It should be properly prepared in writing.
2. It should be made between the proper parties.
3. It should fully describe the property to be conveyed.
4. There should be consideration for the buyer and the seller.
5. There should be a proper and sufficient execution of the document; that is, it must be signed, sealed, attested, and acknowledged.
6. There should be a delivery and acceptance; the mere writing is not operative unless coupled with the delivery by one party and acceptance by the other.

The Neighborhood and Its Facilities

The neighborhood and the facilities available are important considerations to the prospective home owner. A good neighborhood, according to good authority, is one which may depend upon a strong, healthy present and future growth. Field (7:36) says, "Choosing a community is choosing your background. It should fit the family comfortably, being neither too superior in its standards nor too low, if one has the choice. Planned communities in which streets are safe for children, good schools,

playgrounds, and extra-curricular activities offered, opportunities for development of hobbies and talents encouraged, can be of immeasurable help in the bringing-up of children and the enjoyment of a full life by the whole family."

Many factors, according to Johnstone (12:19), should be studied. "You should begin with a study of the separate communities that are within range of possibility. Communities have distinctive character--like people." Decide first whether the general character of the community will satisfy the needs of the family, then investigate the stores, schools, churches, recreational facilities, public utilities, streets, etc. Of course there are the nuisances such as smoke, dust, noise, odors, traffic, etc., which must be weighed against the improvements.

A. Site

Almost everyone feels it would be best to obtain a spacious house and large lot. Some of the advantages and disadvantages of a large lot according to Erickson and Soules (5:36) are:

Advantages of a large building site:

- a) More open space around the house, lawns, flower gardens, etc.
- b) More distance between the house and the road.
- c) More distance between the house and neighboring houses.

- d) More chance for formal gardens, pergolas, and outdoor living.
- e) More playground for children.
- f) Place for raising fruits and vegetables.
- g) More opportunity generally for creating artistic unity between home and surroundings.

Disadvantages of a large building site:

- a) Added investment as a rule.
- b) More unsightliness, if not kept up.
- c) Greater costs in maintenance, if help must be hired.
- d) May take more time than is available and thus become a burden rather than a pleasure.
- e) Raising vegetables and fruits on a city lot is not always profitable and should not be considered as a source of definite income.

Careful deliberation about the present and future possibilities of the community, neighborhood, and site are of utmost importance to the family planning for a home. A few of the more important factors which hasten or retard the depreciation of a neighborhood are listed by Pickering (16:100) as follows:

City planning, zoning, character of occupancy, topography, population trends, transportation, facilities, conveniences, changes in methods of building and styles of architecture and technical developments.

Pickering (16:312) states, "The site would be organized on the same manner that the first floor arrangements were, or for:

1. Circulation: Simplicity and directness.
2. Various activities: Outdoor living, active recreation, children's play and adults' exercise.

Work--Service activities
Hobbies--Vegetable garden
3. Decorative features: Lawn, flowers, shrubs, pergolas.
4. Privacy: Seclusion from curious neighbors and passers-by.

Architecture and Design

Many books have been written on architecture and design, but the average American knows very little of the vast store of information on the subject. Wills (23:6) says, "No matter where you go in this broad land of ours, well designed houses are rare." Design is a very comprehensive term pertaining to the "functional" aspects of a home as well as a pleasing interior and exterior charm. Field (7:22) writes,

A house which is going to be a useful home must be adaptable in the following ways:

1. To weather conditions and seasonal changes.
It should be possible to keep it comfortable all year, and during extremes of heat and cold, or sudden weather changes.
2. To use in sickness and in health.
It should be possible to isolate or quarantine a patient and nurse in case of serious illness.

3. To change in size of family.

Too many bedrooms make the house expensive, hard to take care of, a white elephant when family grows smaller; adaptable arrangement of a minimum number of rooms makes over-building unnecessary.

4. To change in economic condition of family.

It should not be planned so that help in the kitchen is unpleasant or impossible; nor planned so that it is impossible for the housewife to take care of it herself.

If these four items of adaptability are kept in mind when choosing or planning a home, it will be found that a small house with these qualities can do the work of a big house, without half the fuss and bother.

The following safeguards as listed by Ericson and Soules (5:14) are worth while in planning for a home.

a) Make a study of home planning a matter of special concern; as a vocational activity, if not occupationally. Functioning knowledge at this point repays both in satisfaction and in money.

b) Do not become influenced by a desire to be pretentious. Simplicity has its own reward. Mere size and magnitude become disquieting liabilities within a short time.

c) Select the style according to geographical and topographical conditions. Climate and contour of sight should be determining factors in regard to style.

d) Picture yourself living in the home you have planned. In this way, you will realize errors and difficulties in the plans.

e) Learn to read drawings and visualize what they represent; and learn to make sketches and drawings that can be read by others.

f) Plan for the future as well as for the present. Will the home be satisfactory ten years from now?

j) Do not blindly accept the plans and proposals of such experts, however, without analyzing and scrutinizing every feature from your own personal standpoint. Develop an inquisitive frame of mind and demand full explanation of every feature which you do not understand fully. Prepare yourself to know the best and to express your ideas.

o) It is well to provide in the plans the possibility for an addition of one or two rooms to the dwelling without destroying unity of exterior design or fundamental interior arrangement and accessibility. This forethought also affects the location of the house on the building site in regard to distances from property lines.

In planning the architecture and design the fundamental living requirements must receive first consideration. These requirements as discussed by Wills (23: 8-12) are cooking, eating, sleeping, relaxing, child playing, laundering, bathing, storing, hobbying, working, entertaining, and direct access throughout or circulation.

Pickering (16:312), in speaking of planning, says:

The fatigue produced by housework may be reduced to a minimum by:

1. An Efficient House Plan.

Kitchen--convenient in location and size, large enough for informal dining and child play, small enough to reduce unnecessary steps.

Dining area--economical of footsteps at mealtime.

Laundry and storage areas conveniently located.
Adequate vertical and horizontal circulation.
Satisfactory ventilation and natural light.

2. Proper Equipment.

Necessary kitchen equipment.
Adequate convenience outlets.
Labor-saving devices for housework.
Modern laundry facilities.
Efficient heating system, with registers or radiators which are easily cleaned.
Up-to-date lighting and plumbing.

3. Efficient Arrangement of Equipment.

Kitchen work centers sequentially arranged.
Convenience outlets correctly related to work spaces.
Bathroom and laundry fixtures easily reached for use and cleaning.

4. Correct Dimensions.

Rooms adequate in size to permit correct location of furniture.
Furniture correctly related in size to wall spaces and circulation.
Work areas with ample space and correct heights of equipment to reduce stretching and stooping.

5. Adequate Storage Areas.

Storage for supplies, cleaning accessories, clothing, and household linen adjacent to places used, contributing to a sense of orderliness. Areas designed to fit objects to be stored.

6. Correct Materials.

Selection of materials for walls, floors, furniture according to both appearance and function. Ease of maintenance, amount of upkeep, and frequency of replacements are important considerations.

A. Circulation

It is not possible to talk about relationships of rooms without considering circulation. It is probably one of the most important requirements in architecture. The house must be designed in order that the routine steps will be as few as possible. Much depends upon the design of the individual rooms, the location of doors, and the grouping of furniture. Pickering (16:123) writes:

The amount of traffic, in the average home in the order of amount and importance, may be summarized as follows:

1. Between kitchen and dining room.
2. Between dining room and living room.
3. Between bedroom and bath.
4. Between kitchen and living room.
5. Between kitchen and bedroom.
6. Between kitchen and front entrance.
7. Between dining room and bath.
8. Between entrance and living room.
9. Between entrance and bedroom.
10. Between living room and bath.
11. Between entrance and bathroom.

Pickering (16:119) also asks these questions to be considered while planning the circulation.

1. Are the above routes short and direct or lengthy and winding?
2. Do they pass through portions of rooms where circulation is not desired?
3. Do necessary furniture arrangements interfere with easy circulation?

B. Planning for the Different Rooms

As the front doorway is one of the first items noticed by the visitor to the home, it is a fitting

subject for first consideration in design. In a discussion of the different aspects of design in architecture, Field (8:46) writes, "The doorway seems very much like a person recognizing the importance of his guardianship over the household. He may greet the stranger quite simply or with the formality of a dignified old gentleman and, though he may look askance at first, who could be more gracious than he when he stands aside to let me enter!"

"The stairway, the fireplace in the living room, and the main entrance doorway are the natural focal points for architectural accent in the well-designed residence."
(8:56)

Since most of the housework is done in or from the kitchen, it should be centrally located in order to save the housewife many unnecessary steps. The kitchen area should be the smallest of any room for the maximum efficiency and minimum fatigue.

The dining room is an indispensable part of the family living quarters and the amount of space required is dependent upon the eating habits of the family. The location, whether in the kitchen, in the formal dining room or in a portion of the living room, should be such that the distance from the kitchen serving area to the dining table will be short and direct.

The living room must be studied from many angles as it must accommodate the various members of the family for study, relaxation, conversation, entertainment, recreation, and quiet.

Privacy and quiet are the primary essentials of the sleeping area. The location of the bed should be considered first since it occupies the greatest amount of floor space and its location in the room is of greatest importance.

The bathroom should be accessible to all of the bedrooms as well as to the other rooms of the house. It should have one door leading from a central hallway and it should never be necessary to go through any other room to enter the bathroom.

A home should not be considered unless there is ample storage space for a variety of things. The following suggestions are offered by Ericson and Soules (5: 68):

- a) Provide a roomy closet for each bedroom, with ample shelving and rods for hanging clothes.
- b) Every part of "dead space" around stairways, chimneys, etc., should be used for cabinets and closets.
- c) A general closet with a set of drawers should be placed in the central or service hallway.

- d) Have at least one large storeroom, big enough for trunks and boxes; also a cedar-lined cabinet which is "tight".
- e) A coat closet should be placed somewhere near the main entrance to the living room.
- f) Provide for broom closets and for cabinets for cleaning supplies.
- g) Make ample provision for storing soiled clothes for washing.
- h) Provide a place for keeping wood for the fireplace.
- i) Provide a stairway to the attic, even though you think that you will never need it.
- j) Make generous openings in the foundation for storing tools, lumber, bulbs, and many other things. See to it that the builder puts them where they belong.
- k) Ventilate all closets and storerooms as much as possible.

The laundry and service room will need to serve a number of purposes. In this room there will be storage space for the washing machine, laundry tubs, and probably the hot-water heater. It should be well lighted and readily accessible to the clothes drying yard.

Landscaping

Planning for the landscaping of the property should be left to a person with experience, who knows what should be done. According to Daniels (3:51);

A sum of money should be set aside for the improving of the site. . . . It is the practice of some operative builders and some home owners to purchase some "gallon can nursery stock" and place it around the house for effect. More harm is done than good as a good neighborhood may be unsightly in a short time if improperly landscaped.

The Federal Housing Authority (14:273), in a review of experience in low-rent housing, states,

In the landscape work the preparation of the soil and the drainage system are essential for successful planting and low maintenance costs, so if any part of the landscape program must be curtailed in order to keep within the budget, the number and size of the plantings should be the first items to be reduced.

Construction Details

A. Entrance

The doorway and its immediate surroundings form the center of interest for the approaching visitor. The walk leading up to it, the plantings, lighting fixtures, etc., all combine to form the first impression. Johnstone (12:55) says, "From the outside the main entrance should be well defined and easy to reach."

B. Porch

If the house has a porch extending beyond the foundation of the house, the piers should be set on a solid footing or foundation. Any wood in contact with the ground must be chemically treated to prevent rot. If the

space under the floor is enclosed by a masonry wall, there must be ample ventilation to prevent decay of the structural members under the porch. The floor of the porch should slope outward for drainage and the base of any hollow columns should be open to allow for drainage and ventilation.

C. Foundation

"It is upon the foundations that the strength of the entire structure depends, both literally and figuratively." (16:324) The condition of the soil and the weight of the house will determine the type of foundation necessary. There are a few commonly accepted practices which, if not followed, will result in settling, cracked walls, and wet basements. "Concrete walls and floors, no matter where found, should have the following qualities:"

(16:324)

Adequate strength under compression and under tension in bond with steel reinforcement.

Resistance to wear and to weather, secured by a hard, dense, impervious mixture.

Proper appearance of exposed surfaces.

D. Footings

The footings are the continuous concrete bases on which the walls of the foundation rest. "All foundations should have a footing about twice their width."

(17:80) The footings should be flat-bottomed in order

to offer even support for the wall and prevent uneven settling. For the average small house a thickness of 8 inches is sufficient.

E. Drainage

For the best types of construction there will be underfloor drains placed, as the name implies, under the basement floor, and subsoil drains installed around the outside of the basement wall near the level of the basement floor. These are to carry off ground water before it gets into the basement. The basement should also have floor drains which, along with the other drains, should connect to the sewer or cesspool.

F. Basement

The basement floor is usually of poured concrete. "It should be smooth, free from excessive wear, cracks, breaks, or sandiness, and should slope uniformly to a floor drain." (12:86) The basement walls may be of concrete blocks, brick, poured concrete, or stone. All of these are suitable but special treatment on the outside must be given to make them waterproof. For the average small house the basement walls should be at least 8 inches thick.

G. Sill

The foundation sill is the plank or timber forming the base of the wall. It should be firmly fastened to

the basement wall or foundation with bolts set into the masonry. The sill furnishes a means of securing the superstructure to the foundation and provides a nailing surface for the joists. Between the sill and the masonry wall should be placed a termite shield of rust-resistant metal.

H. Girders

"A girder in small-house construction is a large beam, at the first-story line, which takes the place of an interior foundation wall and supports the inner ends of the floor joists." (6:16) In general, if a building is wider than 14 feet, it is desirable to have a girder. It may be of wood or steel. If the girder is of wood, the laminated type, made up of two or three pieces of joist material nailed together, may be used.

I. Joists

The joists furnish the support for the floors. Joist sizes, like girder sizes, are dependent upon the length of the span and upon the load they are required to carry. The floor joists should be no less than 2 by 8 and should be no more than 16 inches on centers. Failure to use joists of sufficient size is sometimes the cause of sagging, squeaking floors that seem insecure under foot.

Floor joists are often seriously weakened by

mechanics when they are installing the plumbing and heating systems. When it becomes necessary to cut away one or more floor joists, the strength lost by this cutting must be regained.

