

A STUDY OF SUPER MARKETS

by

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A Thesis  
Presented to the Faculty of  
The Rice Institute in Partial fulfillment  
of the Requirements for the Degree of  
Master of Arts  
in the  
Department of Architecture

The Rice Institute  
Houston, Texas  
1947

49-4902

## "A STUDY OF SUPER MARKETS"

The super market is a modern method of meeting a need that is as old as mankind, the supplying of food. It would be impossible to date definitely its first example. It took form amid urban conditions and urban food serving confusion. Possibly it is best to say that it just grew from necessity.

We need go back only as far as the late eighteenth century to find a form sufficiently primitive to serve as our beginning: the open market. Excellent examples of this type structure were found in the old public market in Philadelphia and the French market in New Orleans, to choose two of the most famous. These buildings were simple open structures consisting of a roof supported on piers or columns. They afforded some but not complete protection from the sun and rain. In these and similiar



OLD FRENCH MARKET  
NEW ORLEANS

markets in other cities the farmers and townspeople conducted their trading, which was principally in food stuffs but not exclusively so.

Contemporary with these open markets, but more advanced in development, appears the grocery store. The early grocery store was similar to the public market in its merchandise but privately owned and therefore on a smaller scale. The buildings were very much like the other little shops of the same period, and offered greater protection from the elements than the public market. They were usually located to serve the needs of the immediate neighborhood rather than the town as a whole.

They varied but little from a grocery I recall from my childhood. It was much like the earlier stores. The building was erected about 1880. It had an imposing facade that dominated the west side of the square. The grocery department occupied one side of the first floor. The other side (no partition) was a hardware department. The ceiling

was very high and its original coat of grey paint showed its age. Where the boards were loosely jointed, little spiders had dust covered webs. The can goods were stacked on shelves that were built like book shelves. The fresh fruits and vegetables were on tables about waist high, with strips of fly paper hanging over them. When you made your order the clerk wrote it in full so that you knew exactly what every thing cost and so that you could check that the total was correct. The old store was not bright and shining, still it handled most of the grocery business in the town. Even at that time this type of grocery store had been improved in the more progressive cities, but it represents a type that was the grandfather or perhaps greatuncle of the super market.

These grocery stores were established as modest little shops, growing larger as their needs and demands became greater. As cities grew and population became more dense many of these stores

became quite large. A clerk still waited on each customer, filling his individual order personally. With a large clientele this sort of personalized service required a large number of clerks. It naturally evolved that many of the customers waited on themselves rather than waiting for the busy clerks. The customers learned where the various merchandise was shelved and preferred to get what they wanted and bring it to the clerk. This was the beginning of the most important feature of the super market: self service.

After self service was established there occurred a series of additions to the merchandise. Drugs, hardware, pot plants, as well as coffee bar, soda fountain, magazines, were added. It must be realized that it is virtually impossible to record any definite chronological development in these changes. One market may have added pots and pans to its grocery line while at the same time a market in another

part of the city added a delicatessen. When a coffee company offered to give away water glasses with its coffee the grocer saw people buying a different brand of coffee to get the glasses, so he decided they would probably buy water glasses. Thereafter we found water glasses for sale when we went to the market. Another market found that because it kept its soft drinks in a refrigerator in the summer a number of the customers bought them to drink while shopping. In the winter they preferred hot coffee so the grocer added a coke-and-coffee bar. This grew to a soda fountain and then to a lunch counter. The store was becoming a "super market" and was showing that all-important profit in all departments. Like Topsy it just grew.

There is considerable assurance among the executives of local grocery chains and some national acceptance of the belief that the first "full fledged super market" came into being in Houston, Texas. This would be difficult to prove

because of the previously stated nature of the development from grocery store to super market. There were open air, self-service markets in California before the Houston "super markets", but some well informed grocers think that these California markets could not be really classed as super markets any more than could be the old open air public markets at Philadelphia and New Orleans. The discussion leads to the question: just when is a market a super market?

To begin consideration of this question let us first examine the ownership of the super market. Some of the smaller super markets, perhaps more correctly called "superettes"\*, are owned individually. Often these superettes are merely neighborhood grocery stores that have adopted a self service plan. The big super markets, the

\* "New Superette", The Progressive Grocer, March 1947, 84.



real super markets, are invariably owned by companies. These companies usually own ten or more super markets. This is so for several reasons. A large amount of capital is required to build, equip, and stock a super market. And ten stores can be operated less expensively per store than an individual store. Super markets make their money on large volume of sales rather than high percentage of profit. It is more economical for a central office to buy in large volume for a number of stores. The Department of Commerce once advised the super market owner or manager on the matter this way, "You will have to think in terms of volume. You may not want to sell beer; but if there are large beer volume possibilities, it will be well for you to remember that your business is to make volume sales regardless of personal feelings".\*

\* Grocery Retailing, No. 59, Small Business Aids, 2.

The very word "super" suggests something big — large in size and large in volume. A super market must buy in large quantities and sell in large quantities. It must display in mass. "You will have to learn to think in fifty case lots instead of five. You will need produce by the truck loads. You will have to learn to think in terms of selling rather than buying. Your problem will be 'How much can I sell?' instead of 'How cheap can I buy?' Buying power is the result of selling power. It does not matter how cheap you can buy; unless you can sell the stuff, you are not retailing".\* I believe this portrays quite clearly the absolute necessity of large volume of goods, and sales in the operation of a successful super market.

Returning to the question raised earlier, "What is a super market?" perhaps the best way to answer this question is to describe a super market.

\* Grocery Retailing, No. 59, op. cit., 2.

