



A REVIVAL

GROTON FARR

BEING AN ARCHITECTURAL
THESIS EXECUTED AT THE
MASSACHUSETTS INSTIT-
UTE OF TECHNOLOGY BY:

JOHN RAUMA

CAMBRIDGE
1952

A GROTON FAIR REVIVAL

Submitted in partial fulfillment
of requirements for the degree
Master in Architecture.
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John G. Rauma
B.S. Marquette University, 1946
B.Arch. University of Minnesota, 1950

L. B. Anderson, Head
School of Architecture
Massachusetts Institute of Technology

July 5, 1952

Pietro Belluschi, Dean
School of Architecture and Planning
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Dean Belluschi:

In partial fulfillment of the requirements for the degree,
Master in Architecture, I, herewith, respectfully submit
a thesis entitled, "A Groton Fair Revival,"

Sincerely yours,

John G. Rauma
100 Westgate MIT
Cambridge, Mass.

ACKNOWLEDGEMENTS

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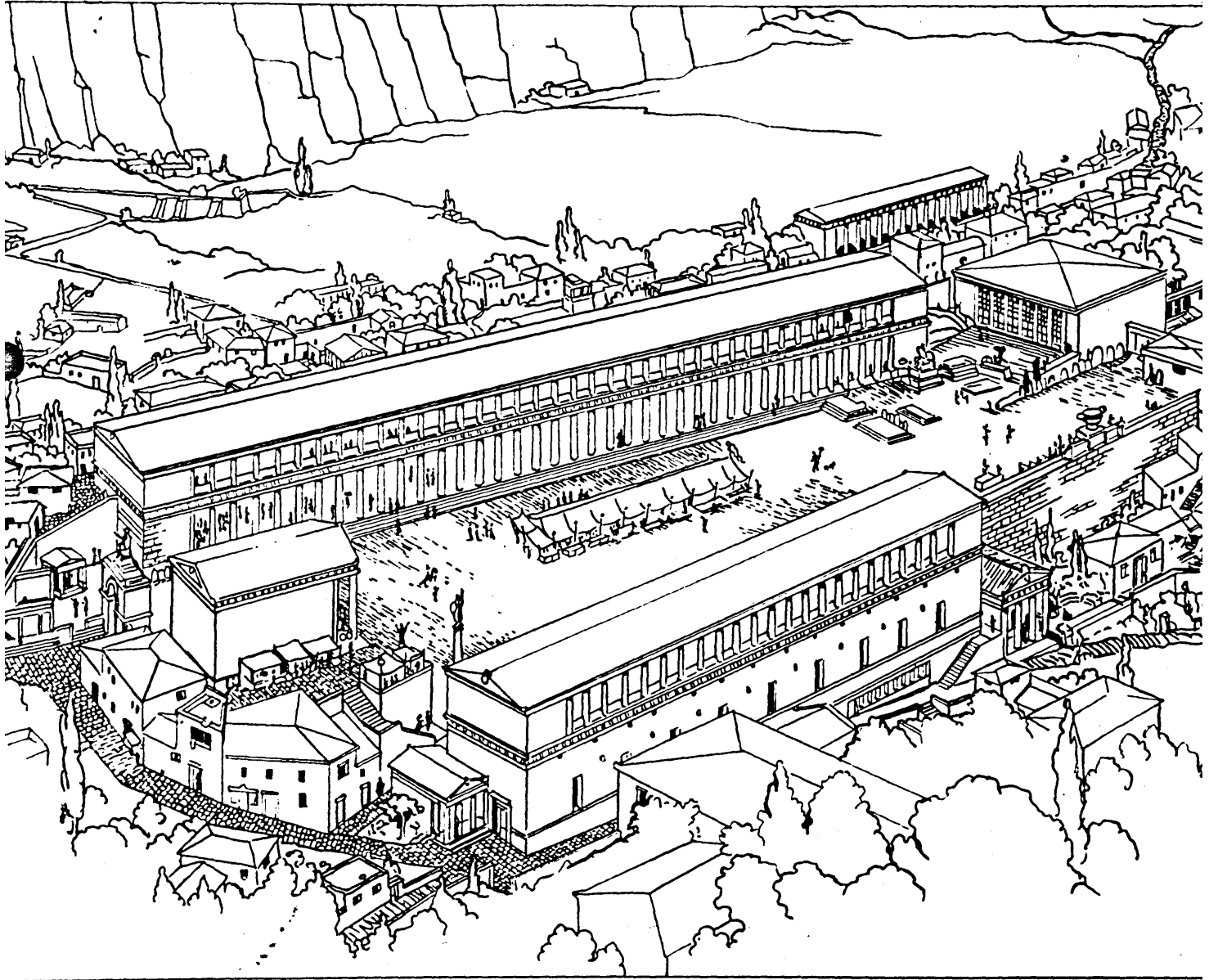
ABSTRACT

A Fair Revival in Groton, submitted by John G. Rauma in partial fulfillment of requirements for the degree Master in Architecture.

School of Architecture and Planning, Massachusetts
Institute of Technology August, 1952

The county fair in America seems to have an indigenous cultural value. Historically it has served as an educational, competition stimulus to agricultural, and crafts development. Today, the fair provides this historical function, as well as giving our ever-mechanized society the opportunity and stimulus towards productive leisure activity. Exhibitions today may give satisfaction and guidance to this activity, and may well serve to be one vehicle by which society may come to realize the role of the machine as "tool" rather than "master."

A fair revival in Groton, Massachusetts has been chosen as a design study. Preceding the crystallization of a program for design, are studies of the history and tradition of fairs; the economic and social definition of Middlesex County, and a conceptual proposal for the total development of the "fair organization."



INTRODUCTION

One universal urban pastime in the United States as well as abroad is "window shopping." On mild winter evenings, particularly at Christmas, and in the summer, "Main Street" becomes the esplanade of a neon-lighted, colorful, exhibition. Couples stroll arm in arm; groups of boys and girls shout excitedly across the street; the family automobile cruises slowly enough so that all may see the windows and the people. However purposeful the storekeepers may be in their display, an equal significance lies in the resulting social activity. And, so it is with a real "fair" or exhibition. They are not just collections of interesting objects brought together at a certain time and place. They are human activities, undertaken for definite reasons and in order to achieve specific results. They are a form of human intercourse, whereby the promoters and exhibitors on the one hand, communicate with the visitors on the other. And, their results can only be told in terms of further human thought and action.

It may be well to preview some of the reasons for the origin of "fairs." The first quite simply may be the desire to "show off." Xerxes was perhaps one of the earliest exhibitors. From the Bible,¹ The Book of Esther

1 Luckhurst, K.W., The Story of Exhibitions, The Studio Publications, London, 1951 P. 9

we read that he "showed the riches of his glorious kingdom and the honour of his excellent majesty many days, even an hundred and four-score days." This purpose was to impress "the nobles and princes of the provinces, being before him," and we can imagine the show, with many richly ornamented textiles, furniture, and other kinds of exhibits, set out, perhaps, in a persian garden.

Next may be listed the intention to advance the material interests of the promoter or exhibitor. A very close relative of a formal exhibition is the informal oriental bazaar, or the market-place activities in an Italian square or Mexican village. In the Middle Ages commerce led to the organization of enormous fairs at such centers as Lyon, and Leipzig, at which there were great displays of merchandize. In addition to displays such as these, commerce plays an important role in nearly all public fairs and exhibitions. Even at shows which are basically cultural, many of the exhibits are for sale.

Another reason for the life of fairs is perhaps the strength of the competitive instinct in man, and out of which grows a steadily improving wealth of creative activity.

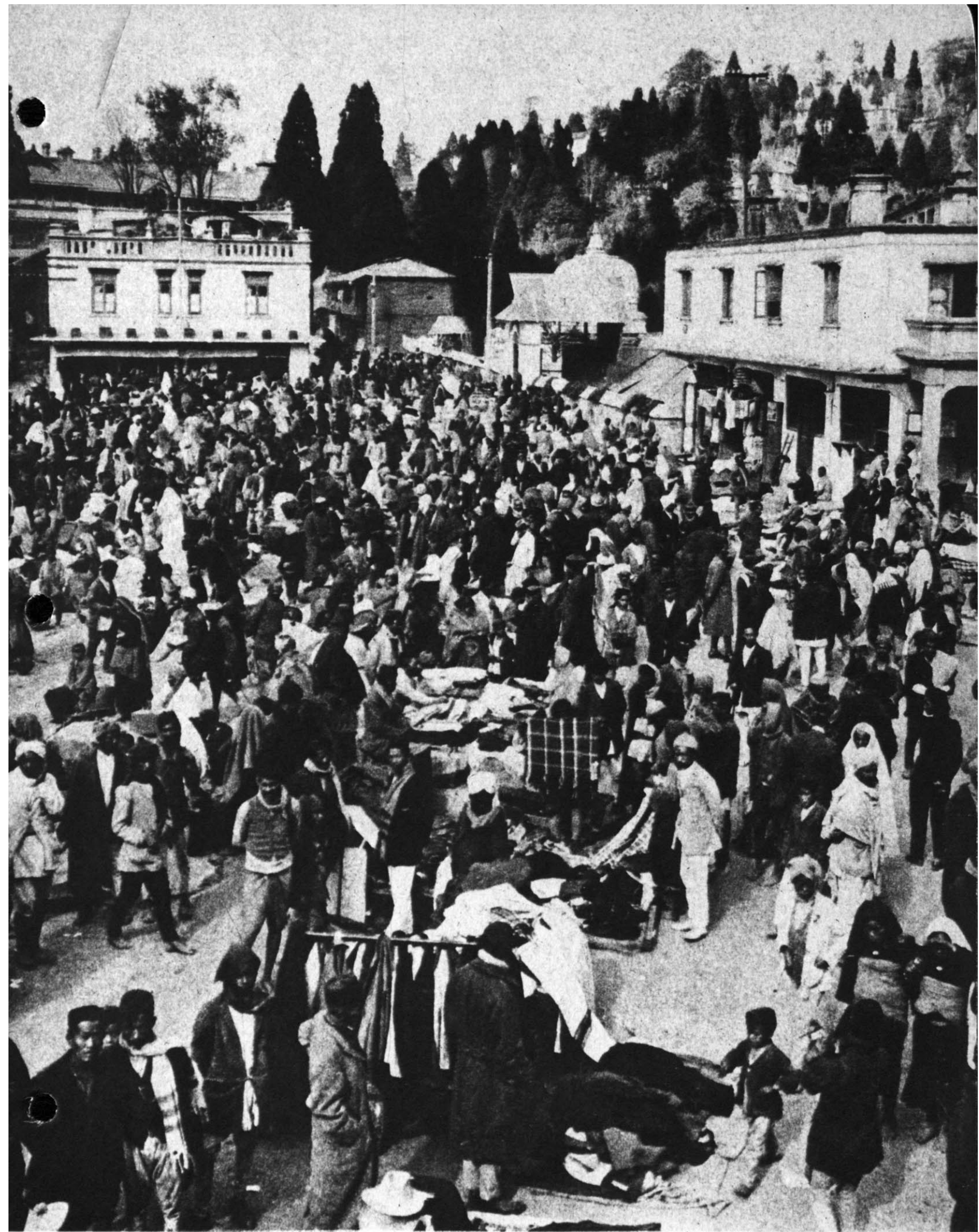
It is obvious that an exhibition must contain quantities of informative material. But, so does any public library, or museum; so the special value of exhibitions must be to provide instruction in a way which has unique

illustrative appeal, without boring the spectator. The necessary elements of excitement, and revelation may well be accountable for an Eiffel Tower, or a Crystal Palace, and the numerous other visual, spacial, structural, experiments common to the idea of "fair."

These, by way of introduction may be some of the purposes common to all kinds of exhibition from the "4-H Fair" to World Fair; from the oriental Bazaar to the festival of Britain.











Part I Background of Fairs

The Medieval Fair

"This Fair is not only the greatest in the whole Nation, but in the World; nor, if I may believe those who have seen them all, is the Fair at Leipsick in Saxony, the Mart at Frankfort on the Main, or the Fairs at Nuremberg or Augsburg, any way to compare to this Fair at Sturbridge.

It is kept in a large cornfield, near Casterton, from the side of the River Gain towards the road for about half a mile square.....

It is impossible to describe all the parts and circumstances of this Fair exactly; the Shops are placed in rows, like streets, whereof one is called Cheapside; and here, as in several other streets are all sorts of trades who sell by retail.... Taverns, Brandy-Shops, and Eating-Houses innumerable, and all in tents, and Booths as above.

In another street, parallel with the road, are like rows of booths, but larger and more intermingled with wholesale dealers, and on one side, passing out of this last street to the left hand, is a great square, formed by the largest booths, built in that form and which they called the Duddery. Here are the Clothiers from Halifax, Leeds, Wakefield, Huthersfield in Yorkshire, and from Rockdale, Bury, etc. in Lancashire.