J. Bridging

The importance of bridging the floor and ceiling joists can hardly be over-emphasized. Herringbone bridging (X-bracing) between the joists keeps them in alignment and distributes to all of the joists any exceptionally heavy loads or sudden jolts that may be applied directly above one or two of them. Herringbone bridging should be of 1 by 3 or 1 by 4, securely nailed, and should be placed in rows not more than 8 feet apart. "If joists have a span of more than 10 feet, at least one row of bridging should be introduced to add stiffness to the floor." (6:76) "Tests have been made showing that it takes 3 times as much weight to make a floor joist sag if it is bridged than if it has no bridging." (21:30)

Solid bridging, made of joist material, may be nailed between the joists and at right angles to them. Solid bridging will help to keep the joists in position but will not distribute the weight as does the herringbone bridging. It will, however, act as a fire stop.

K. Floors

To give strength to the structure and a better

foundation for the finish floor, a sub-floor should be laid diagonally over the joists. The sub-floor increases the strength, serves as a platform during construction, assists in deadening sound, helps to insulate, and helps prevent dust from rising from the basement to the first floor.

The finish floor, the final step in building a house, should be done by experts, as the best flooring can be ruined by poor workmanship. It may be either hardwood or softwood, but the first is preferable. A layer of building paper should be placed between the sub-floor and the finish floor as the latter is laid.

L. Studding

The studs are the vertical members of partitions and outside walls. They are made of 2 by 4 material and placed 16 inches on center. Their purpose is to support the weight of the upper floors and provide a framework for sheathing and finish on the outside and the wall covering on the inside. The studs should be nailed both to the lower plate and to a double upper plate. The ceiling joists should rest on a double plate on top of the studs, or on a ribband cut into the studs.

M. Interior Wall Coverings

Plaster is a popular method of interior wall finishing. It should consist of at least two coats and

preferably three coats: scratch, brown, and white. The absence of cracks in the plaster of a house a year or more in age is a good indication of a house well built.

During recent years the popularity of dry wall covering in the form of wood paneling, decorative insulating boards, plywood, and gypsum board has been increasing. The use of dry interior wall covering eliminates moisture in construction and may cut down the time needed for building.

N. Interior Trim

The trim or woodwork includes the casings around doors, windows, and other openings, the baseboard, moldings, and panelings. A contractor invariably assigns his best craftsmen--finish carpenters--to this work because it is all conspicuous.

O. Doors and Windows

The doors and windows, as well as the interior trim, require the best of well-seasoned lumber. "When properly seasoned and properly joined and fitted, they will 'stay put' through all the many variations of temperature and humidity to which they may be subjected." (22:55)

The most common types of windows are the double-hung, the casement, and the fixed-sash. Double-hung windows are those in which the lower section moves upward and the upper section downward when the window is closed.

Casement windows are generally hinged at the side, but may be hinged at the top or bottom, and may swing in or out. Fixed-sash windows are stationary and have no provision for opening.

P. Stairs

Stairs should be stiff, level, and true, with no indication of settlement, vibration, or movement underfoot. Any departure from this description is evidence of structural weakness. "All risers should be exactly the same height. A small variation will cause tripping. A stair which rises more than $7\text{-}\frac{3}{4}$ inches for a tread of 10 inches is too steep and consequently dangerous." (12: 94) There should be adequate headroom over the stairs, a clearance of 6 feet 4 inches or more.

Q. Attic

If the attic is to be used for storage space, precaution should be taken to avoid the danger of overloading the ceiling joists. There should be louvers or openings in the attic to insure proper ventilation.

R. Roof

The rafters are the structural members which support the weight of the roof. They must be firmly secured at the base to the double top plates on the top of the stud sections. At the peak of the roof the rafters should be reinforced by a rigid board which will hold them firmly.

"A 2 by 6 is satisfactory for the average small house about 24 feet wide. The rafters are usually spaced on 2-foot centers, and wider spacing is undesirable if the roof boards are only 1-inch thick." (12:94)

Solid sheathing gives the best results for all types of roofing. The sheathing will furnish some bracing as well as a foundation for the roof covering.

For the average house, there is no better, no more economical roof covering than wood shingles, properly applied. Of course the style of house, pitch of its roof, and the weather conditions are basic factors in deciding on the type of roof covering to be used. According to the Federal Board for Vocational Education (6:142):

Wood shingles come in four lengths, and on a roof of good pitch should be laid with the following exposure to the weather:

Shingles 16 inches long, 5 inches to the weather.
Shingles 18 inches long, $5\frac{1}{2}$ inches to the weather.
Shingles 24 inches long, $7\frac{1}{2}$ inches to the weather.

Composition shingles of asphalt and felt, and roll roofing are satisfactory and widely used. The work should be neat in appearance, and the shingles should not be warped or curled. If this type of roofing is used the roof must be tightly sheathed.

S. Exterior Walls

The sheathing is nailed directly to the framework

of the walls and if placed diagonally will produce much greater strength and stiffness than if placed horizontally.

The outside covering of the house is applied after the door and window frames have been set. It may include wood siding, shingles, shakes, brick veneer (a single layer of bricks over wood sheathing) or stucco. All of these are good if properly used.

Solid masonry walls are self supporting and carry the entire load of the structure above. A stucco-surface may be applied to a masonry wall, a veneered wall, or a frame wall. Stucco walls are more satisfactory in localities having a dry climate.

T. Chimney

The brick chimney should be built around a tile or terra cotta flue lining, and each side should be not less than 4 inches thick. If the flue lining is omitted an additional 4 inches must be added on each side for adequate fire protection. No wooden beams, joists, or rafters should be placed within 2 inches of the outside face of the chimney. It should never be considered as just another prop to which to fasten the members of the frame of the house. The chimney should be set on a good footing and should extend at least two feet beyond the peak of the roof.

U. Fireplace

A properly built fireplace will always be a source of comfort and pleasure. The fireplace as well as the chimney must be set on an adequate footing to prevent settling. The spaces between the fireplace material and the frame of the house should be no less than 4 inches and should be filled with some fireproofing material. An ash drop should be provided, equipped with a small metal door in the hearth floor and a metal cleanout in the basement or on the outside. This latter permits removal of ashes more conveniently than through the living room.

V. Painting

The paint, both exterior and interior, should be applied in at least two and preferably three coats, each one allowed to dry well before the next one is applied. It is false economy to try to save money by using cheap paint. According to Burbank (2:237):

Interior finishing differs from exterior chiefly in that interior woodwork usually requires much less adequate protection against moisture and that more exacting standards of appearance and a greater variety of effects are expected. Good interior finishes should last much longer than exterior paint coatings, but no interior finish should ever be used out of doors.

W. Flashing, Gutters, and Down-spouts

Flashings are made of strips of rust-resistant

metal, and should be nailed over all parts of the roof where leakage might occur--where the chimney comes through the roof, along the valley caused by a gable in a roof, around corners, etc.

The gutters should carry all the water from the roof to the down-spouts which in turn carry it into a drain or sewer line. The down-spout should not end above the ground unless some method of sufficient drainage is provided to take the water away from the foundation.

X. Plumbing

The first clue to whether the plumbing has been satisfactorily designed and installed is its successful operation. The plumbing has to do with sanitation, both personal and household. Its purpose is to bring in and distribute to the fixtures the supply of hot and cold water and to remove waste water and sewage.

The plumbing should be installed only by experts. The horizontal drain pipes should slant slightly away from the fixture. Each joint in the drain pipe should first be caulked with oakum and then filled with melted lead to make an odor-proof and leak-proof joint. The pipes should not pass through the joists unless adequate provision has been made to repair the weakened joints to their original strength.

Y. Heating

There are many factors to be considered in the selection of an efficient heating system. Burbank (2:273) writes:

The type of system chosen will depend upon

- (1) adequate capacity in relation to the severity of the climate;
- (2) the shape and plan of the house and its effect upon the heat distribution system;
- (3) plan layout affecting the location of the equipment;
- (4) the quality of the construction of the house;
- (5) the degree of convenience and comfort demanded, and
- (6) the fuel to be burned.

Z. Insulation

Insulation is the placing of non-conductors of heat and sound between the studs and between the joists, thus saving fuel in the winter and making the house more livable in summer. The insulation helps to keep a more even temperature inside the house the year around.

Insulating materials may be divided into four classifications: flexible, rigid, fill, and reflective. "Regardless of the type used, there are five important requirements for permanently effective insulating material. First--high efficiency; second--moisture protection; third--protected against air infiltration; fourth--permanent application; fifth--fire resistant." (22:43)

The following statistics on insulation are given by the United States Department of Commerce (13:56): "Adding $\frac{1}{2}$

inch insulation saves 20 to 30 per cent of fuel. Adding 1 inch insulation saves 30 to 40 per cent of fuel."

Evaluation of the Many Aspects of Home Ownership

As an evaluation of practical considerations of home ownership, Smith, Chief Architect of FHA (18:xi-xii), lists fifty don'ts for the prospective small home builder.

1. Don't plan to spend more than twice the average yearly income of your family for a house and lot.
2. Don't buy a lot without obtaining a clear title and a written guarantee from the seller that you will not be burdened with future assessments for paving of roads, sewer installations, or other land improvements.
3. Don't buy a lot which is not served by electricity and a public water system.
4. Don't buy a lot, the location of which makes it subject to damage by floods or other elements of a destructive nature.
5. Don't buy a lot where subsoil conditions make wet basements a possibility.
6. Don't buy a lot which is not protected by suitable recorded restrictions and which is not in close proximity to transportation lines, schools, churches, streets, etc.
7. Don't buy a lot which, on account of its size, may become burdensome in its proper upkeep.
8. Don't buy a lot, the contours of which will make the location of the house a difficult and costly problem.

9. Don't plan your house without the complete service of a competent architect or when not available a dependable plan service which provides for personal supervision.
10. Don't obtain plans which do not conform to building codes, fire restrictions, and sanitary laws covering the proposed site.
11. Don't locate your house on the lot or determine its floor elevations in relation to finished grade levels without the presence of your architect or his agent.
12. Don't plan your house without giving consideration to the orientation of the living room and cross ventilation for the kitchen and bedrooms.
13. Don't place your house high out of the ground for the sake of natural light for your basement or the possible saving in the cost of excavation.
14. Don't plan half or part basement when a full basement costs no more.
15. Don't build areaways and exterior bulkheads unless adequate drainage for each can be provided.
16. Don't allow finished grading to slope toward foundation walls.
17. Don't locate house close to side lot lines or far back from street when the rear of the lot can be attractively developed for gardening.
18. Don't place garage at back of lot when a location nearer the street will save cost of extra driveway and its maintenance.
19. Don't provide for a detached garage when an attached one can be made more serviceable and lend greater breadth to the house.

20. Don't open garage doors to the back or side unless required to by deed restrictions or other regulations.
21. Don't locate garage away from service side of the house.
22. Don't make garage so small that it will not provide adequate space for garden tools, lawn mowers, bicycles, etc.
23. Don't design a house, the exterior of which will not be in character with the neighboring houses.
24. Don't plan other than a square or rectangular shaped house unless circumstances make it necessary.
25. Don't design or build false gables.
26. Don't plan for more than one chimney.
27. Don't plan false fireplaces.
28. Don't locate chimneys in roof valleys.
29. Don't design and build complicated roofs.
30. Don't design long sweeps of roofs with only an exterior false wall to carry the lower portion.
31. Don't build exterior false walls with arches or openings unless they have a real purpose.
32. Don't use a variety of materials on the exterior which increases the cost and tends to make the elevations restless.
33. Don't use different size window sash unless room use demands it.
34. Don't use materials on exterior which do not provide adequate resistance to the elements common to your locality.
35. Don't use a variety of color when painting your house.

36. Don't use unseasoned lumber.
37. Don't use second grade materials.
38. Don't try to save money by buying materials other than through your contractor.
39. Don't allow a complicated floor plan.
40. Don't allow for hall space other than that necessary to obtain privacy in passing from one room to another.
41. Don't cut up wall space with openings so that furniture cannot be suitably located.
42. Don't arrange rooms so that one has to pass from one bedroom through another room to reach the bath.
43. Don't plan your rooms so that unnecessary corners are required.
44. Don't dimension rooms so that you cannot take advantage of standard lengths and stock sizes of structural materials.
45. Don't design your house so that you cannot use stock mill work wherever required.
46. Don't design complicated stairways, but provide direct runs as will tend to simplify floor framing even though it be necessary to use stair winders.
47. Don't start construction work until heating, plumbing, and electrical plans have been carefully worked out in conjunction with framing plans.
48. Don't locate plumbing fixtures in a manner as will demand unnecessary runs of pipe.
49. Don't use new materials, new methods of construction or mechanical equipment which have not been approved by a recognized laboratory or which have not proved themselves by continued usage.

50. Don't fail to put into writing all contracts, agreements, or requests for possible changes with your architect, builder, or others connected with the construction of your house.

CHAPTER III

THE STUDY

After a critical examination of reference material, the summary and comments of which are found in Chapter II, it was decided that pertinent information on the problem might be learned by questioning the home owners and building contractors of the city. The data received from the questionnaires were recorded and classified. The findings are included in this chapter in graphic form on the following pages. Many comments and opinions were given on the different phases of the study by various ones answering the questionnaires.

Results of the Questionnaires to Home Owners

The following tables and suggestions have been compiled from the data obtained from interviews and questionnaires to the home owners of Corvallis, Oregon. For the purpose of the first part of this study, diagrams I and II, the city of Corvallis was divided into four sections. The divisions were made with reference to the home types in the different sections of the city. The homes chosen were one family units and questionnaires were taken to a representative group of 25 home owners in each section. In diagrams I and II the four areas are

compared on the following items: the age of the house, the length of time owned by the present owner and the number of people living in each home.

The homes chosen, as well as the four areas studied, are shown on the map in the appendix.

Many of the questions in the questionnaires were answered by "yes" or "no". In the compilation of data only the "yes" answers were recorded. The "yes" answers to the questions in diagram V are recorded on the right side of the graph. Tabulations made of those who have had trouble with the item mentioned in their present home are on the left side.

The results of the second questionnaire to home owners are tabulated in diagram VI. The following list is made up of the items which the average home owner would include if he were building another home. The items chosen were answered positively by 70 per cent or more.

Architectural services

Living room

Dining room

Three bedrooms or more

Breakfast room or nook

Laundry and service room

Basement

Pass hall from the kitchen to bedrooms without passing through the living room.

Storage space for

- Household cleaning appliances
- Linens and bedding
- Towels for bathroom

Storage space for

- Medicines
- Card tables and game boards
- Soiled linen
- Seasonal clothes
- Books and magazines
- Extra dishes
- Fireplace wood
- Garden tools

Pipe furnace

Thermostatic control

Fireplace

Electric water heater

Electric range

A place for a vegetable garden

Flower garden

Play yard

Paved driveway and service walks

Clothes drying yard

Good drainage for the lot

Poured concrete foundation

Herringbone bridging

Diagonal sheathing for subflooring

Oak floors

Plaster

Building paper between sheathing and siding

Insulation in walls and ceiling

Flashing around windows

Flue-lined chimney

Nickel-chromium plated exposed plumbing

Inlaid linoleum in kitchen

Inlaid linoleum on bathroom floor

Doorbell or chimes

Breaker switches or fuse box in the house

Lights in the closets

Built-in mail box

Public transportation

City police protection

City mail service

City sewage

Telephone service

Electricity

City water

City fire protection

Results of the Questionnaire to Contractors

The opinions of the building contractors of the city on certain phases of consumer knowledge are compiled in diagram VII.