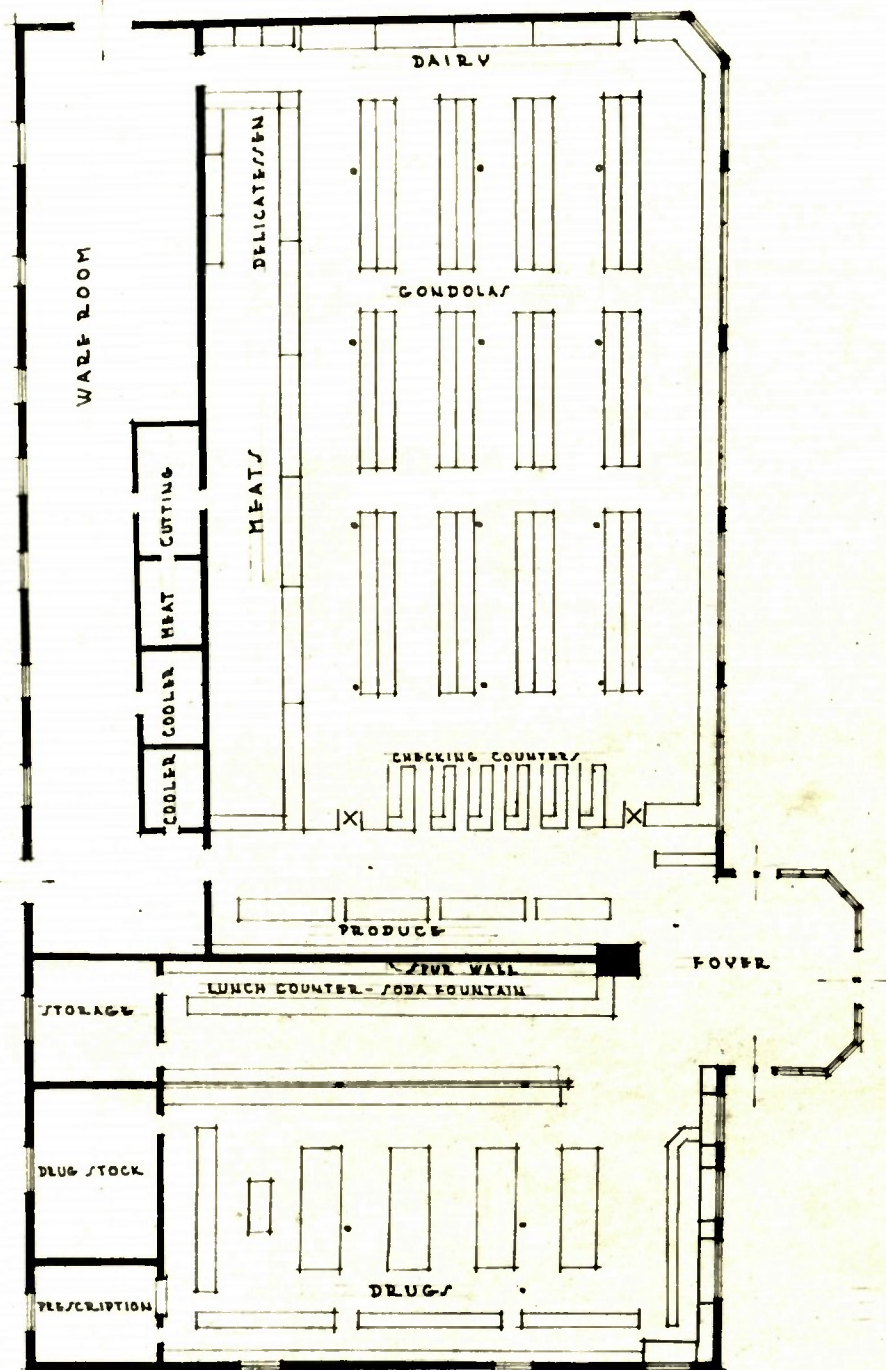


PLATE 2

DESIGNED BY HILARY HARRIS, M.D.



Let us take a tour of inspection through a super market, one chosen at random out of the several dozen chain stores found in Houston, one that is neither the best nor the worst, just "a super market".

We enter a foyer which has enough glass wall to resemble a green house. We notice immediately that the store is air conditioned. Appropriately there are pot plants for sale here in the foyer. We also find a wide selection of popular and pulp magazines. From the foyer we see that the store area is divided by a spur partition into two unequal parts. We will consider the smaller side first. Against the spur partition we find a soda fountain, and next to the fountain the lunch counter which will seat about sixty persons. The lunch counter covers about one quarter of the smaller area. The remainder of the smaller area is occupied with what might be called a drug store in the modern sense, that is a drug store with glass

ware, thermos jugs, dishes, electric fans, and other electric equipment, many products that we associated with a hardware store in the not too distant past. With these we find toiletries, patent medicines, candies, tobacco, and various other products usually associated with a drug store. To the back of the drug department we see a prescription counter.

From the drug department we pass back through the foyer, just off of which we see a sale on some washable print dresses. Ahead of us, on the other side of the wall from the lunch counter, we find the produce department. The produce department occupies about one-tenth of the larger area. Between the plain wooden produce display racks and the wall there is a narrow aisle for the clerks who sell and package the fruits and vegetables. To this point in his journey the customer has been waited on by clerks. However, more and more super markets are placing the produce department in the self service section.

Now we pass through a one-way turnstile

into the main area of the grocery department.

This section is self service except for the meat and bakery departments. Near the turnstiles we find the little push carts in which the customers can place his groceries as he selects them from the various displays. We notice in passing that these displays are often placed in front of plate glass windows that have been painted out completely or to a line about six feet above the floor. All cans, jars, and packages have been price-stamped. Stamping the price on every item requires a great deal of time but it is imperative. It would be impossible for the cashier to remember the correct price of each item in a super market. The price is written on meat and bakery purchases by the clerks when these items are bought.

When a customer has completed his shopping, having taken as long or as short a time as he wishes, he pushes his cart to one of the checking counters. The cashier or "checker" totals the amount of the

purchase and places the items in a paper bag. The  
customer pays for his purchases and departs.

## OPERATION OF A SUPER MARKET

We have seen the sales area of a rather average super market as it appears to the customer. Some super markets have more departments, others may have fewer, they may be serviced or arranged in different manners; in general they will resemble the one described.

It is customary for a central office to do the buying for all of that company's super markets. Their various stores telephone their orders for meat, produce, groceries, pastries, etc., to this central office and they are relayed in turn to their bakery and buyers.

In most of the large super markets we find seven main departments. They are: grocery department, fruit and vegetable department, meat market, delicatessen, bakery, drug department and soda fountain. The first five of these are usually in the self service section. Taking each department let us consider the buying, preparing, displaying, and selling.



FRUIT & VEGETABLE ORDER SHEET

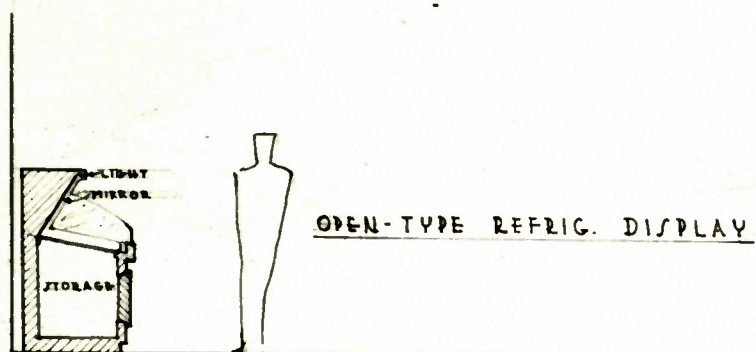
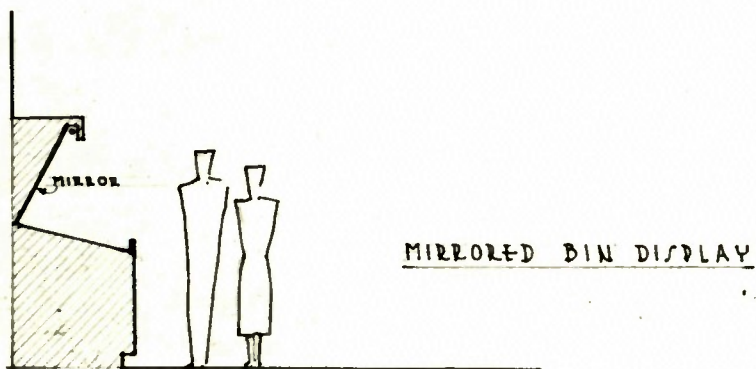
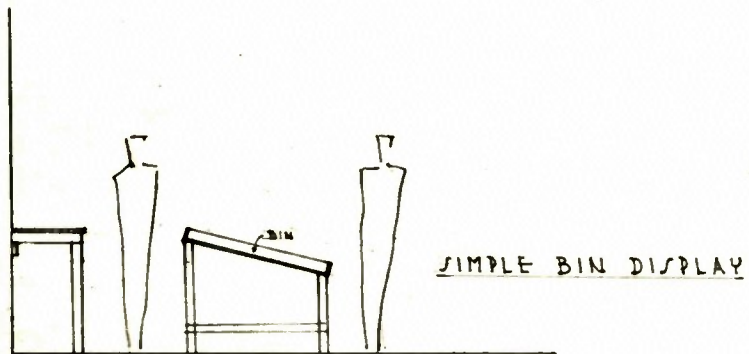
DATE