I might go on here to speak of several other sorts

of English Manufactures which are brought hither to be sold; as all sorts of wrought iron, and brass-ware from Birmingham; edged tools, knives, etc. from Sheffield; glass-wares and stockings from Nottingham and Leicester; and an infinite throng of other things of smaller value, every morning.

"Towards the latter end of the Fair, and when the great hurry of wholesale business begins to be over, the Gentry come in, from all parts of the country round, and tho' they came for their diversions; yet tis not a little money they lay out; which generally falls to the share of the retailer, such as toy shops, goldsmiths, Braziers, Iron mongers, Turners, Millener, Mercers, etc., and some loose coins, the reserve for the Puppet Shows, Drolls, Rope Dancers, and such-like, of which there is no want, though not considerable, like the rest. The lay day of the Fair is the House-Fair, where the whole is closed with both Horse and Foot Races, to divert the meaner sort of people only, for nothing considerable is offered of that kind. Thus ends the whole fair, and in less than a week more, there is scarce any sign that there has been such a thing there."¹

1 Luckhurst, K.W., The Story of Exhibitions, Studio Publications, London, 1951 P. 12

This is an account written of the Sturbridge Fair in England in 1723 by Daniel Defoe. It cannot fail to remind us of a large, modern day industrial exhibition, or, on the other hand, of today's county fair in the United States.

Festivals

It is often believed that the origin of today's fairs lies only in the medieval fair tradition. However, other social phenomenon may also be held accountable. Perhaps one is the worldwide history of festivals, some religious, mythological, or seasonal, others seem merely to be spontaneous. Universally the fete, festival, holiday is an occasion for personal ornamentation, gayety, music, pagentry, banners, color, symbols, all elements symbolic of exhibition. Though I've found no documentation of the festival as a predecessor of the Modern Fair, I believe a common fabric in social spirit exists between them. Let the ancient heritage of festivals be a spiritual, religious antecedent.

Art Exhibitions

The already-mentioned medieval fair is certainly an appropriate economic, commercial antecedent. Both the Festivals and the commercial trade-fairs share roles in the cultural heritage of Fairs, but the real cultural ancestor of modern day fairs is realized in the development of formal public exhibitions of art midway in the 17th Century.

Among the ancient Greeks and Romans there had been ample facility for every citizen to see current great works of painting and sculpture in the porticos and squares of their cities.

In Italy, where the influence of the ancient world has persisted and art has traditionally been an interest of common people, everyone has opportunity to view it. The streets are repositories of great works of sculpture. Of course the tradition of sculpture in the parks and squares of European cities is equivalent, but not so total in its effect. Perhaps the earliest examples of formal exhibition was the institution in France of the French Academy Exhibitions by the Minister Colbert, under the reign of Louis XIV in 1667. Later these observations were made by Diderot:¹

"Ever blessed be the memory of him who, by institut-

1 Luckhurst, K.W., The Story of Exhibitions, The Studio Publications, London, 1951.

ing this public exhibition of art, stirred up the artists to emulation, provided all ranks of society, and particularly people of taste, with a useful and pleasant recreation, reversed the decadence of art amongst us and made the nation more enlightened and more critical in this subject. Why did the ancients produce such great painters and sculptors? It was because awards and honors awakened talents and because the public accustomed to look at nature and to compare it with works of art, was a judge that could not be gainsaid."

In England towards the middle of the 18th Century, there was a movement among artists to unite in the promotion of their common interests. Several of the contemporary painters; Hogarth, Gainsborough and others had occasion to present examples of their work for the decoration of a newly opened Foundling Hospital. The result was a gratuitous collection of contemporary art, which the authorities opened to the public. The interest aroused was enormous; crowds of picture starved people flocked to see it; and it became one of the sights of London. The object lesson of this impromptu exhibition was soon reinforced by others, soon sponsored by the Society of Arts (now the Royal Society of Arts) from 1756 onwards. This Society had been formed in 1754 with the object of stimulating all kinds of arts and industries. Awards were offered for work of artists; the scope of the competitions

rapidly increasing to include awards annually for developments in agriculture, forestry and various industries. Thus began a slow evolution in formal exhibitions.

Industrial Exhibitions

The competitions of the Society of Arts recurred for several years after 1756. In 1761, however, something more definite happened. In the previous year, the society had decided to purchase all prizewinning machines, or models of machines. Soon the society found itself in possession of a number of pieces of machinery, and it decided to exhibit them. A warehouse adjoining the society's headquarters was leased for two weeks. At the end of this term the owner required the use of his warehouse again, so the exhibit moved back into the Society's crowded store-room, where it flourished for an additional five weeks, such was the great interest aroused in this tiny exhibition.

This kind of exhibition began to be repeated across Europe; in Geneva, 1789; Hamburg, 1790; Prague, 1791. But it was in Paris in 1798 that a series of national exhibitions was started, which eventually led to the modern exhibition movement.

THE CRYSTAL PALACE





II The Great Exhibition and The Crystal Palace

Conception

The following resolution was adopted by the Society of Arts in May, 1845:

"That the experience of Foreign Countries has proved that the great National advantages have been derived from the stimulus given to industrial skill by bringing the manufactures of different establishments into competition with each other, and by presenting Honorary reward to those who have excelled in each department, cheapness of production and excellence of material, both in execution and durability being assumed as the criteria of superiority. That by carrying out a similar principle in this country founded on the experience of the past, with more extensive views, still greater benefits may be anticipated.

"That having regard to the objects promoted by the Society of Arts Manufactures and Commerce it would appear to be their peculiar province to attempt to carry out such an object in Great Britain, on a scale commensurate with the magnitude of the interests involved."

"That immediate preparation be commenced for such a periodical Exhibition of Works of Industry, at which the producers shall be invited to display their various productions."¹

1 Luckhurst, K.W., The Story of Exhibitions, The Studio Publications, London, 1951.

Prince Albert challenged the society to produce a practical plan, and for the following five years this challenge was used as authority for pursuing their objective.

Preparation

A National Exhibition Subcommittee was appointed, some funds were raised, and with the realization of the need for public support, a list was drawn up of individuals and places to be visited and canvassed. However, the early results were discouraging, and at times the objective was abandoned. Slowly, through a series of exhibitions of increasing interest and size, manufacturers, designers and the public in general were educated to the benefits of a great exhibition.

In June, 1849 Prince Albert summoned a conference at which fundamental issues were settled. It was agreed that a temporary building would be erected on the south side of Hyde Park. A Royal Commission was established, the kinds of exhibits to be included, was discussed. This meeting was followed by a whirlwind campaign, soliciting the support of prospective exhibitors and manufacturers. Financial risk was assumed by two speculators, Munday, who agreed to provide all the needed funds in return for 5% interest and a share of the profits, if any. And in January, 1850 the Society, having fully satisfied the government, a Royal Commission was finally issued and the Society of Arts was relieved of its responsibility.

In the face of public opposition to the intrusion of a building in Hyde Park, the Commission proceeded to appoint a Building Committee composed of three architects and three engineers and two members of the nobility. The

Committee invited designs from competitors, worldwide. Some 233 solutions were submitted, and of these 68 were selected for mention, but none were to be followed in erection. Instead, the Committee proceeded to design their own. The resulting design was a brick structure topped with an enormous sheet metal dome. To everyone, the design had only one meaning; the landscape would be spoiled. New problems cropped up, but one by one they were settled. Additional financing required for the building was covered by personal guarantees of the members of the Commission. The disputed site in Hyde Park won favorably in Parliament. The final problem remaining to be solved was the design of the building.

Paxton

Joseph Paxton was a gardner. However, his interests and abilities ranged far afield. He had designed at Chatsworth the "Lily House" and the famous Chatsworth Conservatory, both brilliant examples of an emerging architecture of wrought iron and glass. He had evidently gleaned some evidence of the nature of the Committee's design, and considered it unsatisfactory. When he first mentioned his own idea for the design to Ellis, Chairman of the railway, at the House of Commons, the latter took him immediately to see Henry Cole, who had been a leader since the days of the Society of Arts. Cole, lacking faith in the Committee's scheme, proposed that a clause might be introduced in the advertisements for bids, permitting contractors to submit alternative designs along with those they might make on the committee's design. Paxton proceeded to make sketches of his proposal, and won the support of Prince Albert, Lord Peel, and Lord Granville. Still the Building Committee did not budge from its own scheme. Then Paxton took the bold step of having his proposed building published in the illustrated London News, and won public support for his scheme. Taking advantage of Cole's arrangement about alternative designs, Paxton contacted Fox and Henderson, Engineering Contractors, who with Chance Brothers of Birmingham, were able to make an alternative tender for a design developed in detail from Paxton's sketches. They proposed to erect the building and

to remove it after the Exhibition for 79,800 pounds retaining possession of the components, or if it were preferred to leave it standing as the outright property of the Commission, they would ask 150,000 pounds. The first offer the Building Committee accepted, after negotiating for an arched transept.

Structure

Charles Dickens wrote:

"What was done in these few days? Two parties in London, relying on the accuracy and goodwill of a simple iron-master, the owners of a single glassworks in Birmingham, and of one master carpenter in London, bound themselves for a certain sum of money, and in the course of some months to cover eighteen acres of ground with a building upwards of a third of a mile long - 1851 feet - and some 450 feet broad."¹

Much may be said about the startling "Crystal Palace." To us in the 20th Century the most extraordinary fact is, that the exhibition opened in the completed structure just nine months after Charles Fox first began the preparation of working drawings. The dimensions give some impression of the accomplishment. In addition to a main covered area of 18 acres, the building rose in tiers, the second tier 264 feet wide and the third 120 feet, to a height of three stories. High above rose the vault of the transept some 135 feet from the ground at its crown. At that time, the 900,000 square feet of sheetglass used, was equal to just less than third of all English glass production just a decade before. There were some 200 miles of wooden sash bars, and more than 3000 iron columns. The cost of

1 Luckhurst, K.W., The Story of Exhibitions, The Studio Publications, London, 1951

enclosing 33,000,000 cubic feet works out at a little over a penny a cubic foot, or considering that the space was merely rented for some fifteen months, the rate was less than a half penny a year per cubic foot.

The achievement of the "Crystal Palace" was only possible by an operation which today may be called "production engineering". This tremendous building could only have been built in such a short time by a tight organization of the supplies of material, fabrication of components, and sequency of assembly. This was the equivalent conceptually of the modern "production-line." It is interesting to note the parallels in construction procedure between this building and today's large buildings, which are assembled from factory fabricated components, arriving on the job and erected within very tight sequences. A succession of teams of specialized workmen followed one another along the length of the building, foundation layers, column setters and so forth, to the final groups of sashbarcarpenters, glaziers and painters.

The Crystal Palace becomes a wonderful predecessor in such principles as modulator planning, and repetitive building components. Every important dimension was related to the number 12 and its factors. Thus the nave was 72 feet wide, and the five aisles, on either side of it were 24, 48, 24, 48 and 24 feet wide, respectively, while the height of the two stories of the nave was 24 and 48 feet. The erection

of the building from standardized parts was as rapid as their manufacture. Among the most interesting special devices employed in the process were the "glazing wagons", trolleys running on rails along the roof and each carrying two men and two boys with a supply of panes and sash bars. By means of these trolleys eighty men were able to put in upwards of 18,000 panes, or 62,600 feet of glass in six days. Indeed, the "Crystal Palace" was a remarkable precedent for the industrialized architecture of today.