The final diagram, number VIII, is the comparison of the opinions of home owners and contractors regarding the question of introducing into the high school curriculum a course giving consumer information for home owners. The results show that 79 per cent of the contractors and 65 per cent of the home owners think that this should be done. Some of the comments written about this problem are given as follows:

Yes, but not a separate course. Incorporate it in industrial arts and home economics classes.

Yes, I think it would be a great help. It would give an idea of value, of what to look for, a knowledge which would be beneficial to all.

Good idea!

I think it would be very beneficial, and very well liked by the students.

Yes, if there is time for it to be properly done.

Yes, but better still in college.

Yes, possibly in connection with some other course such as home economics for girls and industrial arts for boys.

Desirable but probably not ready for it.

Not in high school, but made available to interested people along the same line as the extension courses are given.

No, but definitely in college.

No. The age group too young to be much interested in such things.

No. Experience and interest at low point regarding consumer information for home owners.

No. Not enough students would be interested at that time to warrant the time and expense.

The following diagrams show the results of the questionnaires from 100 representative home owners in Corvallis, and the opinion of the building contractors in the city.

Diagram I

HOW MANY PEOPLE LIVE IN EACH HOUSE?

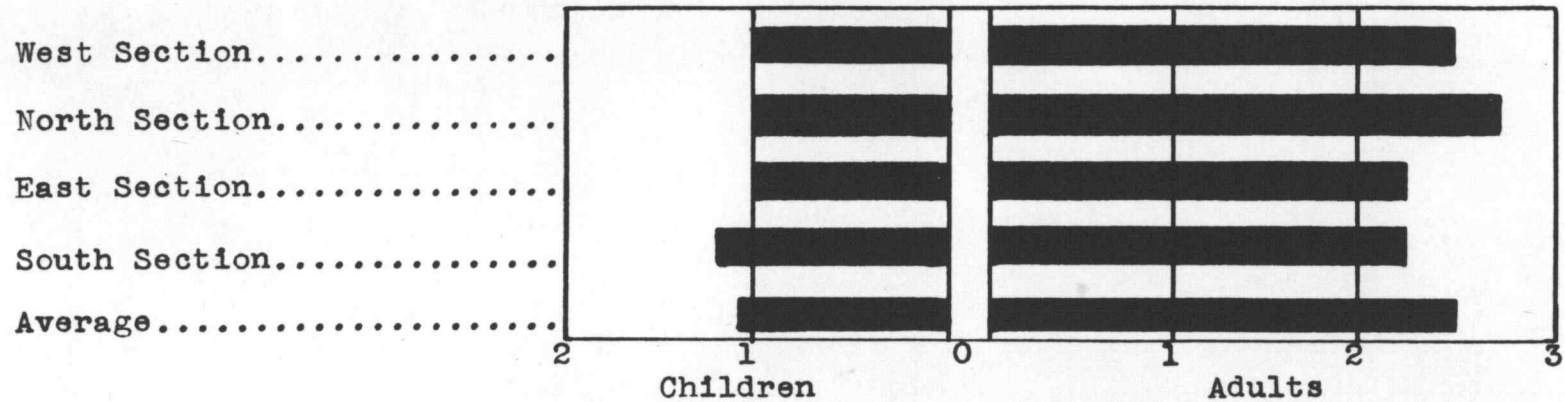


Diagram II

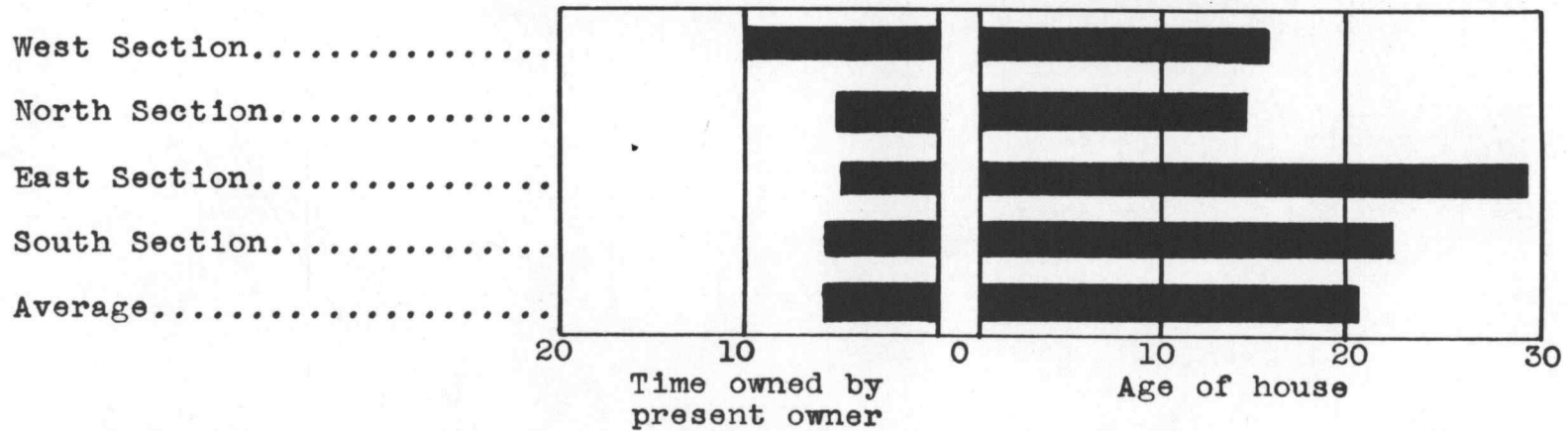


Diagram III

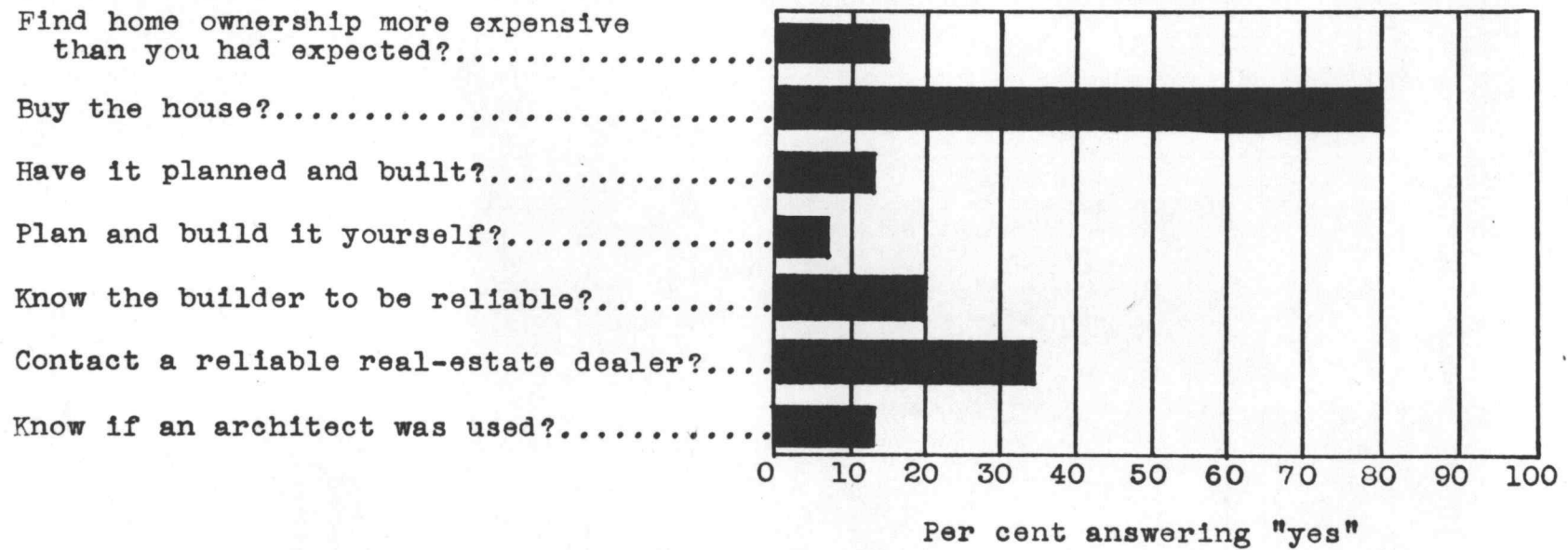


Diagram IV

AT THE TIME YOU PURCHASED YOUR HOME DID YOU KNOW HOW TO DO THE FOLLOWING?

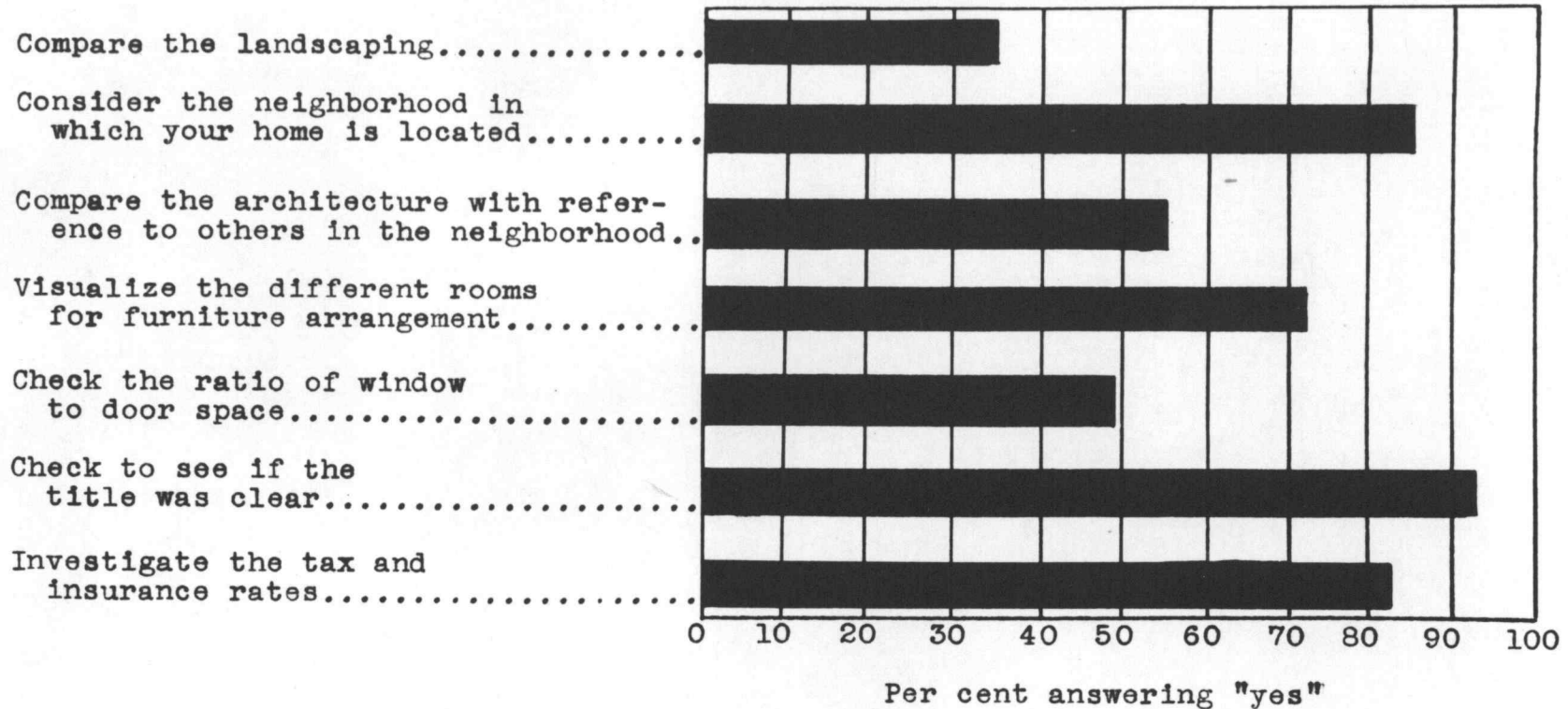
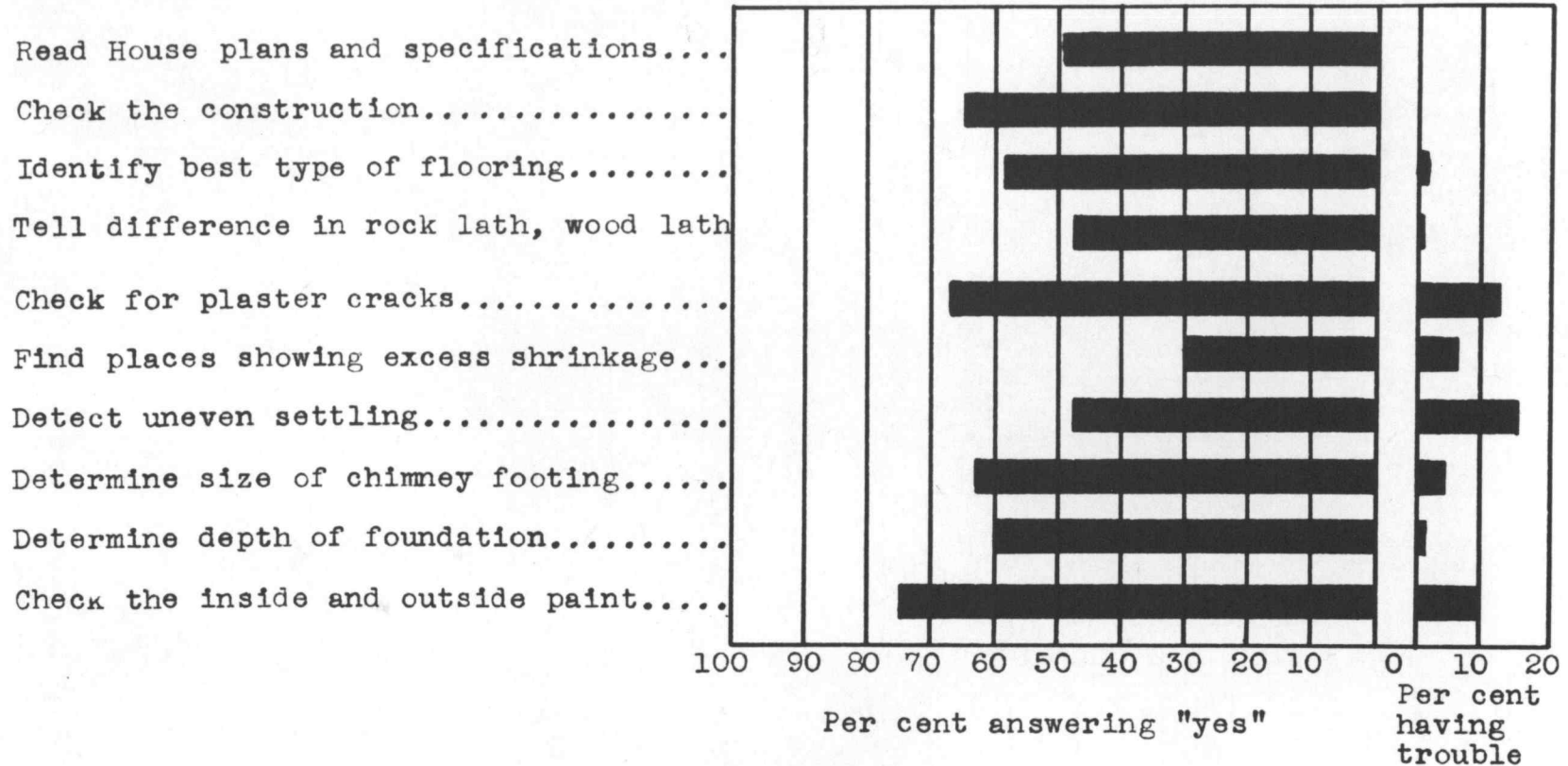


Diagram V

AT THE TIME YOU PURCHASED YOUR HOME DID YOU KNOW HOW TO DO THE FOLLOWING?