PRICE	ITEM	1	2	3	4	5	6	7	8	9	10
	APPLES										
	BU. APPLES										
	DELICIOUS										
	JONATHAN										
	WINESAP										
	ROME										
	APRICOTS										
	ARTICHOKES										
	ASPARAGUS										
	AVOCADOS										
	BANANAS										
	BEANS - GREEN										
	WAX										
	LARGE LIMA										
	BABY LIMA										
	KV WONDER										
	BEETS										
	BERRIES										
	BLACK										
	GRAN										
	DEW										
	RASP.										
	STRAW.										
	BROCCOLI										
	BRUSSEL SPROUTS										
	CABBAGE - CHINESE										
	CURLY										
	RED										
	GREEN										
	CARROTS										
	CAULIFLOWER										
	CELERY - WHITE										
	PASCAL										
	CHERRIES										
	COCONUTS										
	COLLARDS										
	CORN										
	CUCUMBERS										
	CURRENTS										
	DATES - 14										
	12										
	EGG PLANT										
	ENDIVE										
	FIGS										
	GARLIC										
	GRAPEFRUIT - WHITE										
	PINK										
	GRAPES - TOKAY										
	MALAGA										
	EMPEROR										
	SEEDLESS										
	HORSERADISH										
	KOHL-RABI										
	KUMQUATS										
	LEMONS										
	LETTUCE										
	LIMES										
	MELONS - CANTALOUPE										
	HONEY DEW										
	WATERMELON										
	MUSTARD - CURLY										
	STRAIGHT										
	NECTARINES										

First the fruit and vegetable department; we will follow the progress from buying to selling. Fruits and vegetables are perishable so they cannot be stored very long after they are bought. For this reason they must be ordered every day. The order for so many of this and that kind of fruit and vegetables, is telephoned to the central office. The central office lists the orders for all of its super markets on a fruit and vegetable order sheet (see illustration). A buyer takes this order to the farmers market or wholesale produce houses about seven P.M. The order is filled that night and the produce is delivered to the various markets the following morning. On arriving at the super market the order is washed and all undesirable leaves and fruit are discarded. As much of the order as possible is placed on display. The rest is placed in the produce cooler room.\*

There are three types of vegetable

\* From conversation with Mr. Schuhmacher, president of the Minimax Stores.



SECTIONS THRU THREE TYPES  
PRODUCE DISPLAYS

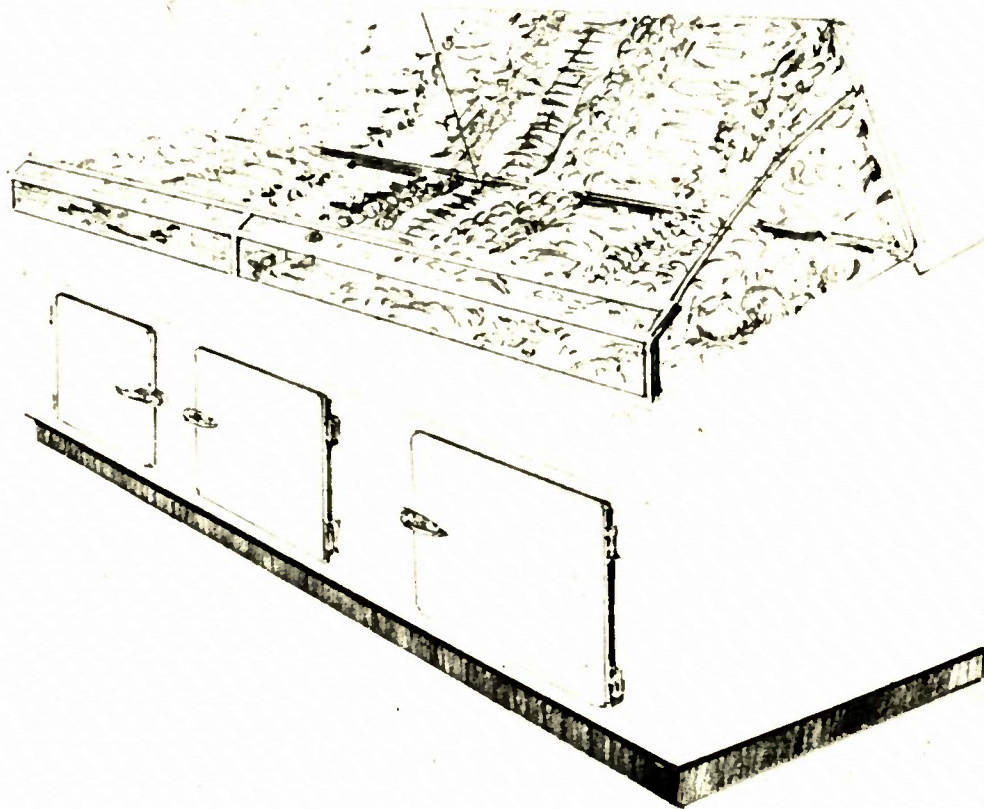
displays: Simple shallow bins, similiar bins with mirrors, and open refrigerated displays with mirrors. The first is the cheapest and least desirable. There is usually a passage behind for the clerks. This is the type we found in the market described earlier. It consists of a shelf or table tilted forward with boards around the edges to keep the produce from falling off. This type seldom displays produce to its best advantage. It was interesting to note that several years ago that one of the super market companies tried to improve this type of display by discharging a fine spray of water over the vegetables to keep them fresh. This was found unsatisfactory because changing water pressure and unequal distribution caused it to soak some of the vegetables and an occasional customer.

The second type mentioned is a more successful improvement of the first. Here the solution was one of mirrors. The mirrors were placed at an angle with the bin to give the illusion

of twice as much produce. Tube lighting was run behind the valance at the top of the mirror. These mirrors made it more desirable to place the displays against the wall and thereby affording more usable floor space. To this actual increase in space we also add an illusion of more display space achieved by the mirrors. It is not unusual to see a customer absent mindedly reaching for one of the more desirable reflected images. On both of these first two types of displays it was necessary to store the more perishable vegetables in a refrigerated cooler over night; therefore, adding much time and labor. Still waste due to spoilage was considerable.

More practical display is now possible and the firms making refrigerated sales equipment have aided in its solution. Many years ago some of the firms which pioneered the change from old-time ice display cases to mechanical refrigeration, were busy devising and store-testing ways and means of providing equipment that would sell more perishable





OPEN TYPE REFRIG. VEGETABLE DISPLAY

PLATE 5

foods at lower operating cost. It was their object to find a way of refrigerating without detracting from the display. Such equipment constitutes our third type of produce display. These units are about ten feet long, three feet deep, and five feet high. The grill or wire shelf on which the produce is placed is about forty inches above the floor. Behind the shelf there is a mirror similar to the one described in the second type. The produce is in the open and easily accessible but still refrigerated. The machinery for refrigeration of each unit is in the base of the unit. The cooling coils run under the grill on which the produce is placed, thus cooling the foods on display above and extra food in storage space in the base. Since cold air does not rise we have an open "tank" of cold air. The best temperature for fruit and vegetable preservation is between forty-five and fifty degrees, this temperature is maintained in the unit, keeping the vegetables fresh and looking as appetizing as if they had just been brought from

the garden. From a cornucopian selection of cool, fresh fruits and vegetables the customer can pick and choose at his own convenience.

The meat department. Ordering meat follows much the same pattern as that outlined for ordering produce, except that it does not have to be ordered as often. Meat is usually ordered twice a week from the packing houses. It is ordered by quarters, that is, so many hind quarters and so many fore quarters. These are stored in the meat coolers until they can be cut into smaller sections. For this purpose there is a meat cutting room adjacent to the meat cooler.

In the matter of meat display there is a difference of opinion. Meat display has been the next to the last hold-out against self service. Until recently the quarters were cut in pieces just small enough for the butcher to handle easily and displayed in that form in enclosed, glass front refrigerated cases. When a customer asks for a



certain cut of meat the butcher took out one of these larger pieces of meat and cut the desired amount. All of this took time and resulted in inferior service during the rush periods or else required too many butchers in slack periods. To improve service the market began cutting and displaying certain standard cuts. When a customer asked for three T-bone steaks the butcher only had to weigh and wrap them. But this still took time and many clerks who often spent most of the time waiting for the customer to make his decision. Again the refrigeration companies studied and solved the problem. This problem was a little more difficult. Meat should be kept at a temperature of thirty-four degrees. The problem was solved by placing the grill on which the meat is placed farther below the rim of the display. In other respects the meat display is quite similar to the refrigerated produce displays. Along with

this step to self service it became necessary to wrap and label the various cuts. Cellophane was used to solve the wrapping problem. The meat and its label, are placed on a sheet of cellophane. The edges are folded over and sealed with a hot iron. This allows the customer to examine the meat without contaminating it.