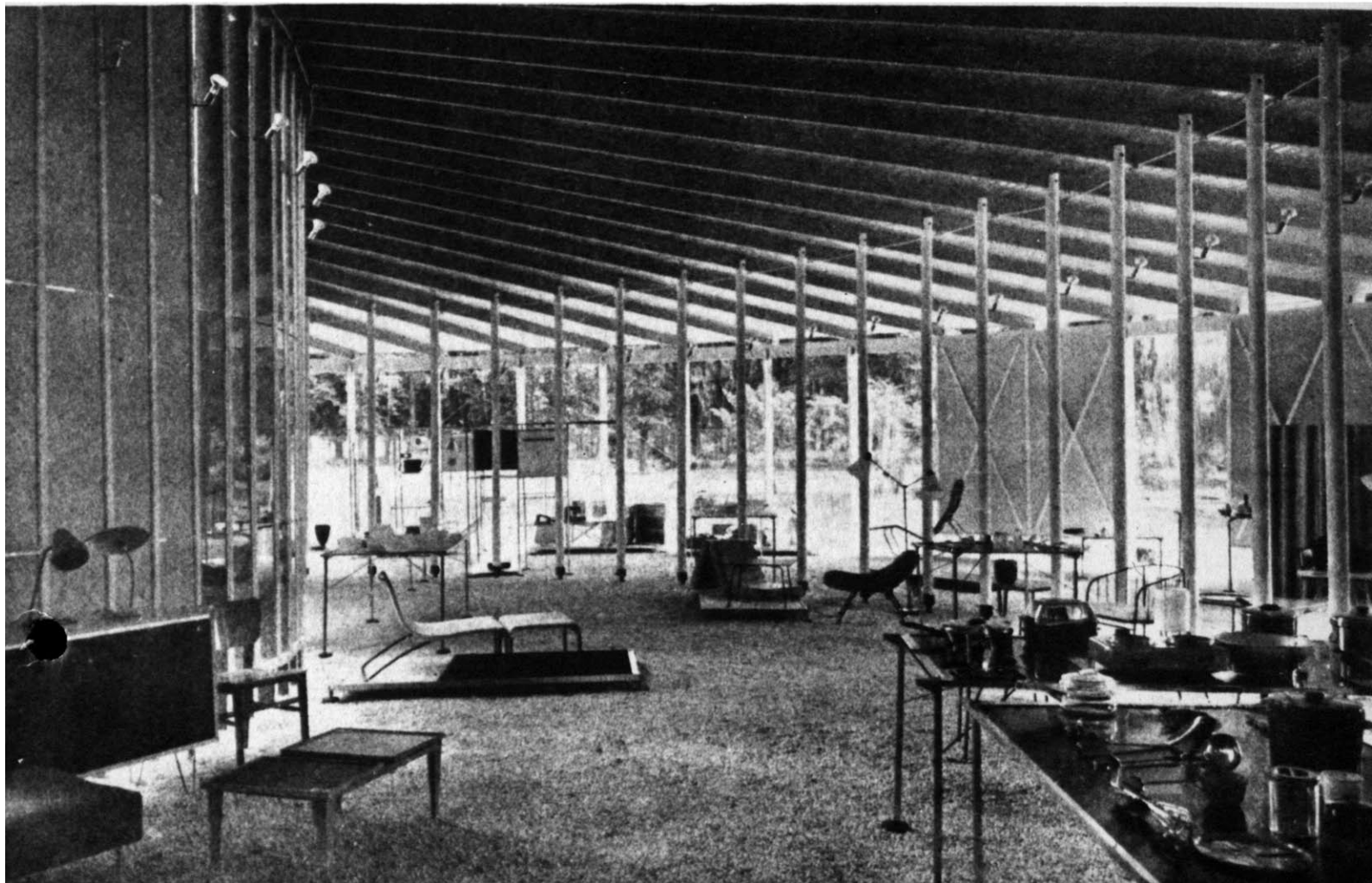
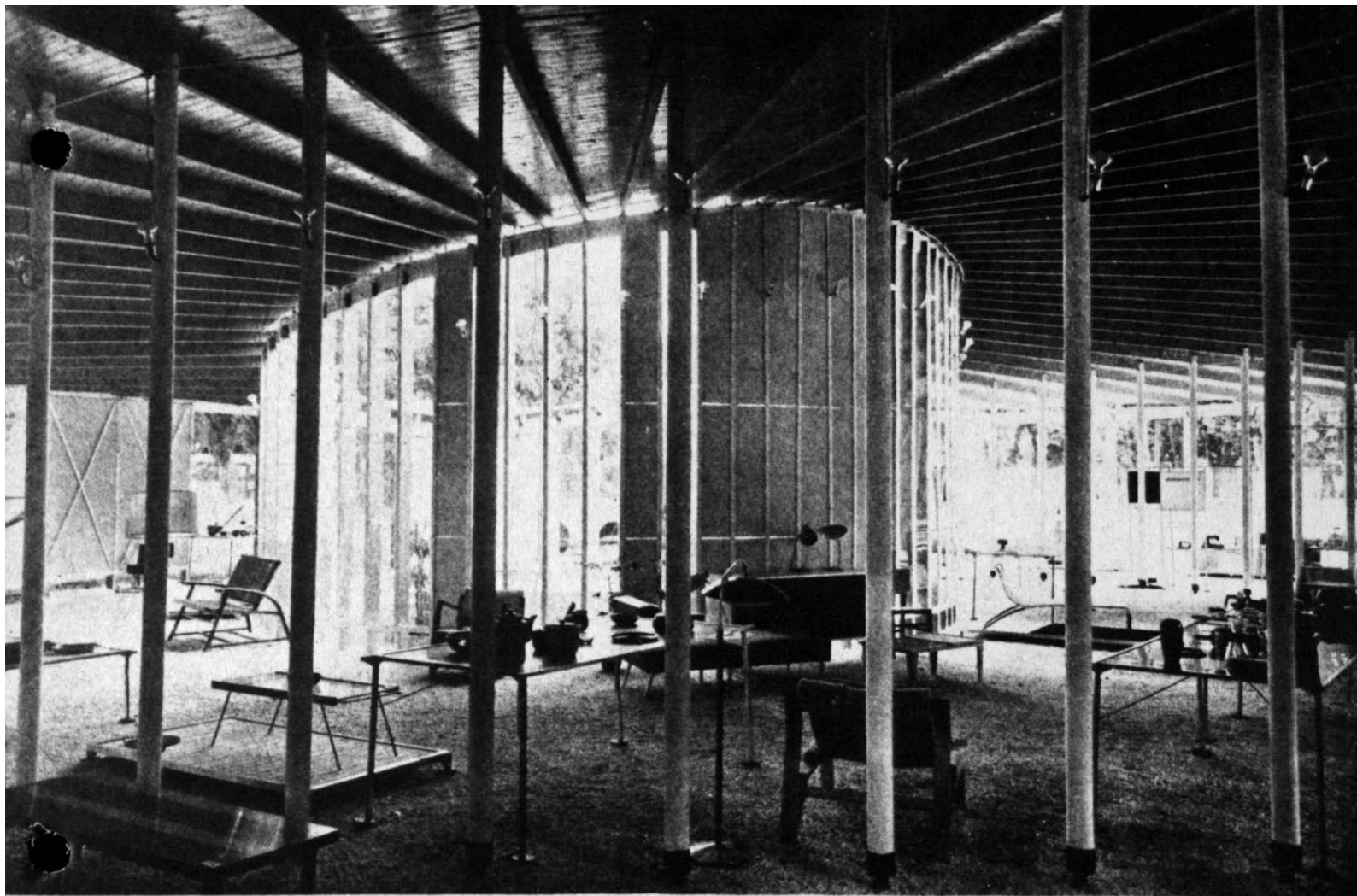
III Principles

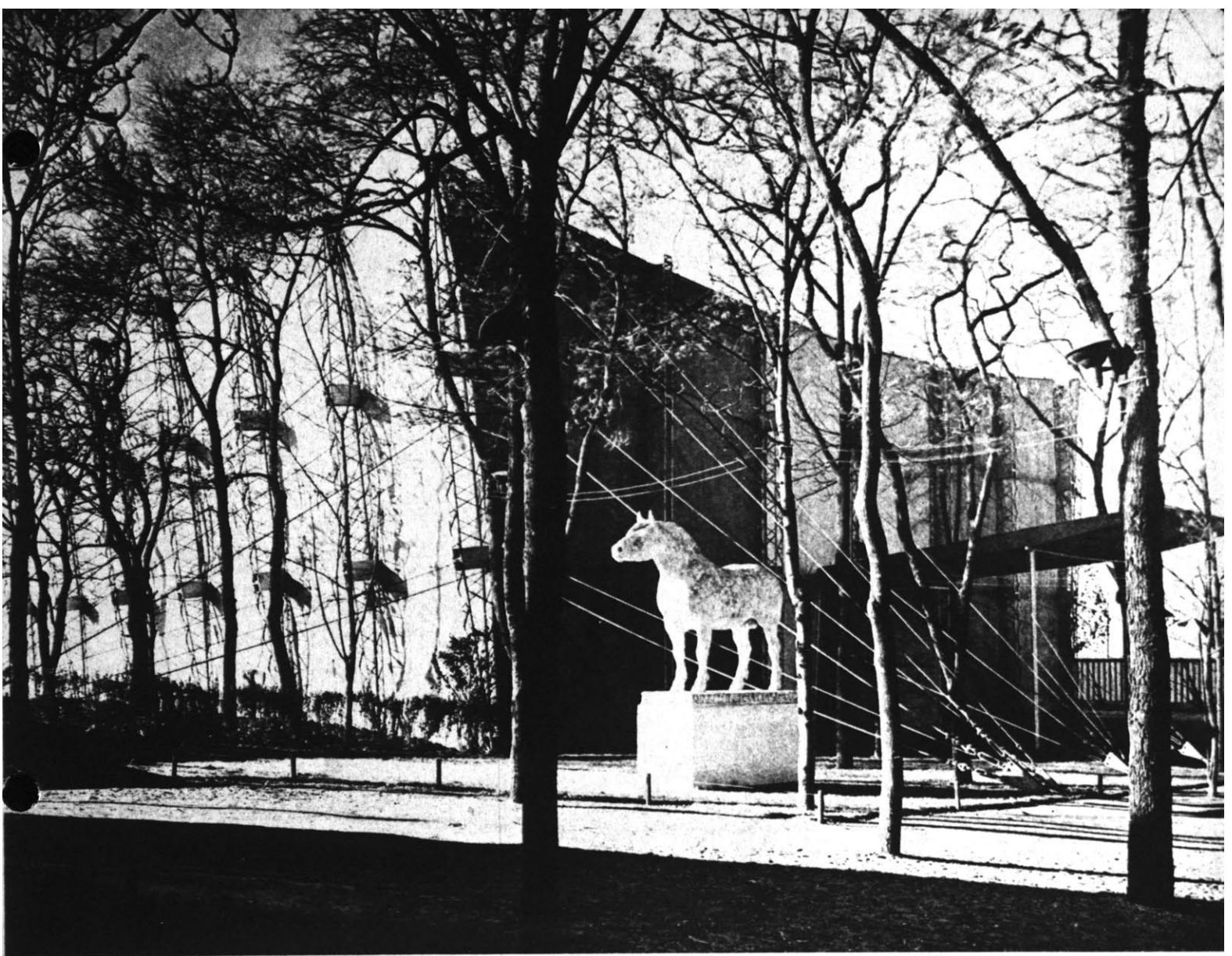
Land

An element common to the entire family of bazaars, fairs, exhibitions, large and small, is the apparent freedom to proceed without the outright purchase of land. A study of the ancient market places, as well as those still in existence today, the world over, shows vendors and merchants, selling from temporary shelter, or no shelter at all, on ground which they are permitted to use by agencies of the government, the public, or perhaps private citizens. The temporary nature of the exhibition lends best to the temporary lease of existing shelter, or to the construction of temporary structures on land which is granted or leased. This principle is born directly of the economic characteristics of exhibitions in general. To finance most exhibitions would probably be impossible if promoters had in each case to face the financial burden of land acquisition. These factors have brought a new building type to architectural horizons over the past century; the exhibition building perse. It is fortunate that in most cases, fairs are of a cooperative nature, and people look upon them favorably. Consequently it is not difficult to find land for use.

In many cases in the United States, fair grounds, State wide, or County, are held and administered by public agencies. This is quite natural since most fairs are at

least government subsidized. However, this condition
need not be a criteria.





Fair Structures

Perhaps the strongest criteria in the design of fair or exhibition shelters is the same as that which seems to guide land policy, the temporary nature of the exhibition. The tents, lean-to's, and awning shelters of the market place are removed at night and one can hardly believe such a milieu to have existed there the very same morning. The "Crystal Palace" is an arch representative of this principle. The building was designed with provision for demountability and actually was torn down to be raised again on another site. The idea of a universal building component becomes very important in this construction.

The most recent example of a demountable exhibition structure was executed by the design group, Rogers, Perressutti, Belgiojoso, in Milan, Italy for the Triennale of Milan, 1951. A most common solution to the problem is found in the large tent, the traditional circus tent, which may be erected and torn down with great speed, considering the ground areas to be covered. LeCorbusier used a tent of sail cloth to enclose a city-planning demonstration, the "Pavilion of Modern Times", at the "Exposition of Art and Industry in Paris, 1937.

For the fair which will recur annually, such as the typical county fair in the United States, a requisite beyond demountability and re-usability must be the requisite of flexibility. It is very important that fairs

should not become commonplace and familiar, hence, it is very important to develop a system both demountable and re-usable, but also one which may be expanded or made smaller if necessary, or which may be assembled into infinite patterns, if only to make it a new fair each year, a surprise.

Economic

There has never been a fair or exhibition which has virtually sprouted unseeded and without roots. Traditionally, exhibitions have begun with economic support only from those who wished to exhibit. In every instance the great industrial fairs, trade fairs, and salons and art exhibitions have been the result of an initial interest on the part of a few individuals, and a small beginning. The Great Fair of 1851 which is the predecessor of our modern day international fairs was itself a child of a family of smaller industrial shows, and so on into history. Governments have traditionally played a role in the financing and administration of Fairs, and the evolution indicates that governments will continue to share an ever larger part. However, it seems that today a healthy fair will start through the endeavors of interested persons, and will grow spontaneously because of its basic worth and benefit with a minimum of government subsidy and control.