(Continued)

Diagram V (Continued)

AT THE TIME YOU PURCHASED YOUR HOME DID YOU KNOW HOW TO DO THE FOLLOWING?

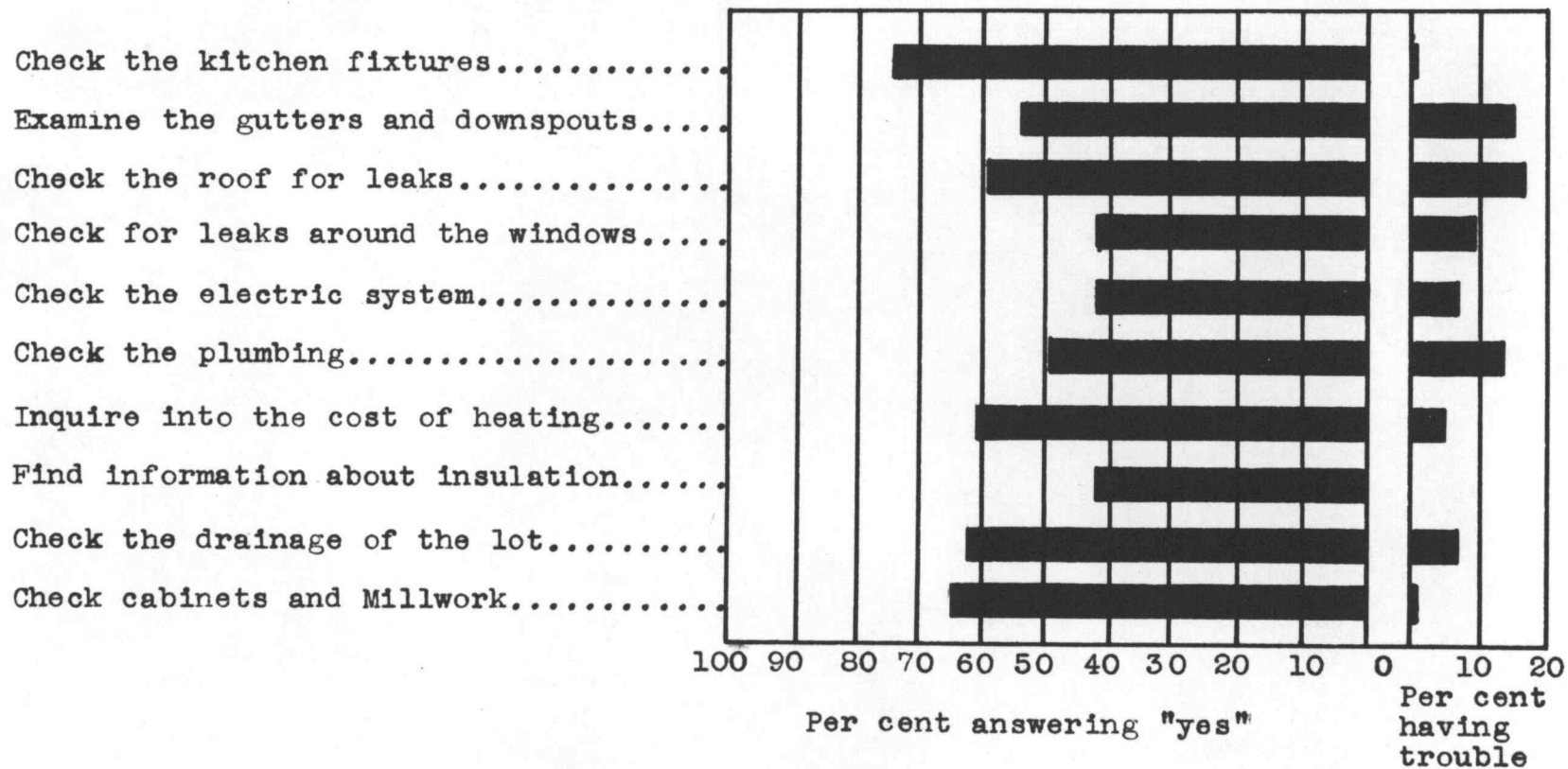
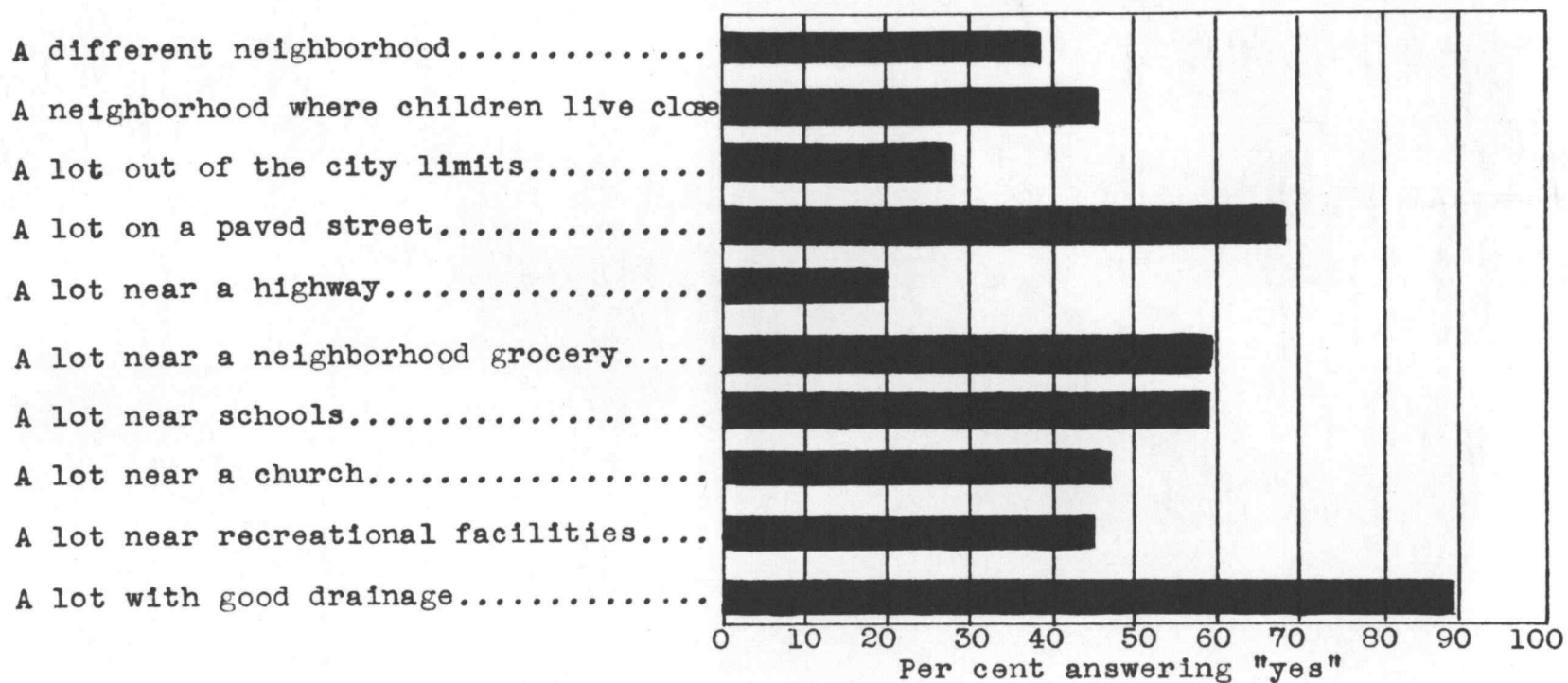


Diagram VI
NEIGHBORHOOD

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

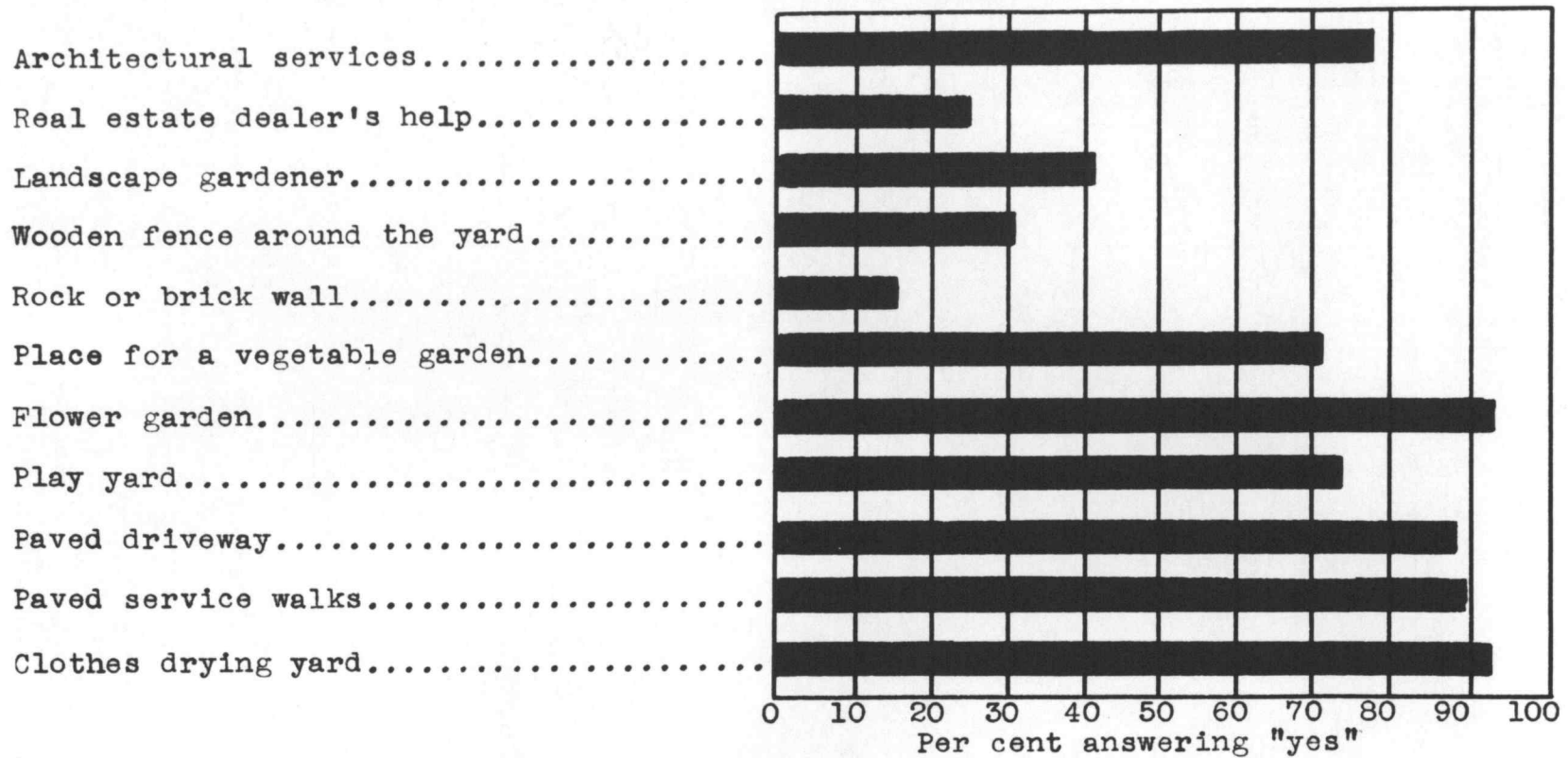


(Continued)

Diagram VI (Continued)