Self service in meats is a new idea.

Certain of the Houston super markets have supplemented their regular meat market with self service units. They employ a clerk to inquire of the people how they like this change. I personally feel that if the meat is graded as to quality and offered in sufficient variety it will be preferred by the same four out of five majority that prefer self service in other departments.\*

Dairy products. These have been refrigerated as long or longer than meats and have been self serviced

\*Hussmann Refrigeration, Inc., "Self Service," 4.

about as long as canned and dry groceries. In the past they were kept in closed refrigerators with glass paneled doors. These doors were cumbersome and usually difficult to see through. So as was inevitable, dairy display now tends to following produce and the meat display by using open refrigeration units. This enables the customer to select the desired size and brand of milk, butter, or eggs without opening a half dozen doors.

Canned goods and packaged dry groceries.

These articles present little or no problem in comparison with the previously mentioned items. They can be bought in large quantities and stored in the ware room almost indefinitely. The greatest inconvenience met with in this group is the necessity of stamping the price on every item. This has to be done for obviously it would be impossible for the checker to refer to a price list on all items sold.

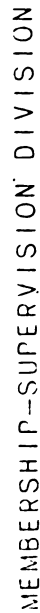
After the items have been priced-stamped they are placed on wall shelves or wooden displays called gondolas in the central area. Gondola units

## IGA SUPER MARKET

This side shows No. 2 island detail. Construct single in 5'-6"-7'-8" length. Place back-to-back and arrange units end-to-end for long continuous island.

Construct with plywood whenever possible, otherwise end panels splice with corrugated nails as illustrated for 2" stock. Simplified construction is made by having all pieces cut to fit and assembled in store or shop where this work is centralized.

All store fixture specification drawings have key numbers for reference on store lay-out plan as submitted by the store engineer.



IGA NATIONAL HEADQUARTERS - CHICAGO

are usually constructed in five, six, seven, or eight foot sections. These are then combined to form a gondola of any desired length. It is customary to have mass displays of either high profit or special sale items at the end of each gondola. The gondola ends towards the entrance of the market are considered especially fine display spots. The canned and dry grocery department is obviously well suited for self service. By browsing the customer often buys things that he would not have thought of otherwise.

The bakery department. This department is, I believe, the one exception to the self serve rule. Packaging, even in cellophane, will detract from the mouth watering appearance of a good cake or pie. The best display is in spotless surroundings in a plate glass case. I fear that should the bakery department be made self service, and unguarded, the mortality rate on cake iceing and golden brown meringue would be rather high. There is difference of opinion as

to whether the bakery department should be placed in the self-service area. It is argued that it is not good to have to wait for bakery clerk to serve you and then to pay at the checking counter when you could have paid the bakery clerk. This possible double inconvenience seems worth the trouble in that it prevents the bakery clerks from handling cookies and cakes after they have handled money.

The delicatessen is becoming more and more popular. It provides restaurant convenience in the comfort of the home. Some super markets have steam tables with various hot meats very much like cafeterias. Others have only refrigerated self service units with lunch meats, jello, and salad. Many operators arrange with local caterers and commissaries for "off-the-premises" preparation and packaging of their delicatessen foods. Their delicatessen department becomes a self-sustaining operation, requiring little or no extra help, quickly paying for itself, and then realizing a substantial monthly profit.\*

\*Hussmann, Self-Service, op. cit., 38.

Consideration of frozen foods is convenient at this point, although the group does not merit a separate department. Frozen foods have been very successful in the past, and rumor has it that they are going to enjoy even more success in the future. It is predicted on good authority that before long quick-frozen cooked specialities of famous chefs and restaurants will be available. At such time one need no longer be in New Orleans to enjoy Antoine's famous dishes. These delicacies will be as near as the nearest super market, and any one able to boil water can prepare them.

The open type refrigeration unit (see color illustration) is also suitable for use with frozen foods. It is a considerable improvement over the older type frozen food unit. The latter resembles an ice cream deep freeze with little hatches or sliding doors, into which the customer almost had to crawl to get a desired package.



# SELL MORE FROZEN PRODUCTS

## *Self Service*



Hussmann Model OLT  
Frozen Food  
Refrigerator

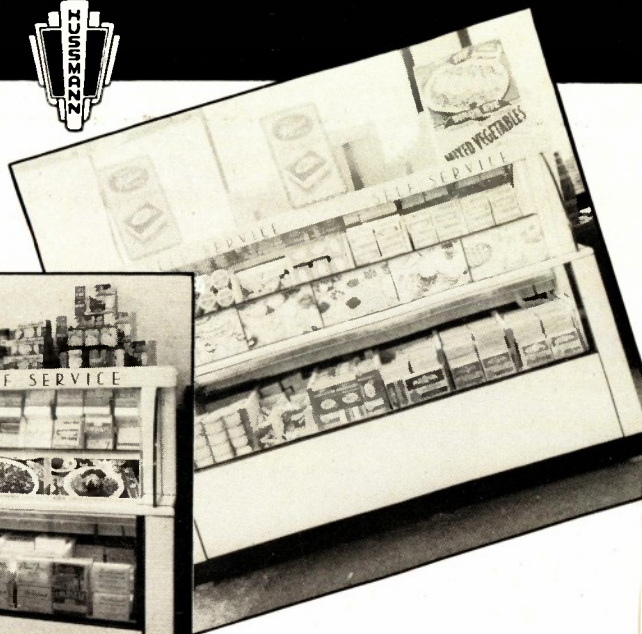
The product illustrations shown on display panel are available as an extra through Hussmann. Hussmann supplies Price Tag moulding only, tags can be obtained from price tag manufacturers.



# Model OLT HUSSMANN FROZEN FOOD REFRIGERATOR *at Work*



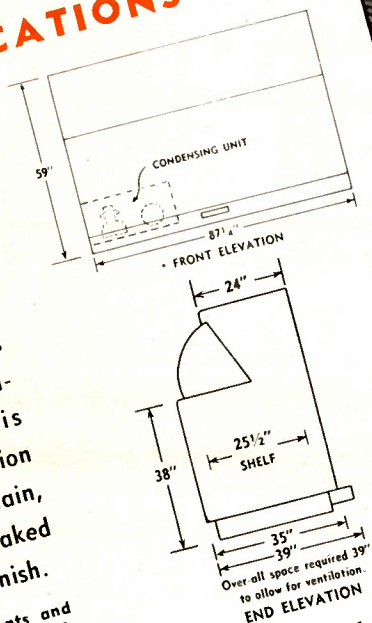
*Proven Sales Builders*



## SPECIFICATIONS

OLT is furnished complete compressor in compartment at end as you face case. Over-all dimensions are as shown in illustration. The unit is steel construction—Front Porcelain, remainder Baked Bondurbrite finish.

Covered by Patents and Pats. Pending—Infringements will be prosecuted.



### FROZEN FOODS

HUSSMANN Frozen Food Case has definitely proved its worth. Now—tempting and inviting displays of Frozen Foods right at the customers finger tips. Right up at shopping level—always in Clear View from any angle. Easy to reach. Customers select Frozen Foods as easily as they choose canned goods. A Real Sales Builder!

### INCREASE YOUR SALES ON ICE CREAM

Sales climb when Ice Cream is presented in open, self-service, refrigerated display. The convenient way to shop for ice cream with all varieties in clear view.