An excellent example of such a development is the current Boston Art Festival which only a year ago was small enough to be held in a local gallery. This year it has grown to the extent of 300 exhibitors and upwards of 150,000 visitors in a four days period. It was held in a small section of the Boston Garden; exhibits mounted on metal supports which the sponsors had acquired; all sheltered under five canvas tents. The festival is self-

sufficient and expects to grown in terms of exhibitions
and spectators from year to year.

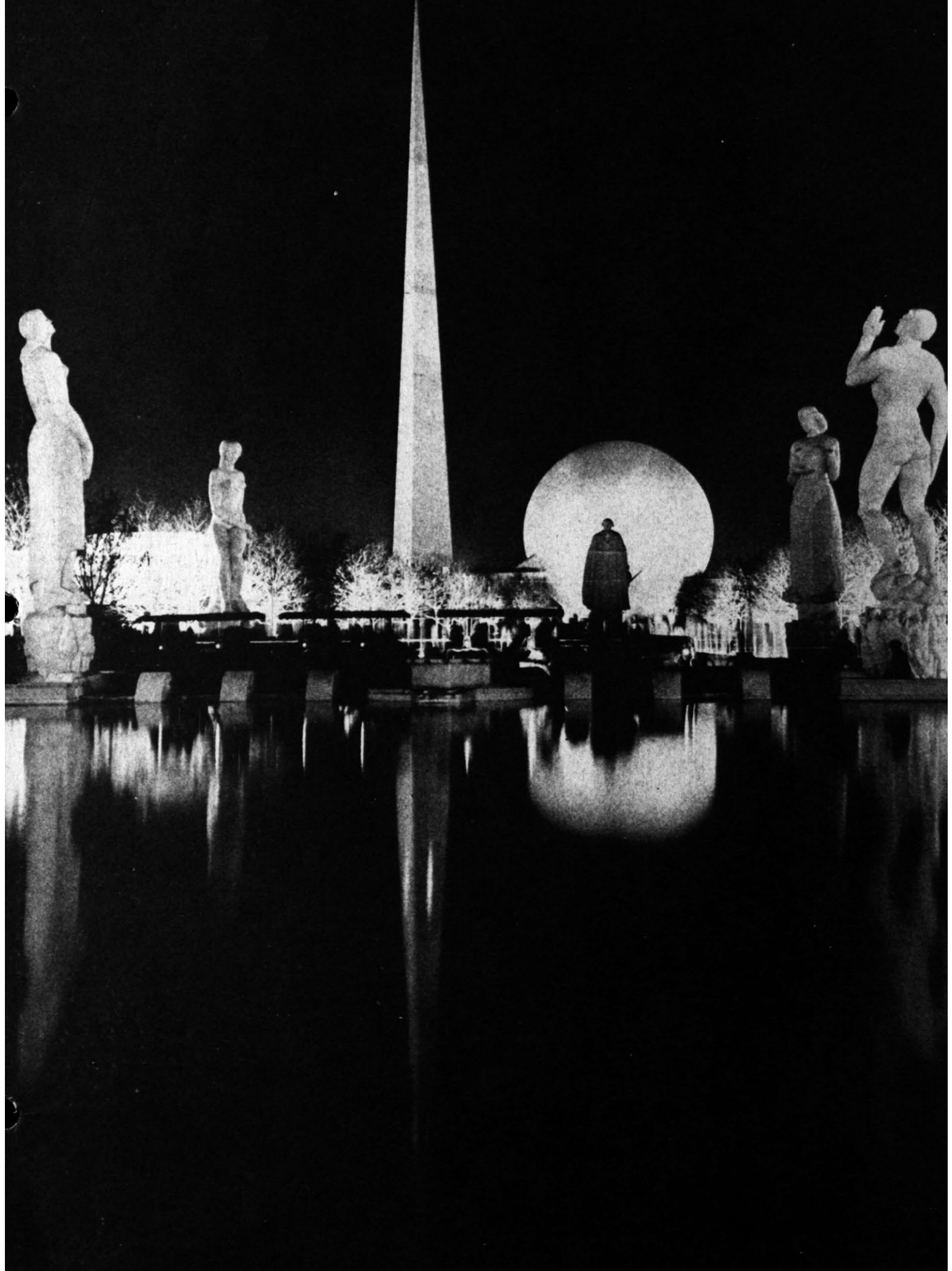
Visual Spirit

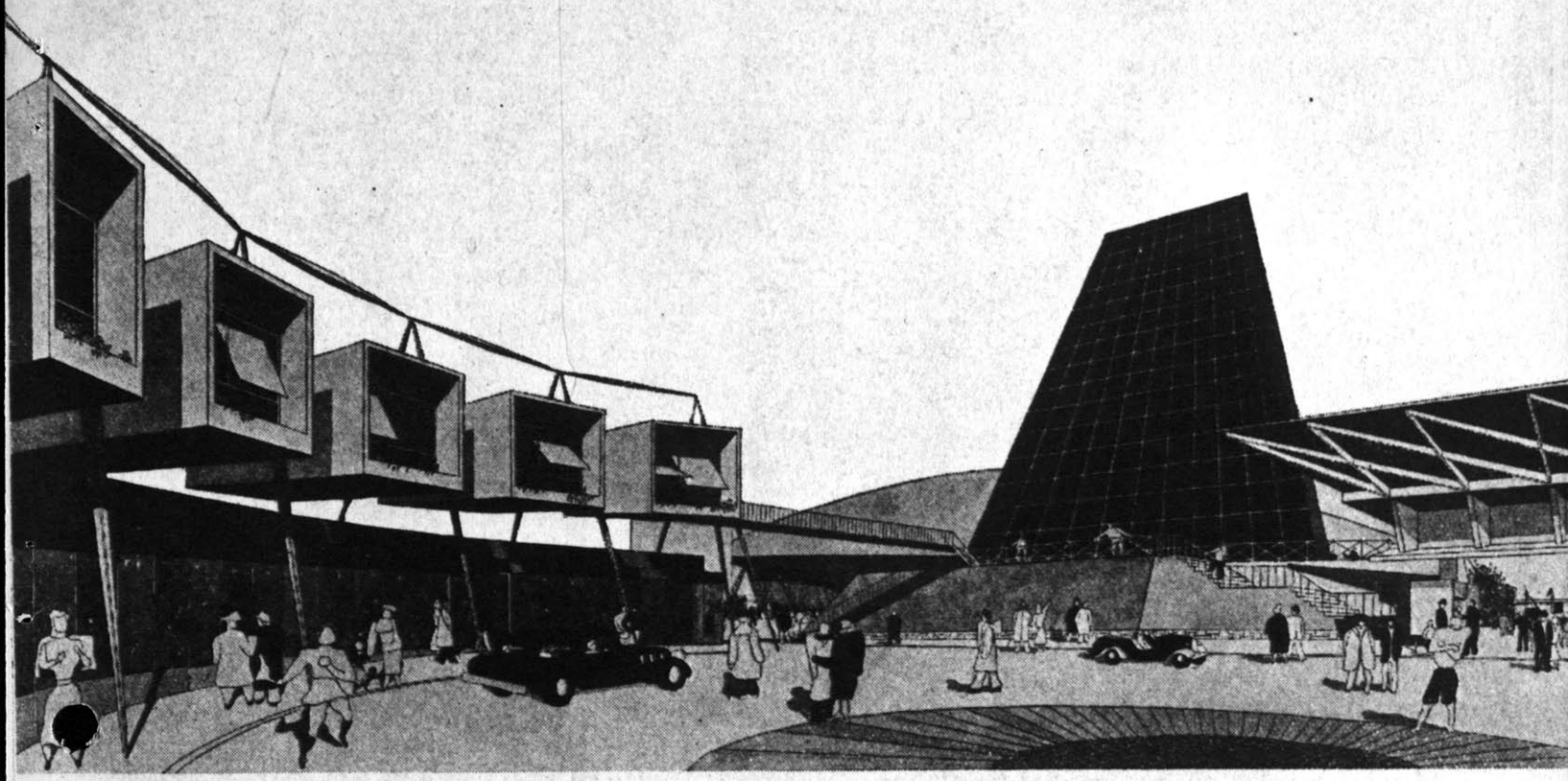
"On vient a une exposition pour se distraire, pour apprendre, pour s'amuser. La Couleur^{eur}, la musique, l'architecture originale, l'eau, les drapeaux, doivent s'unir pour creer une ambiance accueillante, joyeuse, une peu factice, differente du cadre habituel de la vie. Le personnel meime devrait etre souriant".¹

A visit to a fair must be an extraordinary experience. The visitor must be stimulated not only by the exhibits and the millieu of society around him, but the whole of his environment must be a relief from the prosaic world from which he has come. He must be stimulated at his initial glimpse of the fair in the distance through all of the surprises, spacial, chromatic, tactile, and acoustic which he will experience at closer range and within. Optomism effects should result from the displays, complimented in a balanced design by the background context provided by the fair. The temporary nature of the intrinsic fair should find expression as it did in the Crystal Palace, as it does in the ordinary circus tent. As novel or grand as the structures of the New York World's Fair may have been, or those at the St. Louis Fair of 1904, or in Chicago, 1893, the buildings expressed a monumentality and permanence, which to me, misrepresents the total

1 Robert Mallet-Stevens, Architecture D'aujourd'hui 1-2 January-February, 1940

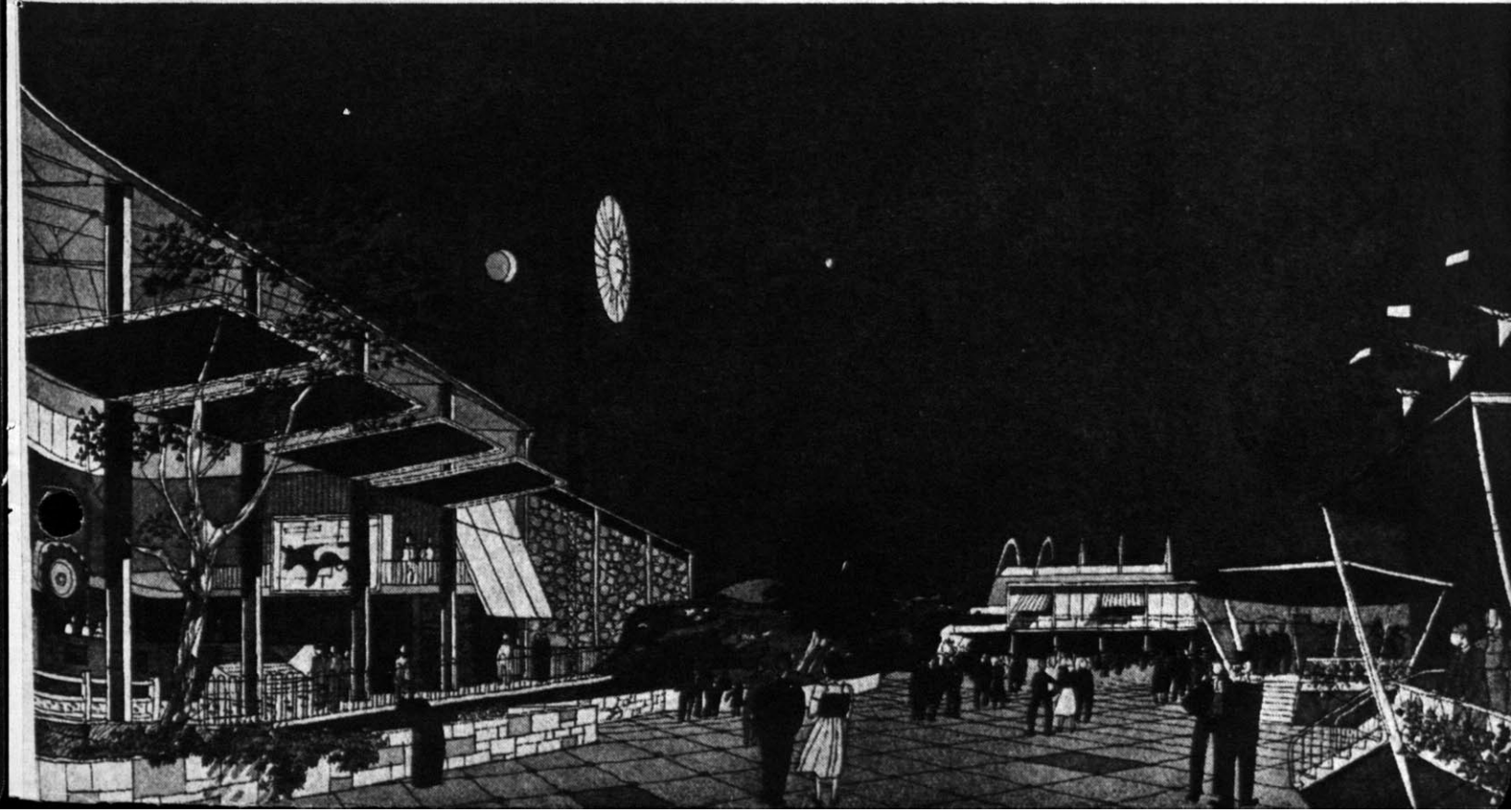
character of "exposition." I look for sequences of spatial surprize, exciting colors, the interest of the displays, and an articulate structure.