ARCHITECTURE AND DESIGN

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

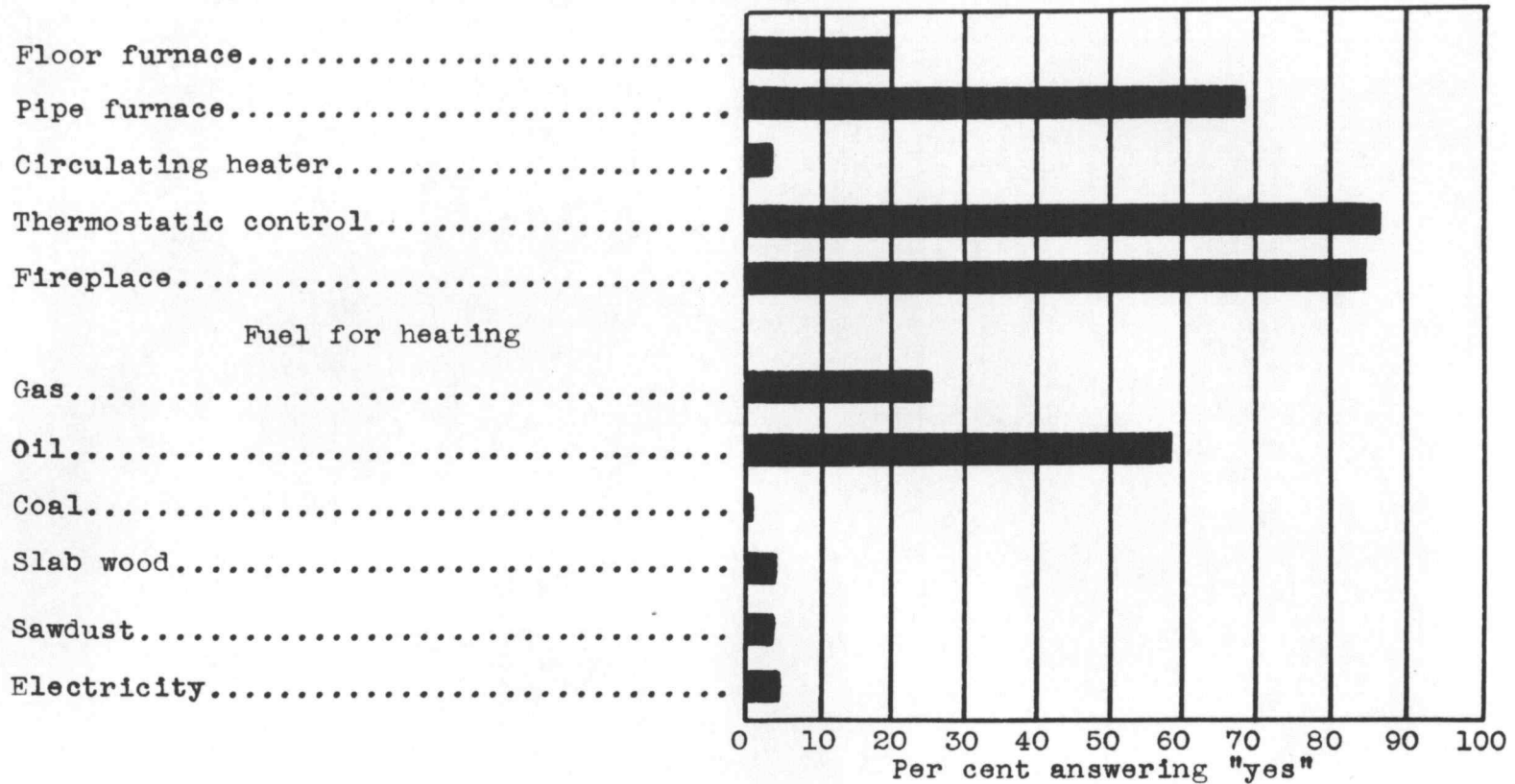


(Continued)

Diagram VI (Continued)

HEATING PLANT

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

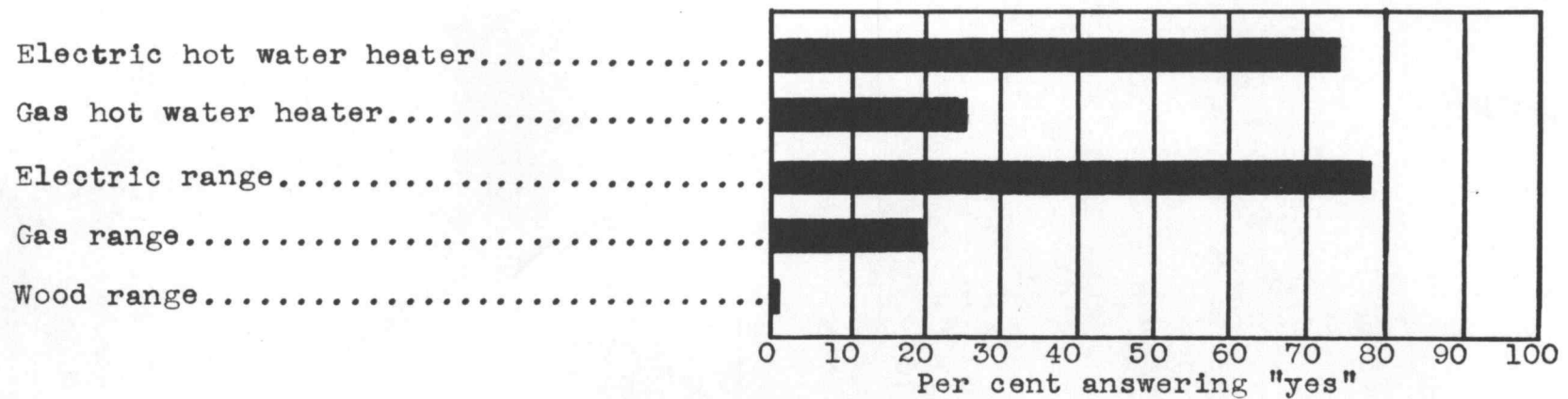


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Diagram VI (Continued)

COOKING AND HOT WATER

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

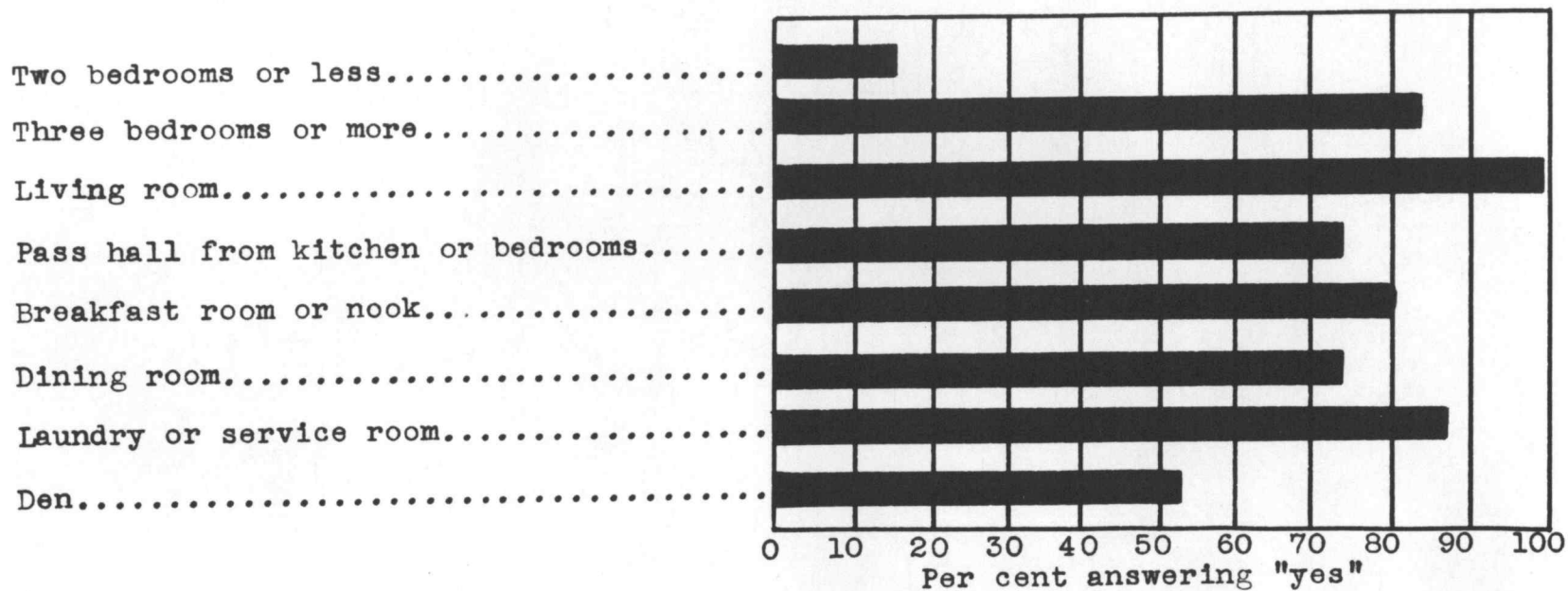


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Diagram VI (Continued)

ROOMS

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

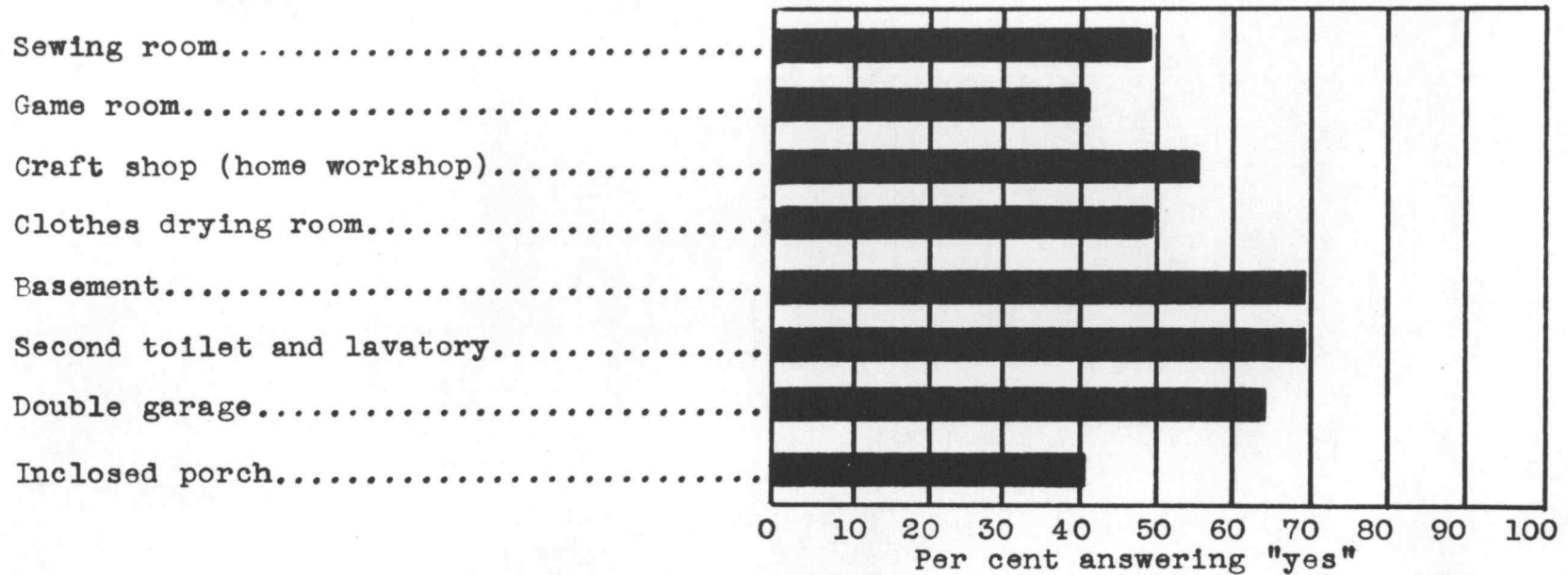


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Diagram VI (Continued)

ROOMS

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

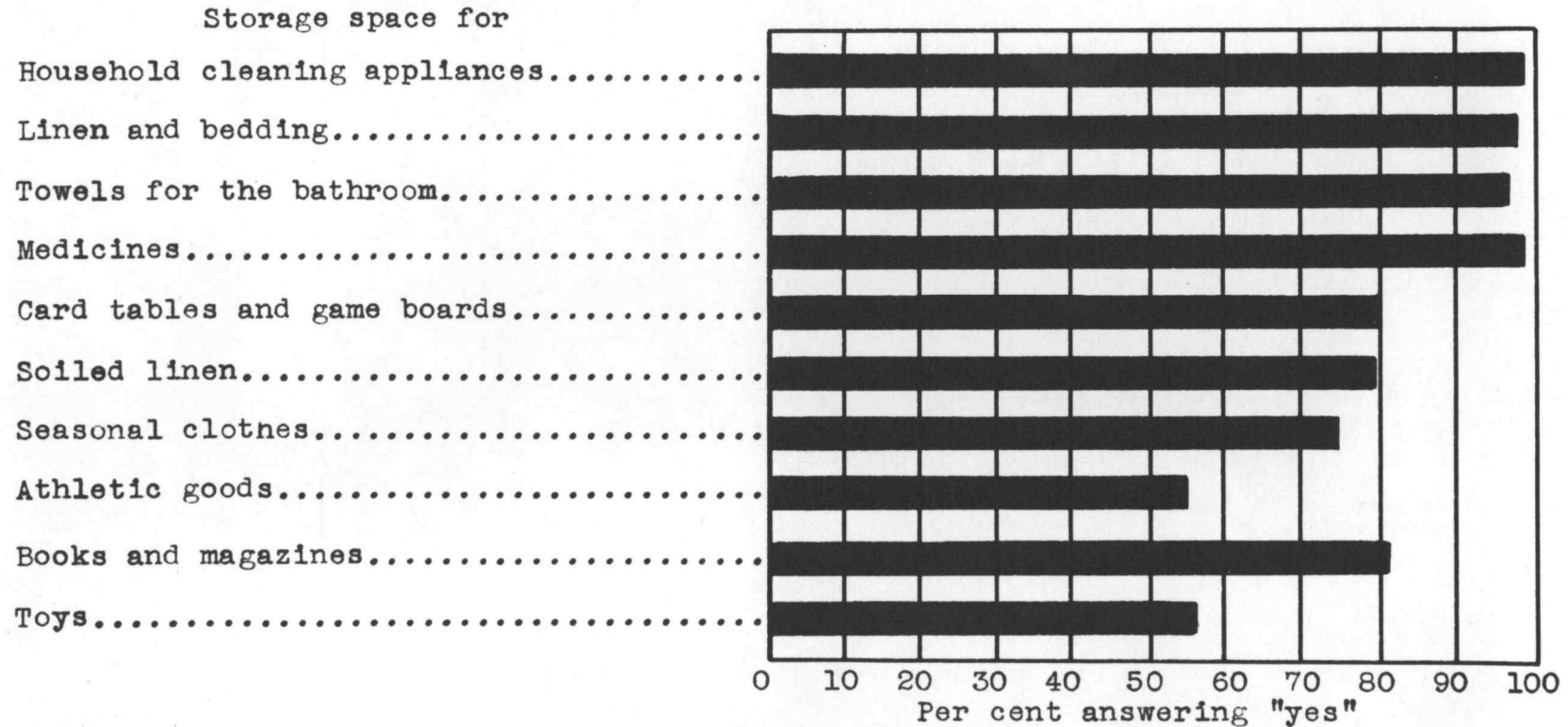


(Continued)

Diagram VI (Continued)

STORAGE SPACE

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:



(Continued)

Diagram VI (Continued)