**THE FROZEN ZONE**  
**HOUSTON CO.**

Ask Your Dealer for Complete Information

1120 WOOD STREET

FAIRFAX 9163

HOUSTON 2, TEXAS

**HUSSMANN REFRIGERATION, INC., 2401 N. Leffingwell, St. Louis, Mo.**

To read labels at the bottom of these frozen wells was nearly impossible for not only was there insufficient light but the packages would frost over like the refrigeration coils. This did not help frozen food sales. The newer open type refrigeration unit is engineered to a selling job. The refrigeration system maintains the ideal zero degree temperature without any frosting of labels. These newer units have mirror backs much the same as the other open units. In addition, below the mirror there are full color reproductions of frozen foods attractively prepared. These illustrations are very successful propaganda for the housewife who is deciding what to buy for the next meal (see color illustration).

We have inspected a super market and considered its main departments; next on the agenda is an examination of the building and its location.

## THE BUILDING AND ITS LOCATION

The location is important. People will not go to out-of-the-way places to buy their groceries. A good super market location is on or near a corner where main thoroughfares intersect. It should be in comfortable driving distance of many people and preferably in or near an established community center, so that the shopper can make all of his purchases with a conveniently small area. The site should provide sufficient parking area for the customers' automobiles. Two to two and one-half times the area of the store is necessary to provide adequate space for parking.\* A site fulfilling these requirements is often found on the edge of the town or city in unrestricted or designated business zones of outlying neighborhoods. Down town locations are good spots to avoid. They are usually full of apartment houses peopled by couples or small families who eat out often.\*\* One of the Houston super market companies\*\*\*

\*In conversation with Mr. John Schuhmacher.

\*\*Small Business Aids, No. 59, op. cit., 2.

\*\*\*The Minimax Stores.

chooses locations on the basis of seeking thirty percent of the grocery business of one thousand surrounding homes. In other words, if we assume the average grocery bill to be thirty dollars a week, their stores are located to gross a minimum of nine thousand dollars a week.

Such calculations bring up the question of how large should a super market be. One of the large local chains has just announced a model super market with a building that is fifty by one hundred fifty feet on a lot one hundred by one hundred fifty feet. A California chain has announced plans to build ten new super markets that will measure one hundred twenty by one hundred seventy-five.\* One of the newest super markets in Houston measures approximately one hundred fifteen by one hundred thirty feet.

The minimum size would appear to be about five thousand square feet.\*\* It would be hard to set a maximum limit on the size of super markots, but the examples that were available for study did not exceed

\*Small Business Aids, No. 59, op. cit., 2.

\*\* Ibid, 2.



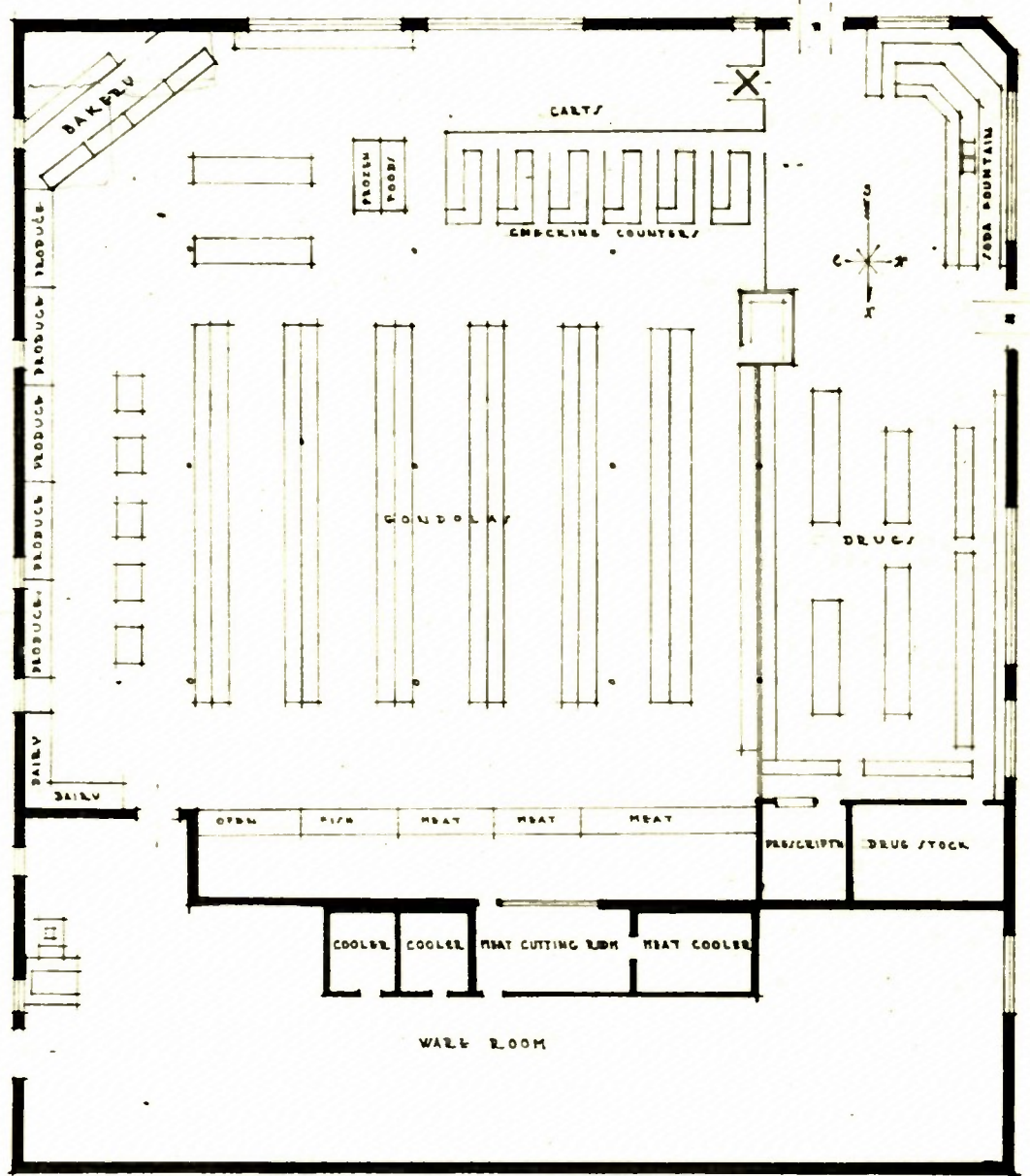


PLATE 8  
HARVARD PHOTOGRAPHY

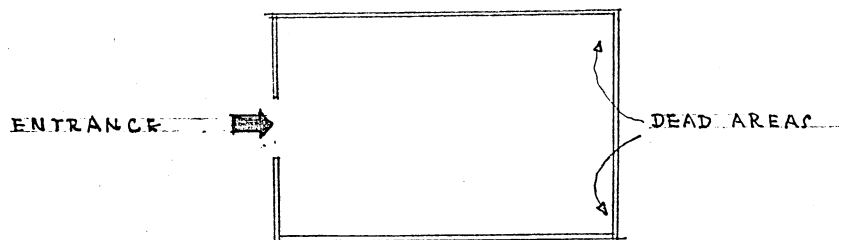
twenty-one thousand square feet. A government bulletin\* refers to size by stating that "it is generally believed there should be one square foot of space for every anticipated dollar of weekly sales." In another place the same bulletin says, "A super market should gross at least five thousand dollars per week." This amount refers to a minimum size, rather than average size super markets. So much for the size of a super market.

Referring to the sketches, plate 8 shows the floor plan of a recently constructed super market. I consider this plan to be of better than average design. On entering the store there is an area approximately eighty-six feet by twenty-eight feet, used by the drug department, soda fountain, and foyer, this constitutes about one-fourth of the total sales area. This area in its detailed arrangement is not as standardized in super market design as the self service section of the store. For this reason I believe it suffices to acknowledge its

\*Small Business Aids, No. 59, op. cit., 2.

presence and turn to consider the arrangement of the "backbone" of the super market — the often mentioned self-service section.