B. At the south-west (Chicheley Street) entrance; the Administration Building on the left and the Raw Materials Section in the centre.

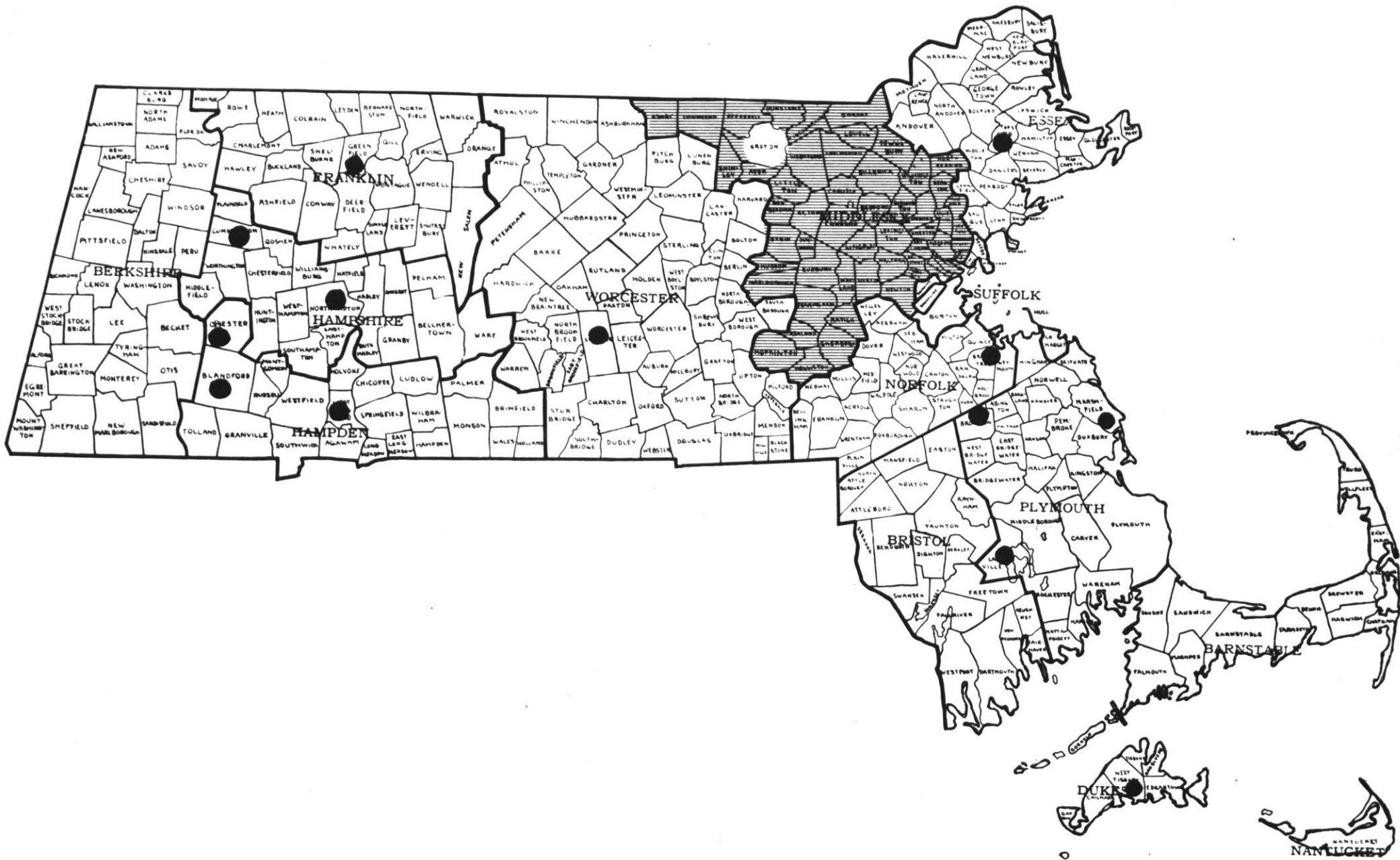
C. The first courtyard, looking east; on the left the Agricultural Pavilion, on the right information kiosks and the main perimeter screen, and in the distance the two-level approach from Waterloo Station.



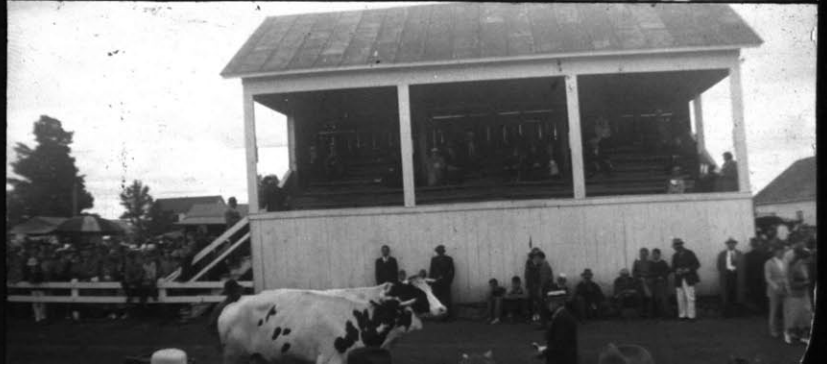
IV Fairs in Massachusetts

General

There are fifteen major fairs in Massachusetts ranging in size from the large Eastern States Exposition with an attendance of 375,000, to the Cummington Fair with an attendance of 5,000. Some of the fairs have been in existence since as far back as 1880. They are generally distributed along the course of the Connecticut River and in the Berkshires, as well as in the Boston Hinterlands. It may be interesting to investigate one community fair of the approximate size and makeup of the fair contemplated for design.



DISTRIBUTION OF MAJOR FAIRS IN MASSACHUSETTS



The Cummington Fair

The Hillside Agricultural Society annually holds its fair in Cummington, Massachusetts in the later part of August. The fair is held on grounds covering 10 acres, and is usually attended by about 5,000 people over a two day period.

The Hillside Agricultural Society was incorporated in 1883, and has been functioning continuously ever since. The roster of officers is composed of a president, six vice-presidents, treasurer, secretary, three auditors, a delegate to the State Fairs Association, as well as the various and sundry superintendents, of grounds, stock, poultry, etc. There is an executive board which is composed of the president, immediate past-president, vice-presidents, secretary, treasurer, and the superintendent of stock.

Annually the fair operates on a budget approximating \$15,000. The usual disbursements run about \$10,000 leaving an approximate balance of \$5,000 per year. (See Treasurer's report.)

Physically the fair is housed in a group of buildings consisting of the main exhibit hall, a 4-H building, a grandstand seating 250, cattle shed, horse barn, and several other shelters housing commercial exhibits.

Conventionally the exhibitors are divided into adult groups and youth groups. However, in summarizing

exhibitors, these groups will be treated as one. For 1951, a total of 500 entries of livestock breaks down into 390 head of cattle, 30 of sheep, 10 of swine, 35 teams of horses, and 36 head of goats. There were 370 exhibitors in the home arts and crafts division, 275 of poultry. There was an astounding total of 1,427 exhibitors in the agricultural division. Of this number 60 exhibits were of fruit, 380 of vegetables, 40 of dairy products, 10 of poultry products, 147 of flowers, and 785 of home-canned products.

Perhaps the most interesting and traditional events are the oxen drawing, and horse drawing contests. These powerful animals are pitted against the horsepower of a tractor or the tons of dead weight of an artificial load.

Cummington is best characterized by a prevailing spirit of cooperation; generous workmen and women who give their time and energies free of charge. It is evidenced in a living human spirit which may only rarely be experienced today. Perhaps it is expressed in the huge community meals, which are held under one shelter.

Part II A New Fair in Groton, Massachusetts

I Introduction

Why Groton?

It may be noted from the Geographic distribution of major fairs in Massachusetts that fairs are generally distributed in the west, in the Berkshires; and in the east, in the Boston hinterland. The large central areas, Worcester County and Middlesex County are favored by only one fair, at Spencer, in Worcester County. It was because of the apparent dirth of fairs in north central Massachusetts that Middlesex County was investigated, and Groton was chosen as a likely site for a fair revival.



II Groton

Historical

Groton was settled near the Nashua River in 1655, at a place formerly called Petapawag. It was undoubtedly named by Dean Winthrop, the first petitioner, one of the first selectmen, and son of Governor Winthrop, who came from Groton in England. The town as first laid out contained a grant of eight square miles. However, the town centered its life around the crude meeting house which stood near the junction of Hollis Street and Maitin's Pond Road. In 1676 during King Philip's War, Groton suffered three Indian attacks and was burned to the ground with the exception of four garrison houses. The settlers fled to Concord along the highway over the ridges, where they were frequently set upon by the Indians. Two years later many of the same people returned to rebuild their homes and to start life again in the wilderness, in the ever present danger of new uprisings.

During the Revolution, Groton sent many of her men to war. A small band of volunteers from Groton was represented on the Green at Concord, at that memorable fight in 1775.

Groton Today

Modern Groton seems very little changed from the small Colonial Hamlet it was. The 1950 census showed a population of 2889 within the town. Groton is a quiet center in a region marked agriculturally by its truck-farming, poultry, and fruit which supply the ring of urban centers around. Primary industries have been wood and wood product manufacture. It is a centroid among the industrial centers of Fitchburg, Lowell, and Nashua, New Hampshire and is within appealing distance of the suburbs of metropolitan Boston. Groton is the home of two distinguished prep schools, Groton School and Lawrence Academy.



The Old Fair

About the year 1880 a very small agricultural fair was started on the old common. It was a small beginning consisting of cattle judging, oxen drawing, and such events. Shelters were rudimentary, possibly of sail cloth, nevertheless the Fair began to flourish and preceded a larger scale development.

About the year 1900, a Farmers and Mechanics Club was established which sponsored the development of a Groton Fair. Land was purchased adjoining the Nashua River, several exhibit buildings and a race track were built. This fair reached its peak about 1918 and, with the emergence of a mass market for automobiles, began steadily to decline.

In 1925 the Fair went bankrupt, the land was lost on a mortgage, and was eventually gifted to the town of Groton. Perhaps the main reason for this failure of the early fair was its site location with respect to automobile routes. The popularity of the automobile made it possible to look to the surrounding metropolitan centers for patronization. However, the routes from major highways to the Fair were unnecessarily devious and long. So it happened that the automobile may have carried away such patronage as there was, rather than strengthening it with new visitors.

III Middlesex County

Population and Land Area

Middlesex County has the largest population of any county in Massachusetts. In 1940 the county population was 971,390 compared to a state population of 4,316,721. Roughly a little more than one-fifth of the total state population. 91.8% is urban, compared to 89.4% for the state. The farm population of Middlesex County is 19,037, roughly 1/7 of the total farm population in the state, and ranks second in total county farm population. It is the third largest county in land area, containing 829 square miles of 7,907 miles in Massachusetts.

Wealth

Middlesex County ranks second in number of retail and wholesale establishments, total sales, and bank deposits, outranked only by Suffolk County, (Boston) in these categories. However, it ranks first in number of automobiles. Economically the county is a unique balance between agriculture and industrial manufacture.

Industry

There are 1,758 manufacturing establishments in the county compared to a total of 10,542 in the state. First ranking industries in Middlesex County are: lumber, paper, chemicals, petroleum products, rubber products, stone, clay, glass products, fabricated metals and machinery products.

Agriculture

Total farms in Middlesex County number 4,694 just less than 10% of all farms in Massachusetts. In the value of farm products sold or used Middlesex County ranks first with a total of \$22,219,000, roughly 1/5 of such a valuation for the State. 52.7% of this valuation is livestock in Middlesex County compared with 58.1% for Massachusetts. Characteristic produce of the region are: truck-crops, poultry, apples, swine.

One evidence of the economic health of farmers in the region is shown by a "Farm Family" level of living index of 174% based upon a 100% average for the United States, compared to 152% for the State of Massachusetts.