STORAGE SPACE

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

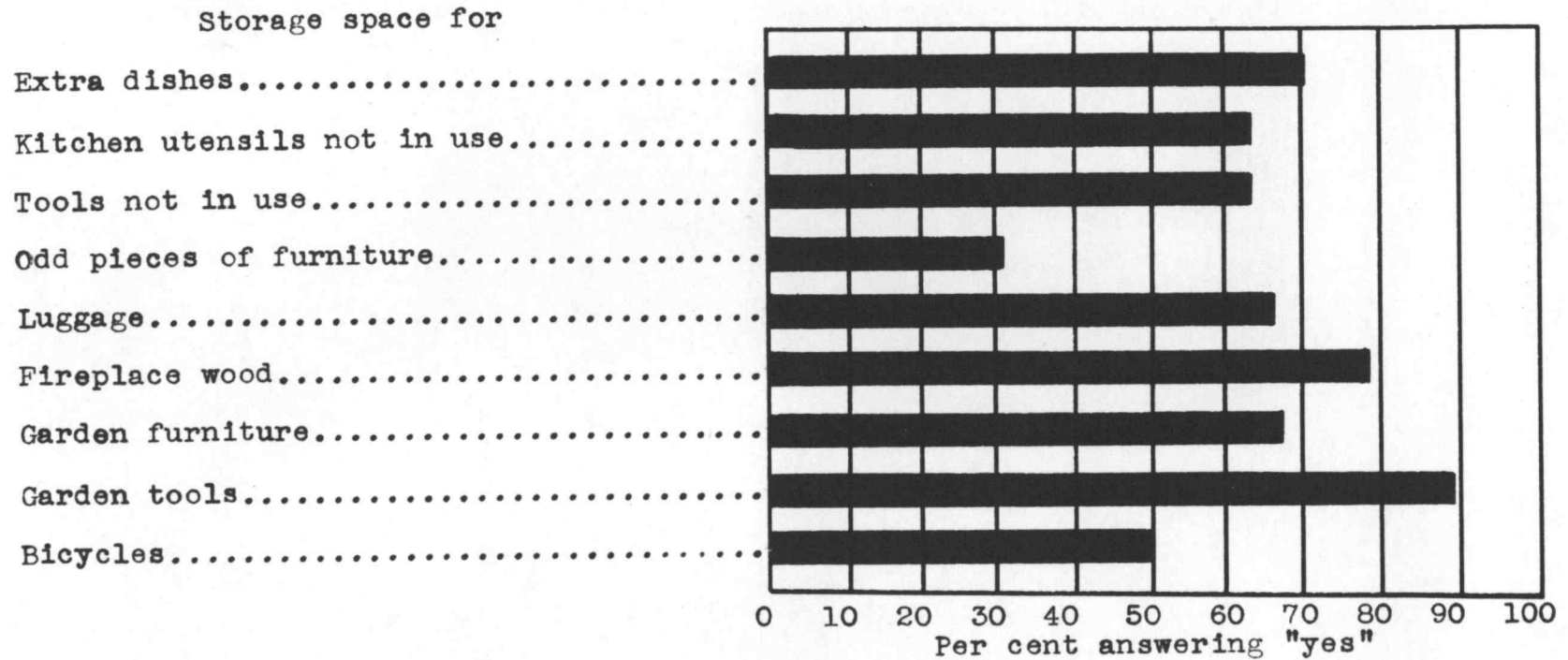
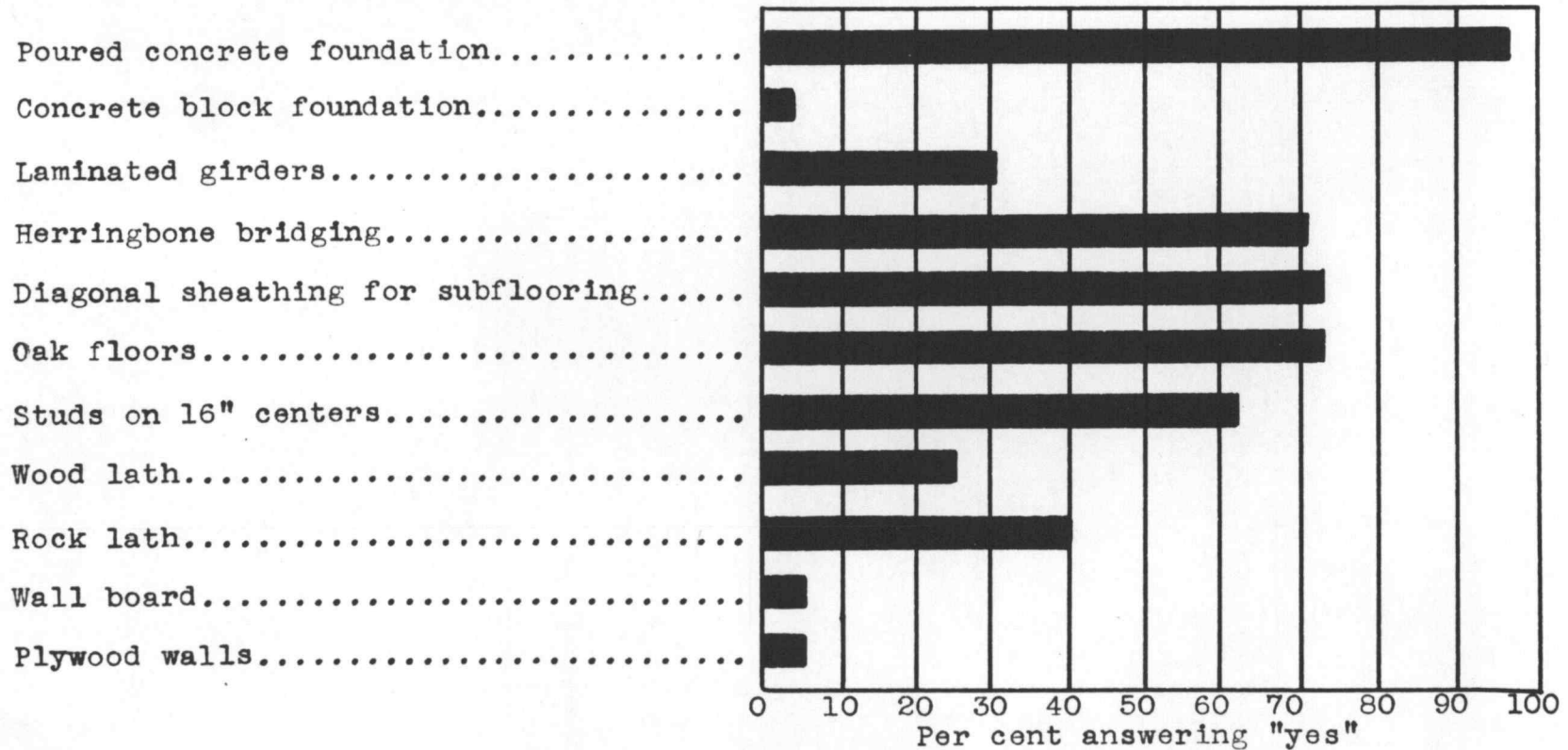


Diagram VI (Continued)

CONSTRUCTION DETAILS

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

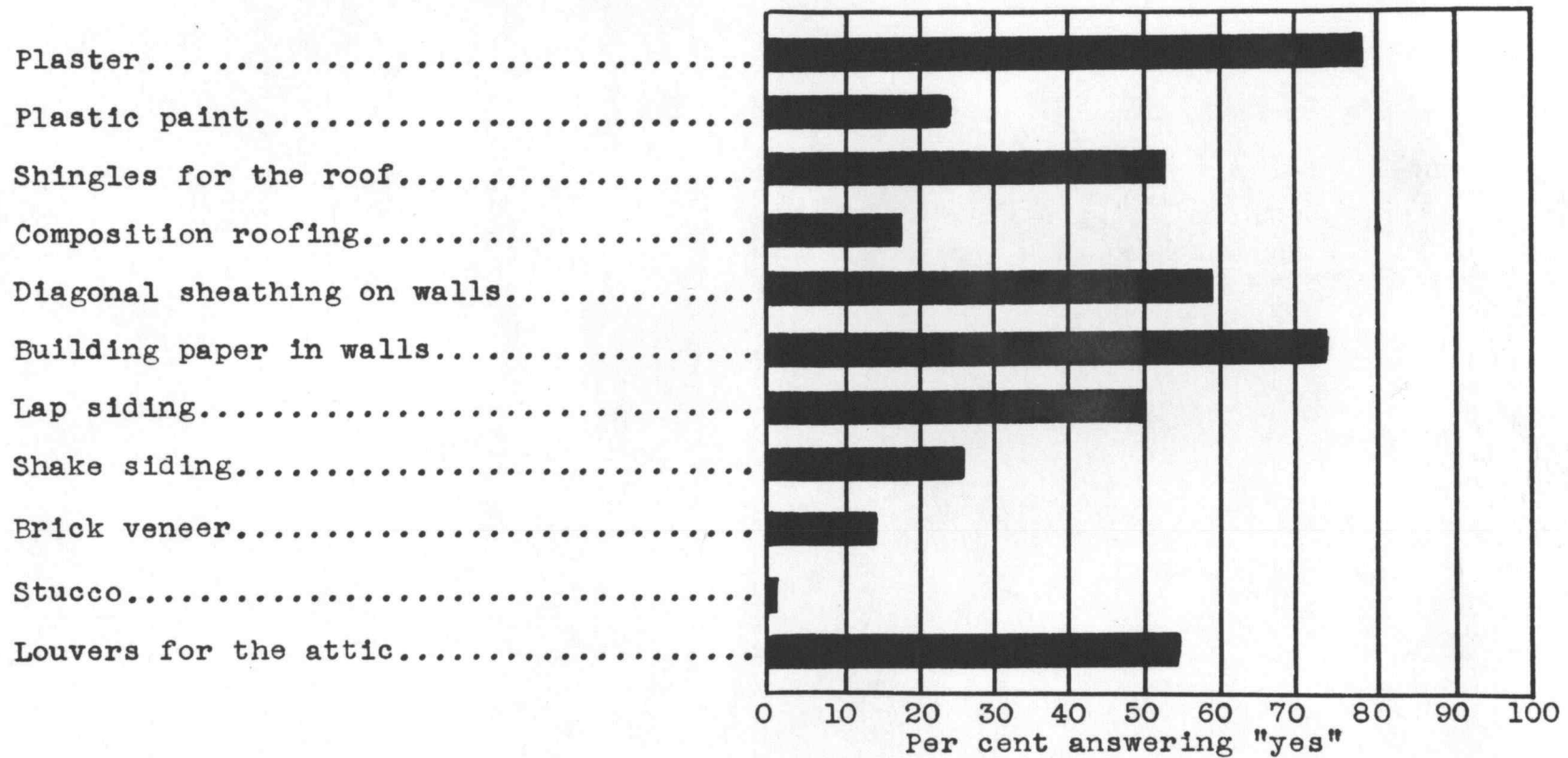


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Diagram VI (Continued)

CONSTRUCTION DETAILS

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

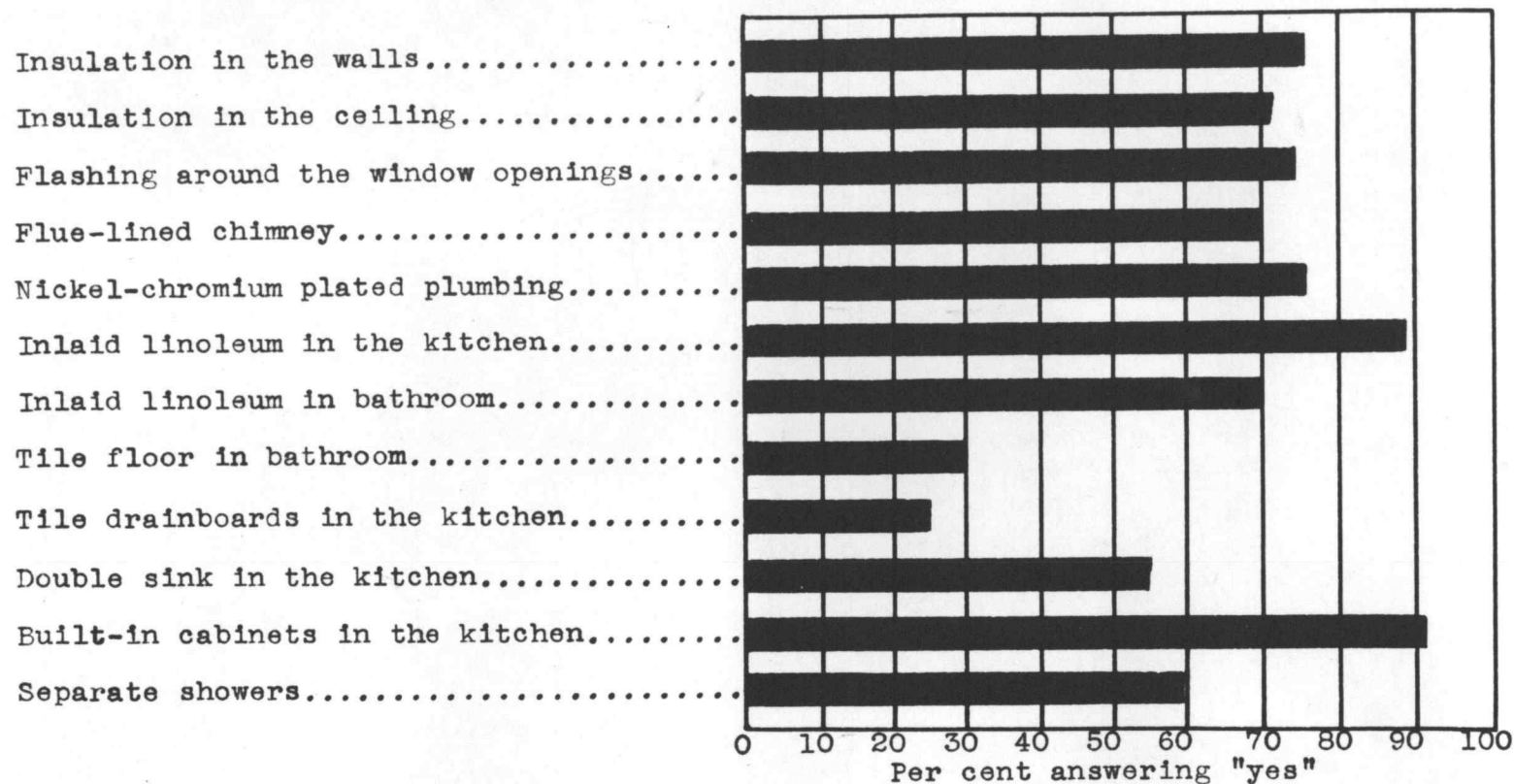


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Diagram VI (Continued)