The self-service section is generally rectangular in shape and usually entered through one or two turnstiles on the short side. The corners of the opposite end of the rectangle, the areas into which people are least likely to go, are called "dead areas".



Any non-staple items placed in these areas have little chance of being seen and bought. To sell a maximum of goods, volume being the key to success, we must show the customer a maximum of goods. The customer should pass as much merchandise as possible, for he must see an item before he can buy it. Bearing this in mind we should avoid a labyrinth of directed passages. The customer will subconsciously dislike

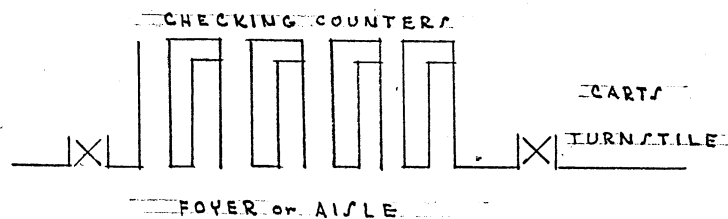
a store if he is confused by complicated arrangements. The access must be direct. Merchandise must be on his way, not in his way. So the dead areas must be filled with something he wants, something that nearly every customer buys: meats, dairy products, fresh vegetables, or soap. The rest of the area may be used for goods in cans and jars which make up the bulk of the stock. Any relatively undesirable areas that may remain after the major dead areas have been eliminated are used for items that have a low margin of profit and do not sell readily, but which must be carried in stock.

In the plan on Plate 8 we see a square self-service area entered from the southwest, but requiring the customer to go around the checking counters. This makes the northeast and northwest corners potential dead areas. This possibility was eliminated by placing the produce department along the east wall almost to the northeast corner, which



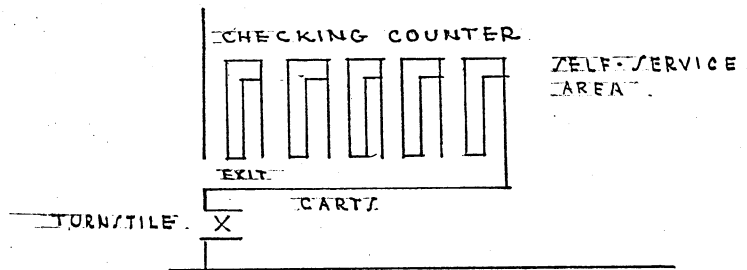
is occupied by the dairy department. The meat market was placed along the north wall. Along the low partition which separates the self-service area from the drug department the soaps are located. Thus the average customer will go to all areas of this section.

A problem which still is in process of solution in self-service has to do with its entrance and exit. What appeared in recent plans as an obvious solution has a major draw back. In these plans most of the checking counter chutes open directly on to the foyer with turnstile entrances at either end of the group. This was the arrangement used in the super market we inspected.



The objection to this scheme is that when the customer comes to the checking counter he pushes his food cart into the chute so that the checker can unload and check its contents. While this is

happening other customers come up behind to wait in turn for their orders to be checked. When the checker is through with the order he has been checking, the customer and the cart must go on through the chute into the foyer. An extra clerk has to be hired to bring these carts back into the enclosure. Returning to the plan under consideration, we see that this condition can be improved by placing the line of checking counters at right angles to the foyer, with an open rail at the exit end of the chutes high enough to allow the carts to be pushed under it. This places the carts in a position of readiness, accessible to the entering customer.



This plan requires more floor space but it is justified by its greater convenience. In earlier

super markets the number of checking counters is often insufficient. This causes a delay and the customers have to wait. To correct this the later designs included a larger number of checking counters. Many stores have an "express checking counter". This is to serve only the customer who buys less than four items.

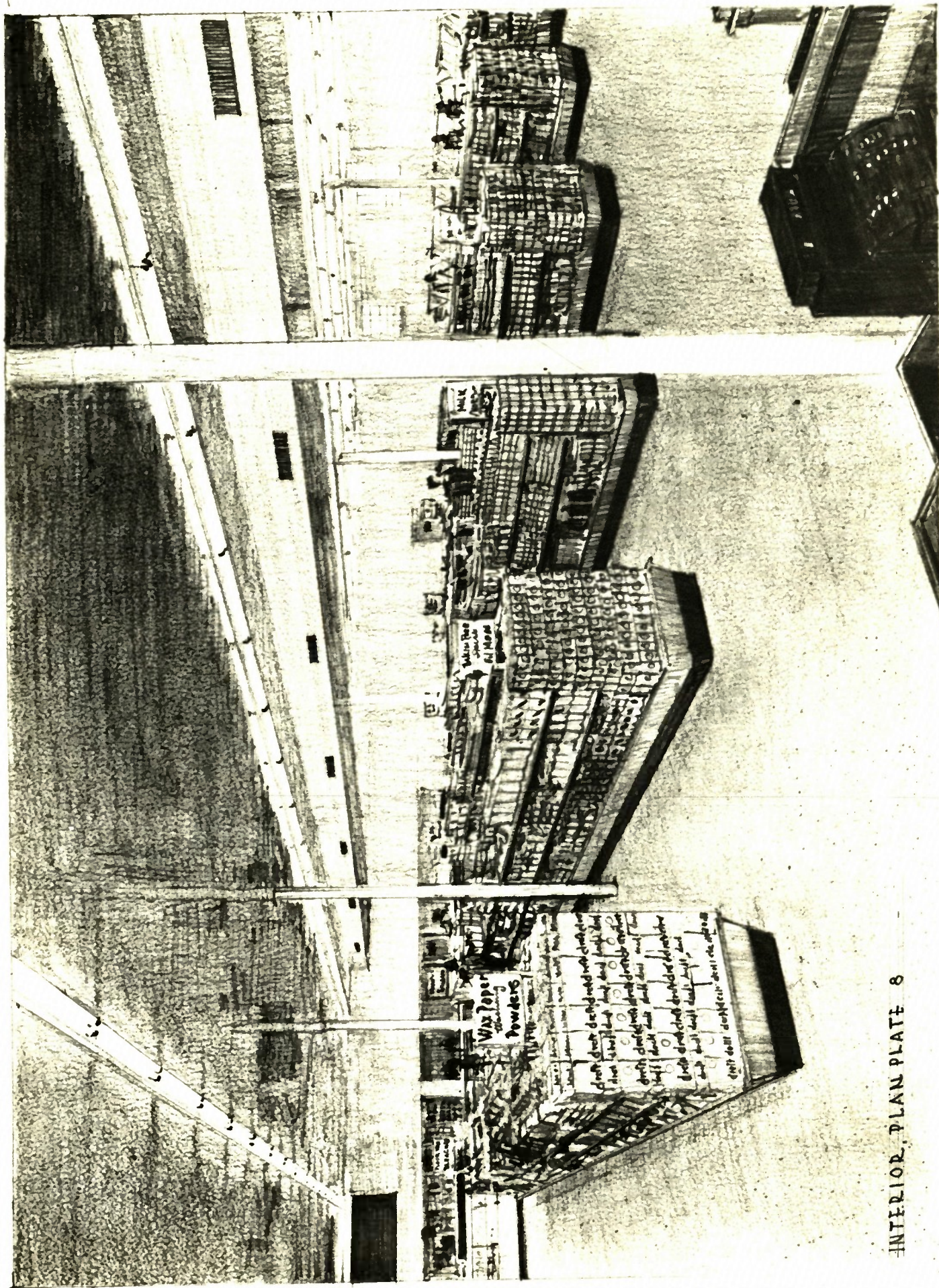
As a further improvement in plan a prominent place is given to the frozen food display. The customer cannot help seeing its colorful advertising. This department will play an increasingly important role in the future. Quick-frozen vegetables for instance require considerably less display space for the same amount of usable food than do fresh vegetables. An example of why this is true may be seen in the sale of carrots. Grocers have found that bunches of carrots that have had the tops removed do not sell readily, so he must provide space to display the considerable bulk of the leaves in order to sell the carrots. Similar prejudice does not

hold in the sale of frozen carrots. The housewife expects to buy them topless and to cook them just as they come from the package. When many further additions have been made to the lists of precooked frozen foods it is conceivable that the preparation of food will take no more time than that required to thaw it and that it will taste as fresh as when it was cooked, possibly several months before.