Item	Rank	Middlesex County	Mass.
Number of stores (1948)	2	9,551	53,312
Total Sales in \$1000 (1948)	2	754,042	4,258,279
Bank Deposits \$1000 (1949)	2	900,022	6,528,682
Automobiles	1	191,595	832,432
No. Mfg'g Establishments (1947)	2	1,758	10,542
Food	2	77	355
Textile	2	84	432
Apparel	3	48	534
Lumber	1	19	94
Furniture	2	33	140
Paper	1	49	228
Printing	2	34	259
Chemicals	1	45	107
Petroleum Products	1	5	11
Rubber Products	1	11	47
Leather	3	71	559
Stone Clay Gl.	1	14	65
Primary Metals	3	20	132
Fab. Metals	1	76	302
Machinery	1	93	455
Transport Equip.	1	14	56
Instruments	2	17	66
Misc.	3	31	262
Farm Population	2	19,037	141,100
No. of Farms (1945)	2	4,694	37,007
Value of Products Sold or Used \$1000 (1949)	1	22,219	125,546
Percent Livestock	8	52.9	58.1
Percent Crops	6	41.2	32.6
No. Tractors on Farms	2	2,136	14,026
Farm-Family Level of Living Index	2	174%	152%
Land Area Sq. Mi.	3	829	7,907
Population/Sq. Mi. (1940)	1	1,171.8	545.9

Item	Rank	Middlesex County	Mass.
Total Population (1940) (1950)	1	971,390 1,064,569	4,316,721
Percent Urban	4	91.8	89.4
Education Completing H.S. 25 yrs. and over percent	2	36.3	30.4

County and City Data Book, U.S. Dept. of Commerce, Dept.
of the Census.

IV The Organization

Support

For the supporters of a new Groton Fair we must look to the existing fabric of agricultural and social organizations in the area. First we may consider the Grange Organization. The existing Granges are the progeny of the Great Grange Movement in the United States in the late 19th Century. In some parts of the country the organization is no longer in existence, and in New England many Granges have deteriorated into social clubs. Nevertheless many of them sponsor annual half-day Grange Fairs. Our intention would be to unite the energies and resources of the active, willing Granges in the area towards a stronger, more mutually beneficial fair.

The existing network of 4-H clubs and agricultural produce associations, such as the Apple Growers Association, would also be a potential energy and financial resource. For a number of years the Massachusetts Department of Agriculture has given guidance and various forms of subsidy to the existing fairs.

Cooperation

There is a long tradition of cooperative spirit among people engaged in fair promotion. The Cummington Fair is an excellent example of freely-given group effort. Another famous example is the "Worcester Field Day," which has reached attendance proportions of 10,000 in a single day. The usual program is a demonstration in modern farming methods. It may involve the creation of freshly seeded fields out of which may have been, the very same day, a rocky, wooded wasteland. Or it may be a demonstration in irrigation, drainage, pest control, or building construction. Equipment manufacturers and sales representatives are invited to share in the activity by demonstrating the usefulness of their products. It may be possible through such efforts to stimulate activity and realize the institution of a new fair in Groton. The Fair may be small in the beginning, but there is reason to hope that it will have significance for society today, and will develop of its own strength into a living institution.





V The Site

Location Description

I consider it of primary importance to the success and survival of a fair that its location should not only be accessible simply from major arteries, but that it should be visible to main arterial traffic. With this in mind I have tentatively selected to use two adjoining pieces of property, one of which presents an extensive vista to Highway 119, the old "Boston Road," which is the major highway passing through Groton. One property is owned by Lawrence Academy and at present is in use as an athletic field for the school. However, Lawrence Academy has been distressed that its students must cross Highway 119 in order to reach the athletic field, so there has been some thought and activity towards the establishment of a new athletic field on the East side of the highway. The other property is held by the town of Groton, and has recently been developed as a baseball field. Both properties extend from the highway to the railroad right of way owned by the Boston and Maine Railroad. The areas of land adjoining railroad property are largely marshy. It would be my proposal to use a "Groton Fair Field Day," similar to the "Worcester County Field Day," as a vehicle by which to focus the energies of the various agricultural and county agencies and improve the marshy areas. (See preceding section on Organization). The combined properties would yield a land area of 40 acres for use.

Acquisition

It is my proposal that the fair agency approach both Groton town and Lawrence Academy, seeking to lease the grounds for, say, a seven day period over which the fair could be assembled and then demounted. It may be necessary for the fair agency to purchase an area of land in which to place such permanent buildings as may be necessary in a design program. It may be pointed out that this sort of arrangement carries with it inherent disadvantages. There may be areas for dispute over administrative and operational jurisdiction. Nevertheless, the arrangement carries with it such financial advantages as to outweigh these disadvantages. It is felt that incidental problems can be worked out.

VI A Program for Design

Permanent Buildings and Facilities Core

1. Administrative Unit

Lobby - Entrance Area 600 sq. ft.

contains a lounge area, off-season exhibits,
and may be used as an information center
during the fair.

Offices

Manager/President 150 sq. ft.

Executive Secretary 150 sq. ft.

Treasurer 100 sq. ft.

Stenographer 100 sq. ft.

Meeting Room 1000 sq. ft.

seating for 50

kitchenette

may be used for exhibits, parties, and
other activities during the year.

Radio, Public Address (Audio-Visual) 100 sq. ft.

Toilets 500 sq. ft.

Heater Room - Utility - Storage 500 sq. ft.

2. Arena

A large, multipurpose shelter, used during the
fair for vaudeville presentation, concerts, and
motion picture presentation, as well as emergency
for outdoor events forced indoors by inclement
weather. The arena may be used in the "off-season"

for indoor, outdoor ice skating, horse shows, miscellaneous athletic events, "summer stock" theatre, as well as other exhibitions not reaching the proportions of the "fair." It will also provide storage space for the demountable exhibition structures in the "off season."

<u>Lobby Areas</u>	5,000 sq. ft.
<u>Multipurpose Floor Area</u>	20,000 sq. ft.
<u>"Fringe" Seating</u>	10,000 sq. ft.
<u>Storage Areas</u>	5,000 sq. ft.
<u>Public Toilets</u>	2,000 sq. ft.
<u>Mechanical Equipment</u>	500 sq. ft.

3. Livestock Enclosures

metal fence structures, to pen 400-500 head of livestock. (See Exhibition Areas)

4. Judging - Drawing Ring 10,000 sq. ft.

5. Parking Area

Assuming a total fair attendance of 30,000 over a period of three days, daily attendance would average 10,000. Assuming a peak attendance of 5,000 averaging four persons per car, there must be provision in parking areas for, say, 1500 cars. 1500 cars @300 sq. ft. per car - 450,000 sq. ft.

Temporary Exhibition Shelters

1. Livestock Areas

Cattle 200-300 head @ 100 sq. ft./hd.	25,000 sq. ft.
Sheep 50 head @ 50 sq. ft./hd.	2,500 sq. ft.
Swine 50 head @ 75 sq. ft./hd.	3,750 sq. ft.
Horses 20 teams @ 200 sq. ft./team	4,000 sq. ft.
Goats 20 head @ 75 sq. ft./head	1,500 sq. ft.

2. Poultry - Rabbits

400 - 500 head @ 30 sq. ft./head	4,500 sq. ft.
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3. Home Arts and Crafts

300 exhibitors @ 50 sq. ft./exhibition	15,000 sq. ft.
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4. Agriculture

vegetables - fruits, 400 exhibitors @ 25 sq. ft.	10,000 sq. ft.
Dairy Poultry Products 100 exhibitors @ 25 sq. ft. exhibit	2,500 sq. ft.
Canned Products 300 exhibitors @25 sq. ft. exhibit	20,000 sq. ft.

5. Horticulture, Floriculture

Flowers 400 exhibitors @25 sq. ft.	10,000 sq. ft.
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6. Industrial Commercial

10,000 sq. ft.

7. Special Exhibits

5,000 sq. ft.

8. Youth

5,000 sq. ft.

4-H, Schools, FFA, Boy Scouts, Girl Scouts, etc.

9. Farm Machinery

80,000 sq. ft.

Dining Facilities - Total

15,000 sq. ft.

Dining halls and kitchens adequate to serve peak capacity of 1000 at any meal.

Utilities, Storage, Public Toilets

In general these facilities will be incorporated into the permanent structures.

Track

The usual track facilities are not included for several reasons. In the healthy fair type, such as the Cummington Fair, the track events are found not to rank in popularity with the real fair events of exhibitions and judging and oxen drawing, etc.

And, it is felt that interest in the "intrinsic fair" should be promoted, rather than facing competition with amusements per se. It is also felt that in Eastern Massachusetts there already exist sufficient establishments of this nature to satisfy the demand, and for this reason, another racing facility would hardly attract new patronage.

Midway

Space for the "Travelling Carnival Midway" will be set aside for a permanent assortment of rides in a "children's fair." It is felt that upon executing a fair in conformance with the best design criteria it would be wrong to invite the usual "travelling slum", the Carnival, to come in to "extort", "abduct", and "corrupt" the fair and its patrons.

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Item	County total	Item	County total
SPECIFIED FACILITIES AND EQUIPMENT^a—Continued		FARMS BY TYPE OF FARM—Continued	
Motortrucks.....farms reporting 1950...	1,526	Livestock farms other than dairy and poultry.....number 1950...	90
.....1945.....	2,302	General farms.....number 1950...	77
.....number 1950.....	2,371	.....Primarily crop.....number 1950.....	33
.....1945.....	3,005	.....Primarily livestock.....number 1950.....	19
Tractors.....farms reporting 1950.....	1,516	.....Crop and livestock.....number 1950.....	25
.....1945.....	1,820	Miscellaneous and unclassified farms.....number 1950.....	1,544
.....number 1950.....	2,107		
.....1945.....	2,136	FARMS BY ECONOMIC CLASS	
Wheel tractors other than garden.....farms reporting 1950.....	1,156	Commercial farms.....number 1950.....	1,927
.....number 1950.....	1,474	Class I (Value of products sold, \$25,000 or more).....number 1950.....	214
Garden tractors.....farms reporting 1950.....	505	Class II (Value of products sold, \$10,000-\$24,999).....number 1950.....	521
.....number 1950.....	543	Class III (Value of products sold, \$5,000-\$9,999).....number 1950.....	383
Crawler tractors.....farms reporting 1950.....	73	Class IV (Value of products sold, \$2,500-\$4,999).....number 1950.....	316
.....number 1950.....	90	Class V (Value of products sold, \$1,200-\$2,499).....number 1950.....	311
Automobiles.....farms reporting 1950.....	2,239	Class VI (Value of products sold, \$250-\$1,199) ¹.....number 1950.....	182
.....1945.....	3,751	Other farms.....number 1950.....	1,233
.....number 1950.....	3,171	Part-time ¹.....number 1950.....	438
.....1945.....	4,505	Residential (Less than \$250 value of products sold).....number 1950.....	768
Farms by class of work power:		Abnormal ².....number 1950.....	27
No tractor, horses, or mules.....farms reporting 1950.....	1,411	VALUE OF PRODUCTS SOLD, BY SOURCE	
No tractor and only 1 horse or mule.....farms reporting 1950.....	139	All farm products sold.....dollars 1949.....	21,855,766
No tractor and 2 or more horses and/or mules.....farms reporting 1950.....	101	.....1944.....	21,053,725
Tractor and horses and/or mules.....farms reporting 1950.....	266	All crops sold.....dollars 1949.....	8,634,726
Tractor and no horses or mules.....farms reporting 1950.....	1,243	.....1944.....	9,148,267
TRADING CENTER AND ROAD^a		Field crops, other than vegetables and fruits and nuts sold.....dollars 1949.....	298,250
Distance to trading center visited most frequently:		.....1944.....	491,936
Under 1 mile.....farms reporting 1950.....	241	Vegetables sold.....dollars 1949.....	1,792,987
1 to 4 miles.....farms reporting 1950.....	1,653	.....1944.....	3,970,111
5 to 9 miles.....farms reporting 1950.....	647	Fruits and nuts sold.....dollars 1949.....	970,422
10 miles and over.....farms reporting 1950.....	299	.....1944.....	1,560,498
Average distance reported.....miles 1950.....	4	Horticultural specialties sold.....dollars 1949.....	5,573,067
Distance over dirt or unimproved roads:		.....1944.....	3,125,722
0.0 to 0.2 miles.....farms reporting 1950.....	2,284	All livestock and livestock products sold.....dollars 1949.....	13,177,649
0.3 to 0.9 miles.....farms reporting 1950.....	45	.....1944.....	11,763,870
1.0 to 4.9 miles.....farms reporting 1950.....	75	Dairy products sold.....dollars 1949.....	4,104,395
5.0 miles and over.....farms reporting 1950.....	15	.....1944.....	4,002,351
Average distance reported.....miles 1950.....	0.1	Poultry and poultry products sold.....dollars 1949.....	7,110,022
Kind of road on which farm is located:		.....1944.....	6,578,984
Hard surface.....farms reporting 1950.....	2,674	Livestock and livestock products, other than dairy and poultry, sold.....dollars 1949.....	1,963,232
Gravel, shell, or shale.....farms reporting 1950.....	35	.....1944.....	1,182,535
Dirt or unimproved.....farms reporting 1950.....	95	Forest products sold.....dollars 1949.....	43,391
FARM LABOR^a		.....1944.....	141,588
Week preceding enumeration:		HORSES AND MULES	
Family and/or hired workers.....farms reporting 1950.....	2,367	Horses and/or mules.....farms reporting 1950.....	575
.....persons 1950.....	5,747	Horses and colts, including ponies.....farms reporting 1950.....	561
Family workers, including operator.....farms reporting 1950.....	2,238	.....1945.....	1,007
Operators.....persons 1950.....	2,128	.....number 1950.....	1,116
Unpaid members of operator's family.....farms reporting 1950.....	747	.....1945.....	1,737
.....persons 1950.....	994	Mules and mule colts.....farms reporting 1950.....	23
Hired workers.....farms reporting 1950.....	887	.....1945.....	7
.....persons 1950.....	2,635	.....number 1950.....	40
SPECIFIED FARM EXPENDITURES^a		.....1945.....	9
Specified farm expenditures.....farms reporting 1949.....	2,588	CATTLE AND DAIRY PRODUCTS	
Machine hire and/or hired labor.....farms reporting 1949.....	1,668	Cattle and calves.....farms reporting 1950.....	1,208
Machine hire.....dollars 1949.....	810	.....1945.....	1,984
.....1949.....	123,798	.....number 1950.....	16,686
Hired labor.....farms reporting 1949.....	353	.....1945.....	21,025
.....dollars 1949.....	4,667,976	Cows, including heifers that have calved.....farms reporting 1950.....	1,138
Feed for livestock and poultry.....farms reporting 1949.....	2,046	.....1945 ³	1,861
.....dollars 1949.....	7,271,409	.....number 1950.....	11,473
Livestock and poultry purchased.....farms reporting 1949.....	1,489	.....1945 ³	15,511
.....dollars 1949.....	1,442,336	Milk cows.....farms reporting 1950.....	1,081
Seeds, bulbs, plants, and trees purchased.....farms reporting 1949.....	1,536	.....number 1950.....	11,137
.....dollars 1949.....	485,190	Heifers born before Jan. 1.....farms reporting 1950.....	645
Gasoline and other petroleum fuel and oil.....farms reporting 1949.....	1,907	.....number 1950.....	3,431
.....dollars 1949.....	876,246	Steers and bulls born before Jan. 1.....farms reporting 1950.....	376
Tractor repairs.....farms reporting 1949.....	991	.....number 1950.....	678
.....dollars 1949.....	145,814	Calves born since Jan. 1.....farms reporting 1950.....	418
Other farm machinery repairs.....farms reporting 1949.....	729	.....number 1950.....	1,104
.....dollars 1949.....	175,045	Whole milk sold.....farms reporting 1949.....	625
FARMS BY TOTAL VALUE OF PRODUCTS SOLD		.....1944.....	958
No sales.....number 1950.....	322	.....pounds 1949.....	68,806,650
\$1 to \$249.....number 1950.....	451	.....dollars 1949.....	80,888,710
\$250 to \$399.....number 1950.....	151	.....farms reporting 1949.....	4,071,938
\$400 to \$599.....number 1950.....	190	.....1944.....	22
\$600 to \$999.....number 1950.....	205	.....pounds of butterfat 1949.....	24
\$1,000 to \$1,499.....number 1950.....	145	.....1944.....	44,807
\$1,500 to \$2,499.....number 1950.....	251	.....dollars 1949.....	9,543
\$2,500 to \$3,999.....number 1950.....	193	.....1944.....	31,766
\$4,000 to \$5,999.....number 1950.....	241	Butter, buttermilk, skim milk, and cheese sold.....farms reporting 1949.....	14
\$6,000 to \$9,999.....number 1950.....	270	.....dollars 1949.....	691
\$10,000 and over.....number 1950.....	741	HOGS	
FARMS BY TYPE OF FARM		Hogs and pigs.....farms reporting 1950.....	426
Field-crop farms other than vegetable and fruit-and-nut.....number 1950.....	11	.....1945.....	999
Cash-grain.....number 1950.....	.....	.....number 1950.....	34,837
Cotton.....number 1950.....	.....	.....1945.....	33,516
Other field-crop.....number 1950.....	11	4 months old and over.....farms reporting 1950.....	359
.....number 1950.....	180	.....number 1950.....	19,096
.....1950.....	116	.....1950.....	190
Fruit-and-nut farms.....number 1950.....	116	Less than 4 months old.....farms reporting 1950.....	15,791
Dairy farms.....number 1950.....	463	.....number 1950.....	144
Poultry farms.....number 1950.....	679	Sows and gilts for spring farrowing.....farms reporting 1950.....	255
		.....1945.....	6,058
		.....number 1950.....	5,069
		.....1945.....	