CONSTRUCTION DETAILS

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

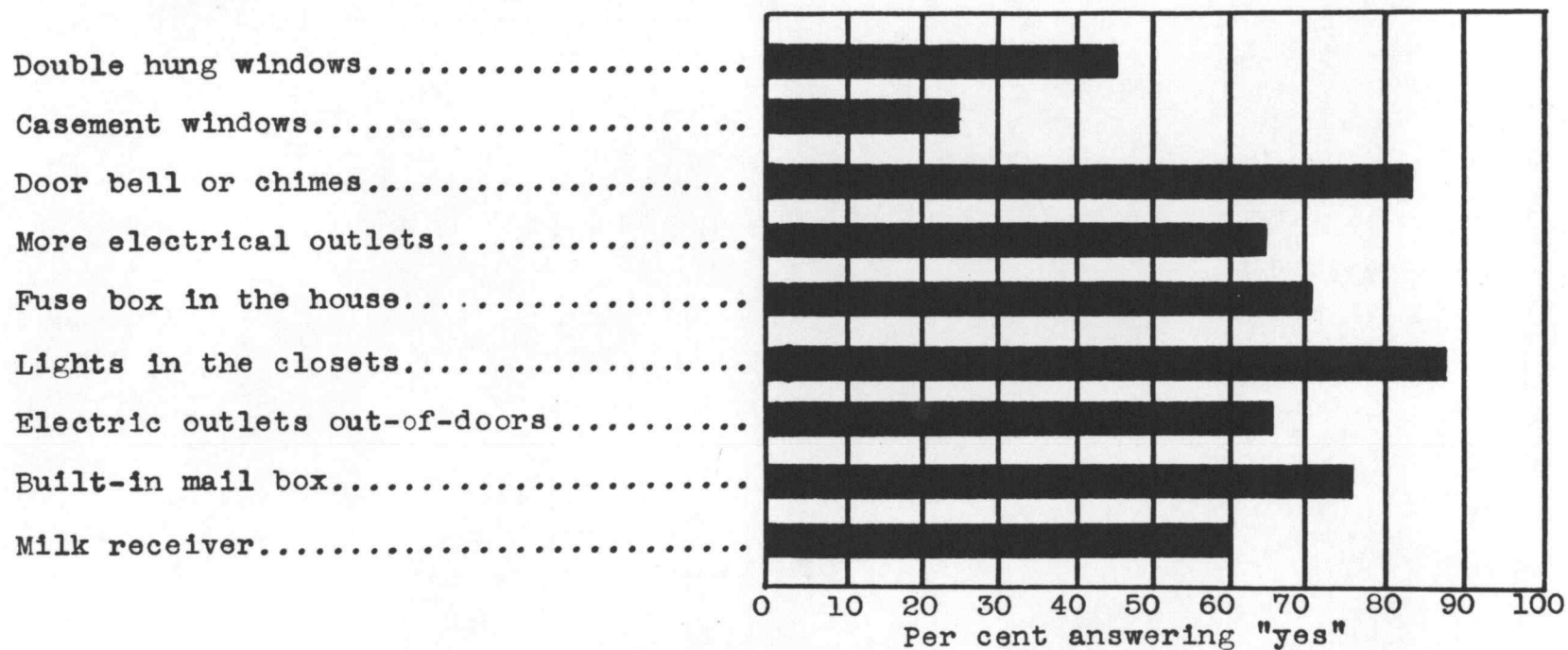


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Diagram VI (Continued)

CONSTRUCTION DETAILS

IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:

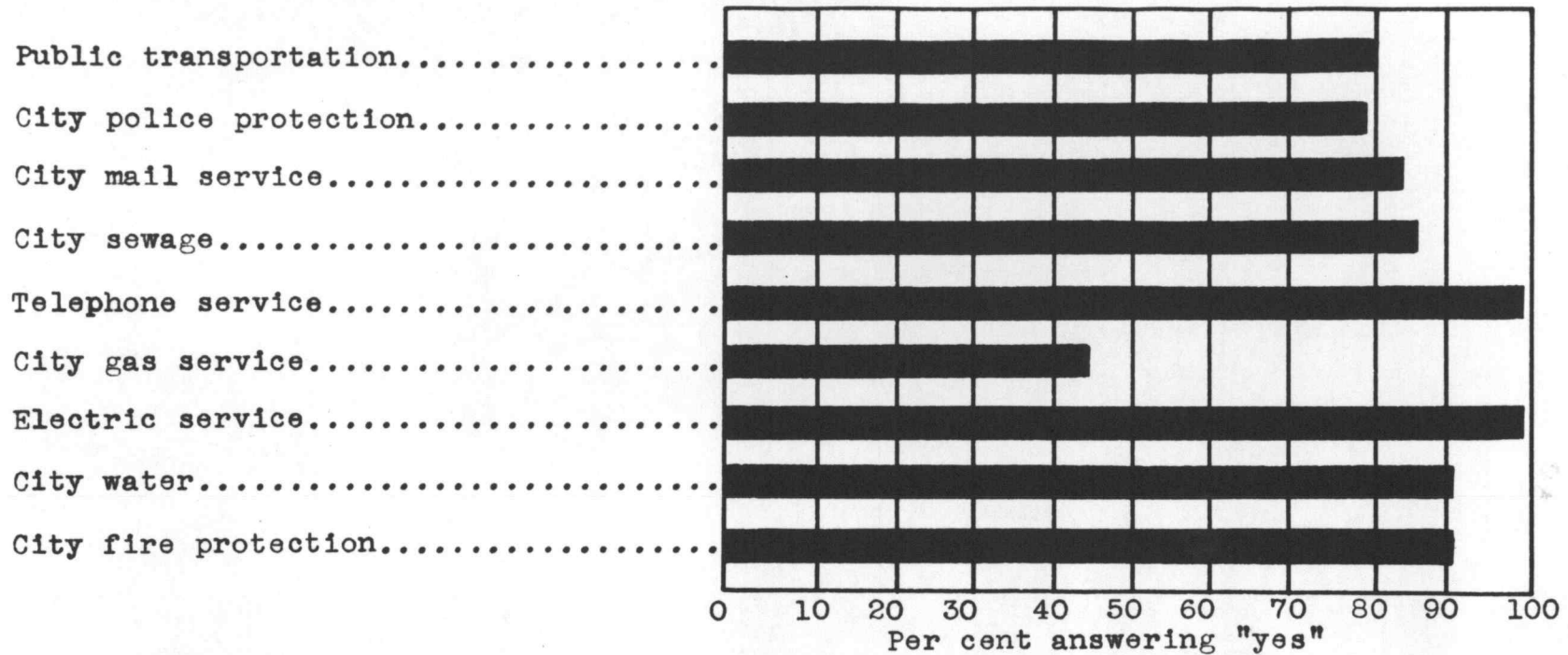


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Diagram VI (Continued)

PUBLIC UTILITIES

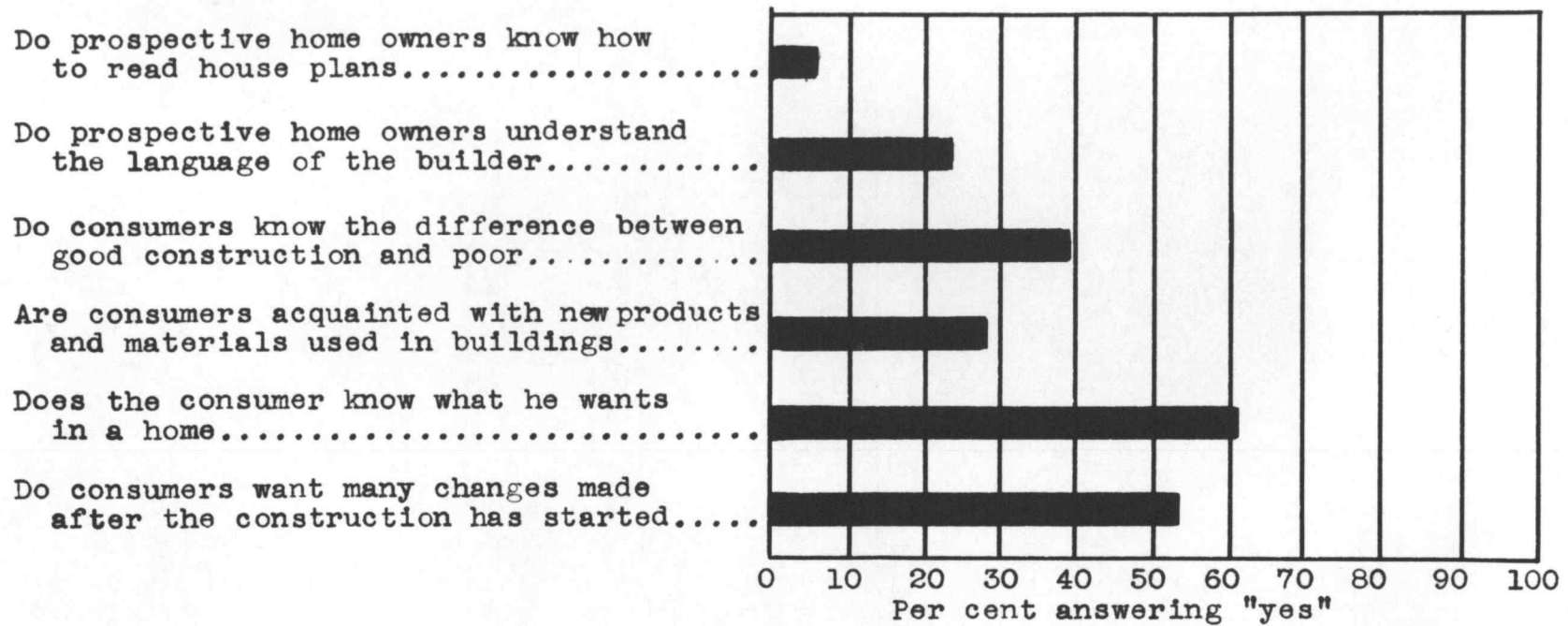
IF YOU WERE BUILDING ANOTHER HOME IN CORVALLIS WOULD YOU INCLUDE:



(Continued)

Diagram VII

OPINIONS OF CONTRACTORS



(Continued)

Diagram VII (Continued)

OPINIONS OF CONTRACTORS

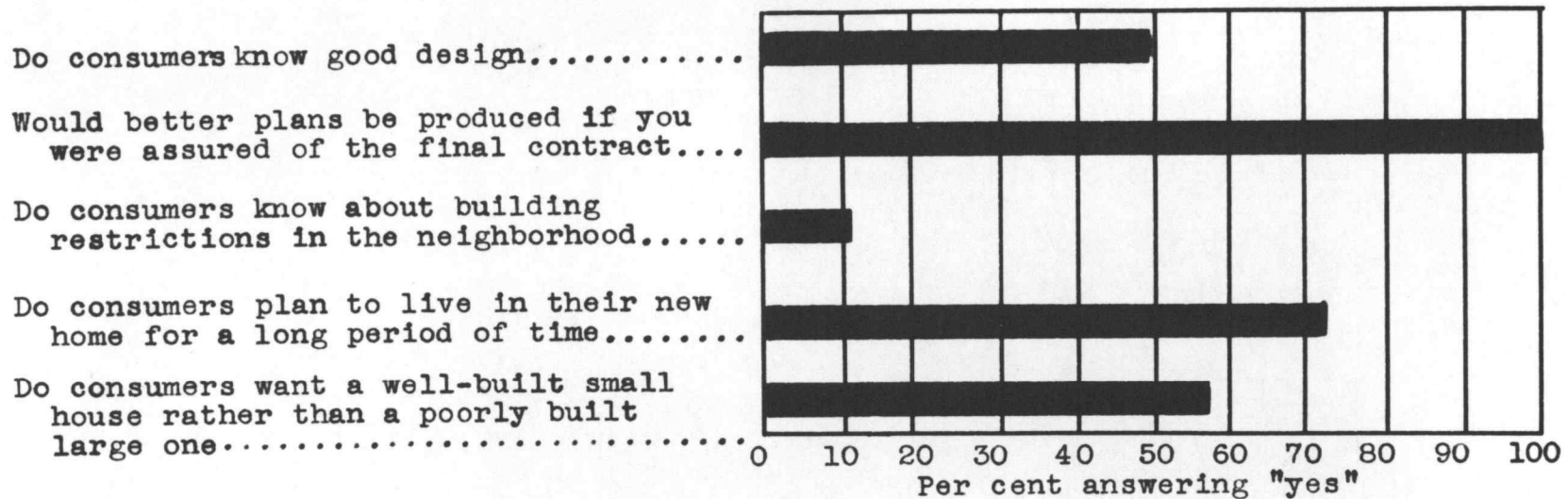
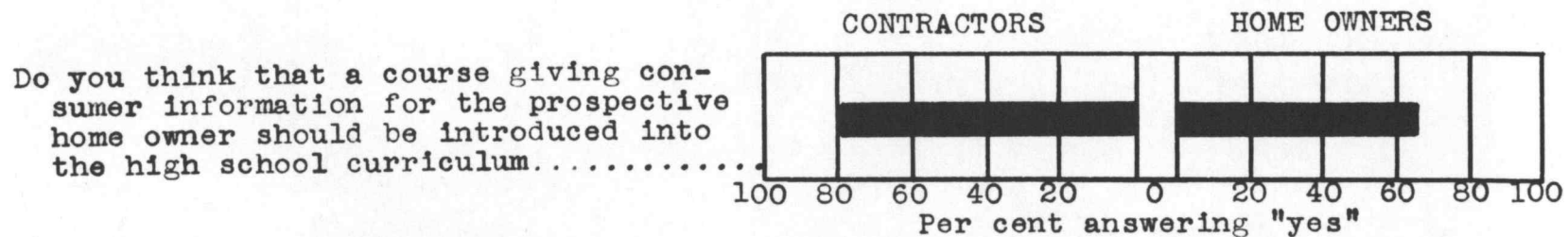


Diagram VIII



CHAPTER IV

SUMMARY AND RECOMMENDATIONS

The purpose of this study is to determine and to evaluate some of the consumer's needs, requirements, and wishes, when planning for the construction or purchase of a home. The prospective home owner may feel a need of some concise method of evaluating a house already built or a set of house plans and specifications presented to him by his architect or contractor. After the house is completely planned from the standpoint of function, finance, neighborhood, appearance, construction, and materials, it is desirable that a quick check is made of all of the contributing factors. The following factors should be considered when judging a house.

Function

The house must first serve the primary function, that of providing shelter for the family. It must serve the needs of many individuals, from the infant to the aged, the active as well as the inactive for entertainment and quiet. Since the home is yet to be built however, which will adequately fill the requirements of everyone, many compromises will be necessary.

Financing

The cost of the house must be justified in relation to workmanship and quality of materials. The possible future assessments should be considered as well as the continuous depreciation of the property. The owner must be able to pay rent, and understand the correct ratio of payments to income. The title must be "searched" and all contracts and the deed should be properly prepared and signed.