The bakery department is given an excellent position. By placing the display cases at an angle across the southeast corner it gains in storage space and dominates both the entrance aisle and the wide aisle in front of the produce displays.

In the dry and canned grocery section the gondolas are about forty-two feet long. Far too often gondolas are used in smaller sections giving a number of cross aisles. They thereby cause a less efficient use of space. This is a fault found in many super markets where the area





INTERIOR, PLAN PLATE 8



is divided into long rectangular shapes with the gondolas in the long direction. Planning should be governed completely by the arrangement of standard units in an area. If a certain amount of produce space is required, we use the required number of refrigeration units. The fabrication of display bins at the store is a thing of the past. Refrigeration display units are mass produced in a factory at a lower comparative cost. Therefore, the modern store has strong durable displays constructed of steel angles with exteriors of porcelain finished steel instead of the less attractive wooden displays.

Super markets should be air conditioned. This point is undisputed. In the heat of the summer or the cold of the winter the comfortable customer is a better customer. Air-conditioning is an important competitive factor. It is justified financially only in customer comfort. Its beneficial effect on the merchandise is negligible. Where stores have little competition they are seldom air-conditioned.

Air-conditioning influences many factors in the design of the building. Whenever possible it is well to cantilever a canopy out from the building. This shelters the customer in rainy weather and shades the walls of the building in sunny weather. It reduces solar heat transmission considerably thereby increasing the efficiency of the air conditioning.

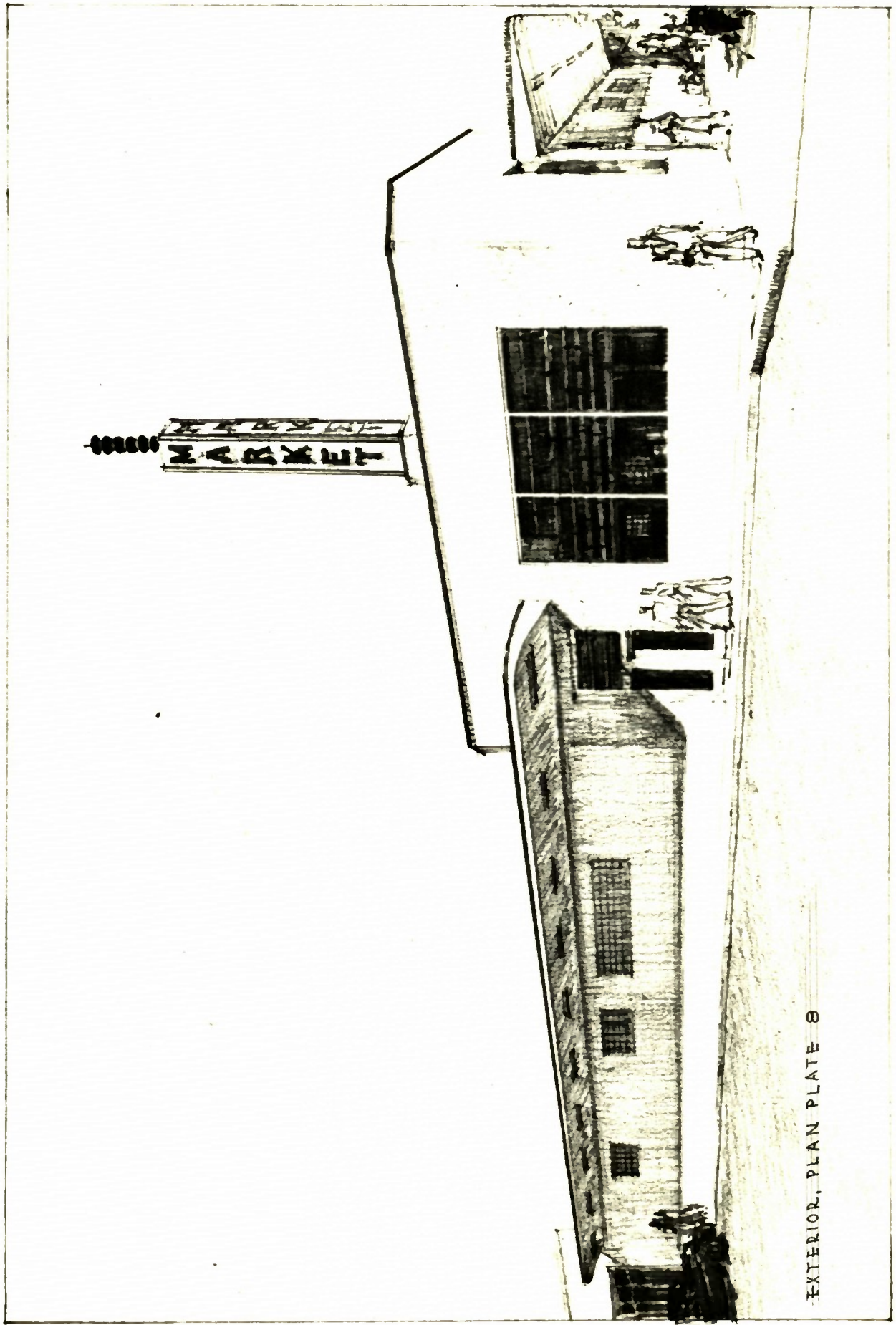
An important factor in the building design modified by air conditioning is the use of the large shop window. In my opinion such a usage in super markets is very undesirable.

Plate glass used large window sections to enable the prospective customer to see in is usually unsuccessful. In average day light the interior of the store appears as a black void with only a few small indistinguishable objects visible in the fore ground. Conversely the customers inside of the store are blinded by glare when they look in the direction of these windows. The fate of such



windows is usually that of those mentioned in the first super market described. They are painted out and displays are placed in front of them. For this reason it is wiser to use the windowless wall throughout. Twelve inches of hollow tile has far better insulating qualities than a fraction of an inch of plate glass. Where windows are needed for light glass blocks may be used for the purpose much more efficiently than regular sheet or plate glass. I believe that there should be an unwritten law in super market design: "Do not use plate glass!" In small stores claustrophobia may justify a few plate glass windows, but such reason is not valid in dealing with the spacious area of the super market.

The grocery chains seem ready to accept the logic of this. Such was the case in the super market whose plan we have considered. Where day light was desired to supplement artificial light they quite sensibly used glass block windows.



EXTERIOR, PLAN PLATE 8

But in the front of the store, above the soda fountain, we find two large plate glass windows (see illustration) one on the south and one on the west. Thus by failing to be consistent concerning the undesirability of plate glass they marred a building that was otherwise very functional. The windows cannot be defended for the view they present, it is not beautiful. Nor can they be justified for the light they admit for much of the day it is direct sun light and glare.

Possibly sufficient light for the whole store can never be obtained from glass block windows. At best these are only good supplements to the artificial lighting. This artificial light must be in considerable quantity. It often must compete with brilliant sunshine. That is, when a customer goes into or comes out of a super market he must not experience too great a change. In the course of my search I found one store that is an example of especially bad lighting. The store faces

east and the front wall is almost entirely of plate glass. In front of the building is a considerable parking area of concrete. Artificial light in this store is furnished by incandescent fixtures spaced about twenty-five feet apart, in both directions. When one enters the store it appears to be dirty. Further examination shows that it is clean enough but very inadequately lighted. The situation is hindered rather than helped by the windows in front. The brilliant glare from the light concrete coming in from a horizontal direction tends to silhouette objects and make the store appear darker.