¹Part-time farms include those with value of products sold of \$250-\$1,199 and operator either reporting 100 days or more of off-farm work or reporting other income exceeding value of agricultural products sold.

²Public and private institutional farms, community projects, etc.

³Cows and heifers 2 years old and over.

Item	State total	Item	State total
SPECIFIED FACILITIES AND EQUIPMENT* —Continued		FARMS BY TYPE OF FARM —Continued	
Motortrucks.....farms reporting 1950...	10,642	Livestock farms other than dairy and poultry.....number 1950...	557
.....1945.....	14,589	General farms.....number 1950...	433
.....number 1950.....	15,385	.....1945.....	
.....1945.....	18,751	.....number 1950.....	212
Tractors.....farms reporting 1950...	10,338	.....number 1950.....	56
.....1945.....	12,075	.....number 1950.....	165
.....number 1950.....	14,720	Miscellaneous and unclassified farms.....number 1950...	10,270
.....1945.....	14,026		
Wheel tractors other than garden.....farms reporting 1950...	8,322	FARMS BY ECONOMIC CLASS	
.....number 1950.....	10,769	Commercial farms.....number 1950...	13,079
Garden tractors.....farms reporting 1950...	2,928	Class I (Value of products sold, \$25,000 or more).....number 1950...	996
.....number 1950.....	3,252	Class II (Value of products sold, \$10,000-\$24,999).....number 1950...	2,781
Crawler tractors.....farms reporting 1950...	616	Class III (Value of products sold, \$5,000-\$9,999).....number 1950...	2,886
.....number 1950.....	699	Class IV (Value of products sold, \$2,500-\$4,999).....number 1950...	2,875
Automobiles.....farms reporting 1950...	15,769	Class V (Value of products sold, \$1,200-\$2,499).....number 1950...	2,355
.....1945.....	28,505	Class VI (Value of products sold, \$250-\$1,199) ¹.....number 1950...	1,186
.....number 1950.....	21,457	Other farms.....number 1950...	9,141
.....1945.....	32,901	Part-time.....number 1950...	3,279
Farms by class of work power:		Residential (Less than \$250 value of products sold).....number 1950...	5,765
No tractor, horses, or mules.....farms reporting 1950...	9,189	Abnormal ².....number 1950...	97
No tractor and only 1 horse or mule.....farms reporting 1950...	1,194	VALUE OF PRODUCTS SOLD, BY SOURCE	
No tractor and 2 or more horses and /or mules.....farms reporting 1950...	1,514	All farm products sold.....dollars 1949...	135,349,945
Tractor and horses and/or mules.....farms reporting 1950...	2,405	.....1944.....	114,838,916
Tractor and no horses or mules.....farms reporting 1950...	7,918	All crops sold.....dollars 1949...	43,922,735
TRADING CENTER AND ROAD*		.....1944.....	40,946,258
Distance to trading center visited most frequently:		Field crops, other than vegetables and fruits and nuts sold.....dollars 1949...	15,801,626
Under 1 mile.....farms reporting 1950...	1,892	.....1944.....	10,296,362
1 to 4 miles.....farms reporting 1950...	10,930	Vegetables sold.....dollars 1949...	5,487,530
5 to 9 miles.....farms reporting 1950...	5,526	.....1944.....	12,066,751
10 miles and over.....farms reporting 1950...	2,366	Fruits and nuts sold.....dollars 1949...	7,143,429
Average distance reported.....miles 1950...	4	.....1944.....	9,854,452
Distance over dirt or unimproved roads:		Horticultural specialties sold.....dollars 1949...	15,490,150
0.0 to 0.2 miles.....farms reporting 1950...	14,818	.....1944.....	8,728,693
0.3 to 0.9 miles.....farms reporting 1950...	1,097	All livestock and livestock products sold.....dollars 1949...	92,803,846
1.0 to 4.9 miles.....farms reporting 1950...	1,842	.....1944.....	70,901,001
5.0 miles and over.....farms reporting 1950...	227	Dairy products sold.....dollars 1949...	40,125,337
Average distance reported.....miles 1950...	0.3	.....1944.....	33,759,019
Kind of road on which farm is located:		Poultry and poultry products sold.....dollars 1949...	39,958,084
Hard surface.....farms reporting 1950...	17,148	.....1944.....	33,284,110
Gravel, shell, or shale.....farms reporting 1950...	1,275	Livestock and livestock products, other than dairy and poultry, sold.....dollars 1949...	10,720,425
Dirt or unimproved.....farms reporting 1950...	1,934	.....1944.....	5,857,877
FARM LABOR*		Forest products sold.....dollars 1949...	623,364
Week preceding enumeration:		.....1944.....	991,657
Family and/or hired workers.....farms reporting 1950...	17,368	HORSES AND MULES	
.....persons 1950...	37,441	Horses and/or mules.....farms reporting 1950...	5,226
Family workers, including operator.....farms reporting 1950...	16,593	Horses and colts, including ponies.....farms reporting 1950...	5,130
.....persons 1950...	15,576	.....1945.....	8,989
Operators.....farms reporting 1950...	5,983	.....number 1950.....	10,202
Unpaid members of operator's family.....farms reporting 1950...	8,296	.....1945.....	16,574
Hired workers.....farms reporting 1950...	5,104	Mules and mule colts.....farms reporting 1950...	138
.....persons 1950...	13,569	.....1945.....	55
SPECIFIED FARM EXPENDITURES*		.....number 1950.....	212
Specified farm expenditures.....farms reporting 1949...	19,353	.....1945.....	77
Machine hire and/or hired labor.....farms reporting 1949...	12,171	CATTLE AND DAIRY PRODUCTS	
Machine hire.....dollars 1949...	7,223	Cattle and calves.....farms reporting 1950...	11,480
Hired labor.....dollars 1949...	1,185,737	.....1945.....	16,997
.....dollars 1949...	8,429	.....number 1950.....	179,804
Feed for livestock and poultry.....farms reporting 1949...	26,483,389	.....1945.....	197,335
.....dollars 1949...	15,887	Cows, including heifers that have calved.....farms reporting 1950...	10,866
Livestock and poultry purchased.....farms reporting 1949...	46,569,736	.....1945 ³	16,227
.....dollars 1949...	11,216	.....number 1950.....	116,770
Seeds, bulbs, plants, and trees purchased.....farms reporting 1949...	10,118,856	.....1945 ³	144,153
.....dollars 1949...	2,263,120	Milk cows.....farms reporting 1950...	10,522
Gasoline and other petroleum fuel and oil.....farms reporting 1949...	13,197	.....number 1950...	113,342
.....dollars 1949...	3,891,931	Heifers born before Jan. 1.....farms reporting 1950...	6,899
Tractor repairs.....farms reporting 1949...	6,897	.....number 1950...	41,802
.....dollars 1949...	1,120,109	Steers and bulls born before Jan. 1.....farms reporting 1950...	4,358
Other farm machinery repairs.....farms reporting 1949...	6,051	.....number 1950...	8,599
.....dollars 1949...	1,126,366	Calves born since Jan. 1.....farms reporting 1950...	4,441
FARMS BY TOTAL VALUE OF PRODUCTS SOLD		.....number 1950...	12,633
No sales.....number 1950...	2,435	Whole milk sold.....farms reporting 1949...	5,774
\$1 to \$249.....number 1950...	3,345	.....1944.....	8,219
\$250 to \$399.....number 1950...	1,116	.....pounds 1949...	677,487,959
\$400 to \$599.....number 1950...	1,246	.....1944.....	719,231,974
\$600 to \$999.....number 1950...	1,471	.....dollars 1949...	39,738,995
\$1,000 to \$1,499.....number 1950...	1,267	Cream sold.....farms reporting 1949...	268
\$1,500 to \$2,499.....number 1950...	1,731	.....1944.....	234
\$2,500 to \$3,999.....number 1950...	1,929	.....pounds of butterfat 1949...	463,472
\$4,000 to \$5,999.....number 1950...	1,772	.....1944.....	166,419
\$6,000 to \$9,999.....number 1950...	2,097	.....dollars 1949...	342,126
\$10,000 and over.....number 1950...	3,811	Butter, buttermilk, skim milk, and cheese sold.....farms reporting 1949...	224
FARMS BY TYPE OF FARM		.....dollars 1949...	44,216
Field-crop farms other than vegetable and fruit-and-nut.....number 1950...	848	HOGS	
Cash-grain.....number 1950...		Hogs and pigs.....farms reporting 1950...	2,743
Cotton.....number 1950...		.....1945.....	5,949
Other field-crop.....number 1950...	848	.....number 1950...	95,883
Vegetable farms.....number 1950...	720	.....1945.....	98,327
Fruit-and-nut farms.....number 1950...	779	4 months old and over.....farms reporting 1950...	2,175
Dairy farms.....number 1950...	4,478	.....number 1950...	55,971
Poultry farms.....number 1950...	4,135	.....number 1950...	1,115
		.....number 1950...	39,912
		.....number 1950...	788
		Sows and gilts for spring farrowing.....farms reporting 1950...	1,303
		.....1945.....	1,303
		.....number 1950...	14,765
		.....1945.....	14,924

¹Part-time farms include those with value of products sold of \$250-\$1,199 and operator either reporting 100 days or more of off-farm work or reporting other income exceeding value of agricultural products sold.