Neighborhood

The neighborhood should be appreciating in value not depreciating. The adjacent houses should be similar in cost and satisfactory in design. Neighbors must be compatible in habits of cleanliness, orderliness, and quietness. The neighborhood should satisfy the needs of the family for schools, churches, recreation, public utilities, etc., and have as few nuisances as possible.

Appearance

The outside of the home must be pleasing to the eye. The house and site must be correctly related with reference to contours, boundaries, and existing trees and shrubs with a logical landscape plan. The walls with

openings, cornices, and other details must be of correct proportions. Not only the front, but all facades should be well designed, if possible, with the help of a competent architect.

Harmonious textures and color combinations in all rooms are necessary. The rooms should be of correct size and arrangement. There should be adequate wall space, proper cross ventilation, satisfactory circulation, sufficient natural light, an adequate number of storage spaces, in a flexible plan.

Construction and Materials

The footings of the foundation should be of adequate size and set in firm soil. The walls of the foundation should be strong enough to carry the load and dense enough to resist moisture.

The superstructure should be steady and solid. The joists must be properly spaced and large enough to prevent deflection, with the necessary bridging and bearing area. Properly installed subfloors, vertical studs, with proper bracing, and adequate framing around the openings are absolutely necessary. The roof rafters must be of sufficient size and correctly braced.

The materials used must be durable and fire resistant. The walls should be impervious to moisture, heat,

and cold, and properly protected with paint. There must be the proper combination of materials according to their natures and coefficients of expansion. The roof must have satisfactory pitch and shape to provide proper drainage, and the roofing materials capable of resisting effects of sun, rain, ice, snow, and wind. The correct relationship between the nature of the materials and the frequency of use should be considered. Millwork of well-seasoned wood, correctly installed and finished, is very important.

The size and quality of mechanical equipment is another point worth consideration. The heating plant of correct size and design, plumbing fixtures of correct type and properly located, an adequate hot-water system, and provisions for sewage disposal are all important considerations. The electrical wiring of correct size and specifications, the proper number and quality of convenience outlets and fixtures should be checked.

The results of questionnaire #1 to home owners show that approximately 50 per cent of the home owners contacted knew, before they purchased their home, what and how to check the property before purchasing a house. According to the opinions expressed by the contractors, however, only about 25 per cent of the prospective home owners know how to check the items.

If the results of these questionnaires are significant it would seem that more information should be given to the prospective home owner, probably before he terminates his formal education. Due to the fact that relatively few persons go to school beyond the high school level, it is believed that the secondary schools might well consider the possibility of doing more for our future home owners.

Recommendations

From the study made and the information compiled by questionnaires and interviews, it is recommended:

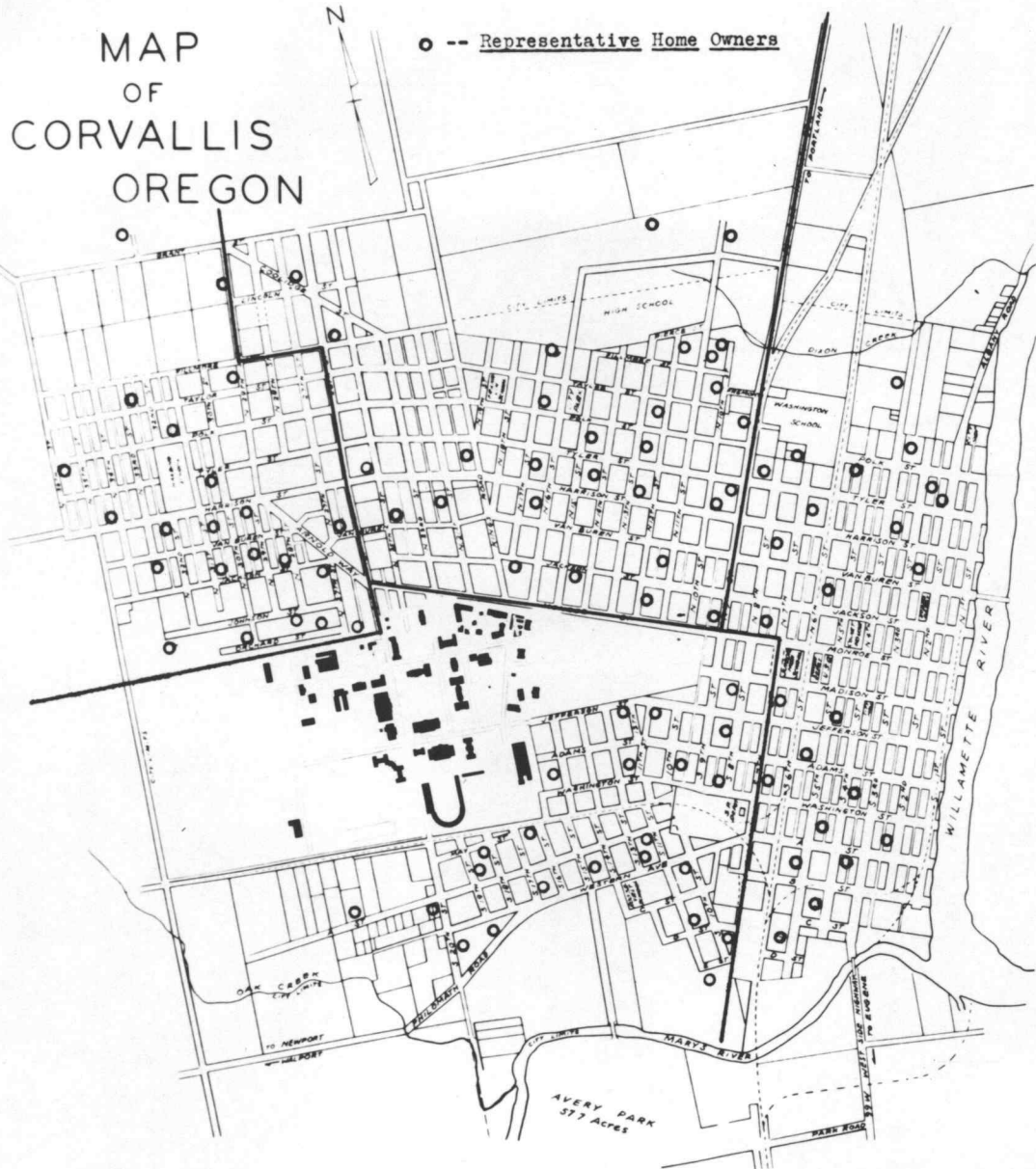
1. That a course of study be prepared to be used in connection with an industrial arts class, for both boys and girls, which would give more consideration to the consumer values for the prospective home owner.
2. That a promotion program be developed to create a desire among high school students for this course stressing the requirements and needs of the home owner.
3. That a good check list be published with explanations for the general public, covering items which should be and could be checked by the prospective home owner before he buys a house.
4. That adult education courses be given to interested persons who have not had the opportunity of learning of the needs of home ownership through the high school classes.

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APPENDIX



QUESTIONNAIRE TO HOME OWNERS #1

Chil-
Adults dren

____yrs.

____yrs.

yes no

yes no

yes no

1. How many people live in the home?

2. How old is the house?

3. How long have you owned the house?

4. Did you:

a. Buy the house?

b. Have it planned and built under contract?

c. Plan and build it yourself?

5. If acquired by purchase, did you:

a. Know the builder to be reliable?

b. Know whether architectural services and specifications were used?

c. Contact and depend upon a reliable real estate dealer for this knowledge?

6. Did ownership of a home prove to be more expensive than you had anticipated?

7. At the time you purchased your home, did you know how to do the following?

Read house plans and specifications?

Investigate the tax and insurance rates?

Check to see if the title was clear?

#3*

* Do not mark in column marked #3 until you come to question #8

yes

no

#3

Consider the neighborhood in which the home is located?

Compare the architecture of your place with reference to others in the neighborhood?

Compare the landscaping?

Check the drainage of the lot?

Check the construction of the house?

Identify the types of flooring which are best?

Tell the difference between rock lath, wood lath, and metal lath?

Check for plaster cracks?

Find places showing excess shrinkage?

Detect uneven settling in the house?

Determine if the chimney was on a good footing?

Determine the size of the footing or the depth of the foundation?

Visualize the different rooms for furniture arrangements?

Check the ratio of window to floor space?

Check closely to see if the interior or outside would have to be repainted soon?

Check the cabinet work and millwork?

Look carefully at the kitchen fixtures?

yes	no		#3
		Examine the gutters and downspouts?	
		Check the roof for leaks?	
		Check for leaks around the windows?	
		Check the electric system carefully?	
		Check the plumbing very closely?	
		Check the bathroom facilities completely?	
		Inquire into the cost of heating?	
		Find information about insulation?	

8. Check in column #3 any items with which you have had trouble since occupying the home, especially if the trouble might have been the result of hidden factors you did not suspect or inquire into when you purchased the place.

yes	no	
		9. Do you think that a course giving consumer information for the prospective home owner should be introduced in the high school curriculum?

QUESTIONNAIRE TO HOME OWNERS #2

If you were building another home in Corvallis would you include the following?

yes	no	
		NEIGHBORHOOD
		1. A different neighborhood?
		2. A neighborhood where children live close?
		3. A lot out of the city limits?
		4. A lot on a paved street?
		5. A lot near a highway?
		6. A lot near a neighborhood grocery?
		7. A lot near schools?
		8. A lot near a church?
		9. A lot near recreational facilities?
		10. Good drainage for the lot?
		11.
		PUBLIC UTILITIES
		12. Public transportation?
		13. City police protection?
		14. City mail service?
		15. City sewage?
		16. Telephone service?
		17. City gas service?
		18. Electric service?
		19. City water?
		20. City fire protection?
		21.
		ARCHITECTURE AND DESIGN
		22. Architectural services?
		23. Real estate dealers' help?
		24. Landscape gardener?
		25. Wooden fence around the yard?
		26. Rock or brick wall?
		27. Place for a vegetable garden?
		28. Flower garden?
		29. Play yard?
		30. Paved driveway?
		31. Paved service walks?
		32. Clothes drying yard?
		33. Double garage?
		34.

yes	no	CONSTRUCTION DETAILS
		35. Poured concrete foundation?
		36. Concrete block foundation?
		37. Brick foundation?
		38. Laminated girders?
		39. Herringbone bridging (X-bracing between joists)
		40. Diagonal sheathing for subflooring?
		41. Oak floors?
		42. Studs on 16" centers?
		43. Wood lath?
		44. Rock lath?
		45. Wall board?
		46. Plywood?
		47. Plaster?
		48. Plastic paint?
		49. Shingles for the roof?
		50. Composition roofing?
		51. Diagonal sheathing on the walls?
		52. Building paper between sheathing and siding?
		53. Lap siding?
		54. Shake siding?
		55. Brick veneer?
		56. Stucco?
		57. Louvers for the attic?
		58. Insulation in the walls?
		59. Insulation in ceiling between joists?
		60. Flashing around the window openings?
		61. Flue lined chimney?
		62. Exposed plumbing nickel-chromium plated?
		63. Inlaid linoleum in kitchen?
		64. Inlaid linoleum on the bathroom floor?
		65. Tile floor in the bathroom?
		66. Tile drainboards in the kitchen?
		67. Double sink in the kitchen?
		68. Built-in cabinets in the kitchen?
		69. Separate shower?
		70. Second toilet and lavatory?
		71. Double hung windows?
		72. Casement windows?
		73. Door bell or chimes?
		74. More electrical outlets than you now have?

yes	no
-----	----

- | | |
|--|--|
| | 75. Breaker switches or fuse box in the house? |
| | 76. Lights in the closets? |
| | 77. Weatherproof convenience outlets out of doors? |
| | 78. Built-in mail box? |
| | 79. Milk receiver? |
| | 80. |

HEATING PLANT

- | | |
|--|---------------------------|
| | 81. Floor furnace? |
| | 82. Pipe furnace? |
| | 83. Circulating heater? |
| | 84. Thermostatic control? |
| | 85. Fireplace? |
| | 86. Gas heat? |
| | 87. Oil heat? |
| | 88. Coal for heating? |
| | 89. Slab wood for heat? |
| | 90. |

COOKING AND HOT WATER

- | | |
|--|--------------------------------|
| | 91. Electric hot water heater? |
| | 92. Gas hot water heater? |
| | 93. Electricity for cooking? |
| | 94. Gas range? |
| | 95. Oil range? |
| | 96. Wood range? |
| | 97. |

ROOMS

- | | |
|--|--|
| | 98. Two bedrooms or less? |
| | 99. Three bedrooms or more? |
| | 100. Living room? |
| | 101. A pass hall from kitchen to bedrooms without going through the living room? |
| | 102. Breakfast room or nook? |
| | 103. Dining room? |
| | 104. Laundry or service room? |
| | 105. Den? |
| | 106. Sewing room? |
| | 107. Game room? |
| | 108. Craft shop (home workshop)? |
| | 109. Clothes drying room? |
| | 110. Basement? |

yes	no	
		111. Inclosed porch?
		112.
		STORAGE SPACE FOR
		113. Household cleaning appliances?
		114. Linen and bedding?
		115. Towels for bathroom?
		116. Medicines?
		117. Card tables and game boards?
		118. Soiled linen?
		119. Seasonal clothes?
		120. Athletic goods?
		121. Books and magazines?
		122. Extra dishes?
		123. Kitchen utensils not in use?
		124. Tools not in use?
		125. Odd pieces of furniture?
		126. Luggage?
		127. Toys?
		128. Fireplace wood?
		129. Garden furniture?
		130. Garden tools?
		131. Bicycles?
		132.

QUESTIONNAIRE TO CONTRACTORS

1. Do prospective home owners know how to read house plans and understand specifications? Yes ___ No ___
2. Do most prospective home owners understand the language of the builder? Yes ___ No ___
3. How much time does the prospective home owner usually give you for planning their new home? ___ days
4. Would better plans and specifications be produced if you were assured adequate compensation for your services or the final contract? Yes ___ No ___
5. Do consumers in general know the difference between good construction and poor? Yes ___ No ___
6. Do consumers plan to live in their new homes for a long period of time? Yes ___ No ___
7. Are consumers acquainted with the new products and materials used in building? Yes ___ No ___
8. Do consumers know about the building restrictions in the neighborhood? Yes ___ No ___
9. Do consumers want larger, cheaply-built house or a smaller well-built one? Large ___
Small ___
10. Do consumers want many changes made after the construction is started? Yes ___ No ___
11. Do consumers know good design? Yes ___ No ___
12. Does the consumer know what he wants in a home? Yes ___ No ___
13. Do you think that a course giving consumer information for the prospective home owner should be introduced in the high school curriculum? Yes ___ No ___