The lighting system which is used in the better designed super markets consists of units of fluorescent tubes placed end to end on the ceiling to form strips of lighting. These strips are placed approximately fifteen feet apart. Too much artificial light seldom is found, but it is very common to find too little. Light units ranging from a minimum of

twenty-five to a maximum of fifty per square foot should be provided.

The fluorescent strips produce a soft cool light. A cool source of light is an important factor in air conditioning. A large number of lighting fixtures having a hot source of light radiate a great deal of heat. This heat must be overcome in the summer by the air conditioning unit.

The super market has been slow to make provisions for sound deadening. Though sound is not as important a problem in the super market as it is in many other types of buildings, I believe that it is worthy of serious consideration. Acoustical engineers report that sound is excessively high in all such stores. Whenever a large number of people are in the store there will be a considerable amount of noise. Add to this the noise of cash registers, dishes at the lunch counter, noise that filters in from the traffic at a busy intersection, and often the more recent

addition the phonograph record department and then we will find the noise considerable and unpleasant. This situation can be greatly improved by the use of sound absorbing material on the ceiling instead of the usual hard plaster. Acoustical material was not used in older stores because its porous surface collected dirt. Air conditioning has greatly reduced this problem by cleaning the air. It is to be hoped that excessive sound will be eliminated in future super markets.

The exterior design of super markets has taken many different appearances decoratively. All have had the one story form in common. The early super markets developed during a period of eclectic architecture. The facades were often strange and inappropriate. Some of these earlier designs may be seen in the older super markets in Houston. One has copied its decoration from an Incan Temple. Another incorporated Greek Doric columns made of red concrete in its design. Still

other examples have mimicked oriental bazaars.

Such designs were a result of a popular romanticism.

Following this romantic movement less ornate buildings made an approach toward more functional design. In these buildings we find the first indications of a awareness of purpose in the design. They are unmistakably super markots. They are not attempts to make a super market look like a temple or a bazaar. Though they are often unattractive they are honest expressions of the super market and its development at the time they were built.

With the development of newer materials and forms this frankness of design is developing into "modern" architecture. Unfortunately, far too many of the super markets being built today are interpreting "modern" as the juxtaposition of plate glass, white plaster, and dramatic towers rather than a harmonious combination of function and aesthetics.

My study of the super market leads me



to confirm certain essential requirements developed in its experience and to suggest strongly others which I feel are to be looked for as desirable in the future. It is my opinion that six qualities of major importance should be found in the best super market. First, it should have a good location. A location that is not only easily accessible and convenient for other shopping, but one that also provides ample parking area. Second, because of the greater volume of merchandise the super market should sell better quality of food at lower prices. This point is often over-emphasized. It must be remembered that lower prices alone cannot be counted on to make a store a success. Third, the plan of a super market should be designed so as to afford a combination of maximum customer convenience with a maximum of sales promotion. Customers will not patronize a store that is poorly arranged. Fourth, the comfort of the customer should be considered of utmost import-

ance in the design of the building. That is, it should be designed for the greatest efficiency of heating, air conditioning, deadening of sound, and lighting. Fifth, and perhaps most important, a super market must be spotlessly clean. Food must look appetizing if it is to sell, and food cannot look its best in unclean surroundings. A dirty floor may have a decided influence on a customer. The importance of lighting and a clean appearance, cannot be over-emphasized. A store must not only be clean, but it must look clean as well. Sixth, the design of a super market should be aesthetically pleasing. Of all the qualities desirable in a super market, I feel that the fulfillment of this one is the rarest. Judging from the appearances of stores that have been built in the past, the beauty of a super market is an after thought, if indeed it has been given any thought. Attractive design should develop hand in hand with functional

design. Beauty is not to be attached to a building as a postage stamp is attached to an envelope. Beauty must be an inseparable part of the whole structure.

Cleanliness, economy, comfort, convenience, and beauty when completely realized are the qualities that make the perfect super market. It must bring the bounty of autumn in the freshness of spring. These are not qualities of a distant tomorrow; they are qualities that should be found in every super market of today.

Super markets have come a long way since the days of the old public market, but their development must continue. When newer and better things are developed super markets should be among the first to incorporate them.

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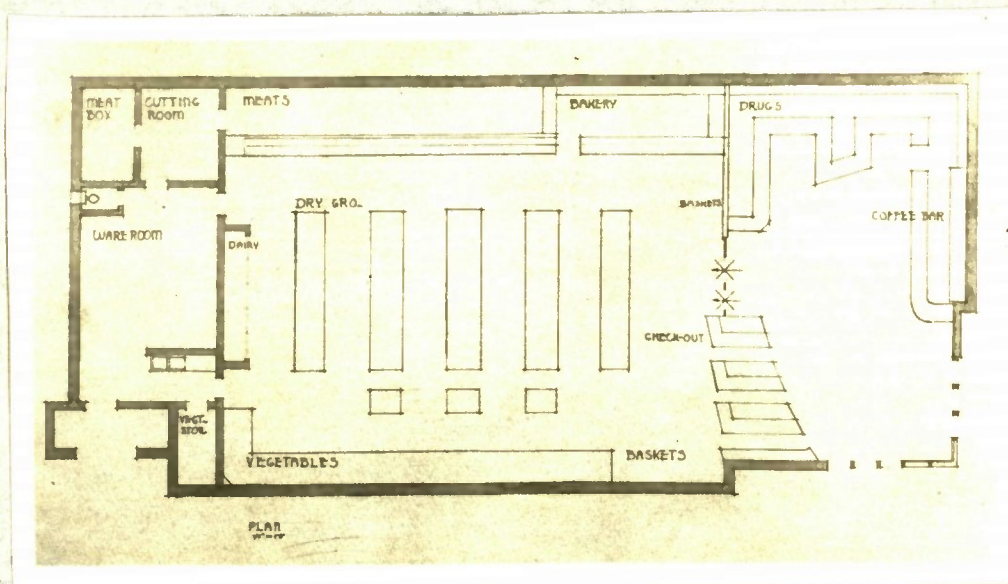
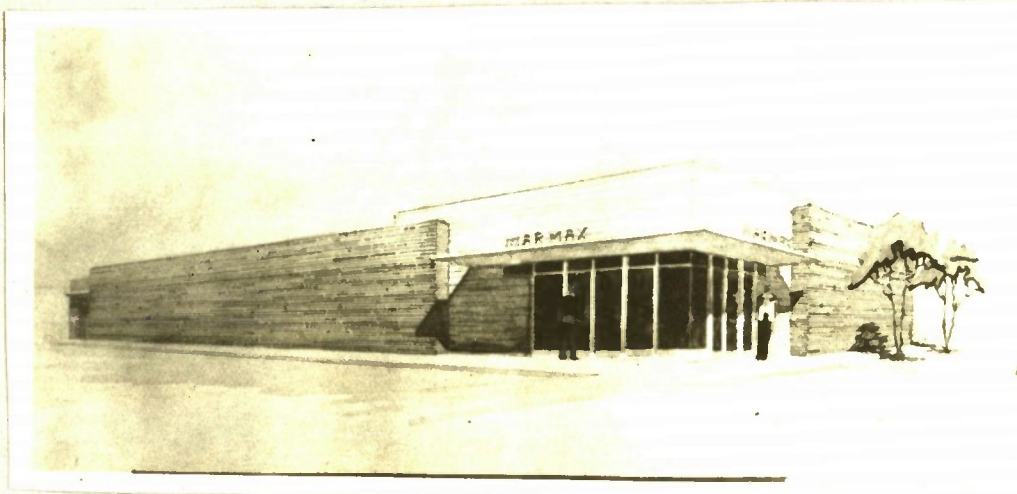
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**Appeared in:**

**Retail Facts Magazine, The Schuhmacher Company,  
1209 Commerce St., Houston, Texas.**

Voluntary Grocer, Operations Incorporated, New York, N.Y.

Wholesale Grocers, New Verst Publishing Company, Chicago,  
Illinois.