²Public and private institutional farms, community projects, etc.

³Cows and heifers 2 years old and over.

Item	State total	Item	State total
SHEEP AND WOOL		SPECIFIED CROPS HARVESTED	
Sheep and lambs.....farms reporting 1950...	724	Corn:	
1945....	558	Corn for all purposes.....farms reporting 1949...	3,865
number 1950...	9,672	1944....	6,657
1945....	7,172	acres 1949...	29,935
		1944....	43,707
Sheep and lambs born before		Harvested for grain.....farms reporting 1949...	1,393
Oct. 1, 1949.....farms reporting 1950...	681	1944....	1,661
number 1950...	6,529	acres 1949...	5,571
Ewes.....farms reporting 1950...	645	1944....	5,974
1945 ¹ ..	315	bushels 1949...	214,271
number 1950...	5,502	1944....	210,288
1945 ¹ ..	4,537		
Rams and wethers.....farms reporting 1950...	413	Small grains:	
number 1950...	1,027	Grains grown together and threshed	
Lambs born since Oct. 1, 1949.....farms reporting 1950...	436	as a mixture.....farms reporting 1949...	43
number 1950...	3,143	acres 1949...	467
Sheep and lambs shorn.....farms reporting 1949...	512	bushels 1949...	14,749
1944....	265	Oats threshed or combined.....farms reporting 1949...	178
number shorn 1949...	5,563	1944....	215
Wool shorn.....pounds 1949...	36,942	acres 1949...	1,486
1944....	33,342	1944....	1,867
Average date of enumeration..... 1950...	Apr. 15-Apr. 28	bushels 1949...	45,990
		1944....	52,996
POULTRY AND POULTRY PRODUCTS		Oats cut for feeding unthreshed.....farms reporting 1949...	562
Chickens, 4 months old and over, on hand....farms reporting 1950...	11,419	1944....	2,111
1945....	21,979	acres 1949...	2,616
number 1950...	4,001,403	1944....	8,572
1945....	4,778,509	Rye threshed or combined.....farms reporting 1949...	157
Chickens sold.....farms reporting 1949...	6,566	1944....	145
number 1949...	11,037,455	acres 1949...	1,249
dollars 1949...	14,112,044	1944....	831
Chickens sold.....farms reporting 1949...	7,243	bushels 1949...	22,796
dozens 1949...	40,944,367	1944....	12,861
dollars 1949...	22,044,005	Hay crops, excluding specified annual legumes and sorghum hay:	
Turkeys, 4 months old and over, on hand....farms reporting 1950...	254	Land from which hay was cut.....farms reporting 1949...	12,638
number 1950...	23,091	acres 1949...	261,287
Turkeys raised.....farms reporting 1949...	913	Alfalfa cut for hay (or for	
1944....	839	dehydrating).....farms reporting 1949...	1,419
number 1949...	386,769	1944....	936
1944....	249,735	acres 1949...	16,313
		1944....	9,307
		tons 1949...	34,010
		1944....	19,446
		Clover or timothy cut for hay.....farms reporting 1949...	8,838
		1944....	8,895
		acres 1949...	168,006
		1944....	145,158
		tons 1949...	266,740
		1944....	199,312
		Oats, wheat, barley, rye, or other	
		small grain cut for hay.....farms reporting 1949...	841
		1944....	509
		acres 1949...	5,500
		1944....	3,101
		tons 1949...	8,009
		1944....	5,131
		Other hay cut.....farms reporting 1949...	4,709
		acres 1949...	64,167
		1944....	213,202
		tons 1949...	74,429
		1944....	231,793
		Silage made from grass or hay crops.....farms reporting 1949...	474
		acres 1949...	9,027
		tons..green weight 1949...	51,115
		Field crops (other):	
		Irish potatoes harvested for home	
		use or for sale.....farms reporting 1949...	4,932
		1944....	15,313
		acres 1949 ² ..	9,569
		1944....	22,524
		bushels 1949...	2,283,996
		1944....	3,275,518
		Tobacco harvested.....farms reporting 1949...	865
		1944....	705
		acres 1949...	8,359
		1944....	4,995
		pounds 1949...	13,714,413
		1944....	7,785,792
		Vegetables harvested for home use (other	
		than Irish and sweet potatoes).....farms reporting 1949...	14,240
		1944....	32,261
		Vegetables harvested for sale.....farms reporting 1949...	2,899
		1944....	7,586
		acres 1949...	21,722
		1944....	44,832
		sold..dollars 1949...	5,487,530
		1944....	12,066,751

¹Ewes and ewe lambs kept for breeding.

²For 1949, does not include acres for farms with less than 15 bushels harvested.

1950 CENSUS OF AGRICULTURE

FARMS, FARM CHARACTERISTICS, FARM PRODUCTS

For release April 20, 1952

THE UNITED STATES

(00-000) Series AC50-1

This release presents figures from the 1950 Census of Agriculture, together with available comparative data from the 1945 Census of Agriculture. The figures from the 1950 Census are preliminary and are subject to revision. A similar report has been released for every county in the United States. A preliminary report, carrying State totals only, was issued following the publication of figures for all of the counties in the State.

Generally, the data for both 1950 and 1945 are based upon the tabulation of reports for all farms in the county. However, the 1950 data for items followed by a star (*) represent estimates for all farms made on the basis of reports from a sample of approximately 20 percent of the farms.

Inventory items are for April 1, 1950 and January 1, 1945; and production items are for the calendar years 1949 and 1944.

Item	U.S. total	Item	U.S. total
FARMS, ACREAGE, AND VALUE		FARMS BY SIZE	
Farms.....number	1950... 5,382,162 1945... 5,859,169	Under 10 acres.....number	1950... 484,914 1945... 594,561
Approximate land area.....acres	1950... 1,903,824,640 1945... 60.9	Under 3 acres.....number	1950... 76,606 1945... 98,966
Proportion in farms.....percent	1950... 717,484,604 1945... 410,038,772	3 to 9 acres.....number	1950... 408,308 1945... 495,595
Land owned by farm operators.....acres	1950... 410,038,772 1945... 109,860,202	10 to 29 acres.....number	1950... 853,608 1945... 945,608
Land rented from others by farm operators.....acres	1950... 78,817,726 1945... 1,158,565,852	30 to 49 acres.....number	1950... 624,242 1945... 708,796
Land managed by farm operators.....acres	1950... 1,141,615,364 1945... 215.3	50 to 69 acres.....number	1950... 426,887 1945... 472,415
Land rented to others by farm operators.....acres	1950... 194.8 1945... 13,941	70 to 99 acres.....number	1950... 620,914 1945... 684,905
Land in farms.....acres	1950... 66.64 1945... 40.63	100 to 139 acres.....number	1950... 579,111 1945... 633,851
Average size of farm.....acres	1950... 215.3 1945... 194.8	140 to 179 acres.....number	1950... 523,451 1945... 565,958
Value of land and buildings.....average per farm, dollars	1950*... 13,941 1945... 7,917	180 to 219 acres.....number	1950... 275,009 1945... 282,839
average per acre, dollars	1950*... 66.64 1945... 40.63	220 to 259 acres.....number	1950... 212,316 1945... 210,376
Land in farms according to use:		260 to 499 acres.....number	1950... 478,084 1945... 473,184
Cropland harvested.....farms reporting	1949... 4,734,398 1944... 5,363,490	500 to 999 acres.....number	1950... 182,264 1945... 173,777
acres	1949... 344,395,294 1944... 252,865,765	1,000 acres and over.....number	1950... 121,362 1945... 112,899
1 to 9 acres.....farms reporting	1949... 886,381 1944... 1,072,945	FARMS BY COLOR AND TENURE OF OPERATOR	
10 to 19 acres.....farms reporting	1949... 768,318 1944... 852,015	Farms by color of operator:	
20 to 29 acres.....farms reporting	1949... 574,335 1944... 680,203	White operators.....number	1950... 4,801,243 1945... 5,169,954
30 to 49 acres.....farms reporting	1949... 687,956 1944... 824,712	Nonwhite operators.....number	1950... 580,919 1945... 689,215
50 to 99 acres.....farms reporting	1949... 811,181 1944... 920,295	Farms by tenus of operator:	
100 to 199 acres.....farms reporting	1949... 621,248 1944... 646,136	Full owners.....number	1950... 3,089,583 1945... 3,301,361
200 acres and over.....farms reporting	1949... 384,979 1944... 367,184	Part owners.....number	1950... 824,923 1945... 660,502
Cropland used only for pasture.....farms reporting	1949... 2,115,000 1944... 1,644,535	Managers.....number	1950... 23,527 1945... 38,885
acres	1949... 69,331,844 1944... 47,449,184	All tenants.....number	1950... 1,444,129 1945... 1,858,421
Cropland not harvested and not pastured.....farms reporting	1949... 1,552,212 1944... 64,107,544	Proportion of tenancy.....percent	1950... 26.8 1945... 31.7
acres	1949... 50,379,277 1944... 207,041	Cash tenants.....number	1950... 212,790 1945... 402,175
Cultivated summer fallow ².....farms reporting	1949... 25,614,543 1944... 100,079	Share-cash tenants.....number	1950... 193,109 1945... 137,858
acres	1949... 71,785 1944... 35,177	Share tenants ³.....number	1950... 535,017 1945... 694,928
1 to 49 acres.....farms reporting	1949... 275,299 1944... 13,980,046	Crop-share tenants ³.....number	1950... 419,740 1945... 115,277
50 to 199 acres.....farms reporting	1949... 1,696,442 1944... 1,516,830	Livestock-share tenants.....number	1950... 346,765 1945... 446,556
200 acres and over.....farms reporting	1949... 134,714,975 1944... 95,075,246	Croppers ³.....number	1950... 156,448 1945... 176,904
Other ².....farms reporting	1949... 1,650,764 1944... 1,689,192	Other and unspecified tenants.....number	1950... 48,071 1945... 108,377
Woodland pastured.....farms reporting	1949... 85,099,435 1944... 71,261,183	SPECIFIED FACILITIES AND EQUIPMENT*	
acres	1949... 2,067,843 1944... 2,927,813	Telephone.....farms reporting	1950... 2,059,625 1945... 1,866,109
Woodland not pastured.....farms reporting	1949... 415,649,520 1944... 481,016,668	Electricity.....farms reporting	1950... 4,213,563 1945... 2,787,624
acres	1949... 4,691,588 1944... 5,290,773	From a power line.....farms reporting	1950... 4,154,198 1945... 7.44
Other land (house lots, roads, wasteland, etc.).....farms reporting	1949... 45,267,240 1944... 43,568,041	Average of last monthly electric bill.....dollars	1950... 2,011,162 1945... 936,674
Irrigated land in farms.....farms reporting	1949... 305,060 1944... 288,195	Electric water pump.....farms reporting	1950... 650,983 1945... 3,154,712
acres	1949... 25,775,845 1944... 20,539,470	Electric hot-water heater.....farms reporting	1950... 800,573 1945... 61,909
Land irrigated by sprinklers.....farms reporting	1949... 25,049 1944... 689,987	Home freezer.....farms reporting	1950... 636,194 1945... 666,213
acres	1949... 1,570,357 1944... 1,251,235	Electric washing machine.....farms reporting	1950... 714,451 1945... 447,884
FARM OPERATORS		Electric chick brooder.....farms reporting	1950... 455,825 1945... 191,792
Residing on farm operated.....operators reporting	1950... 4,982,330 1945... 5,459,841	Electric power feed grinder.....farms reporting	1950... 196,113 1945... 508,341
Not residing on farm operated.....operators reporting	1950... 268,176 1945... 336,893	Milking machine.....farms reporting	1950... 614,027 1945... 57,560
With other income of family exceeding value of agricultural products sold.....operators reporting	1949... 1,553,901 1944... 2,069,415	Grain combines.....farms reporting	1950... 65,723 1945... 65,723
Working off their farm, total.....operators reporting	1949... 1,570,357 1944... 1,251,235	Corn pickers.....farms reporting	1950... 447,884 1945... 455,825
100 days or more.....operators reporting	1949... 1,251,235 1944... 1,079,054	Pick-up hay balers.....farms reporting	1950... 191,792 1945... 196,113
		Upright silos.....farms reporting	1950... 508,341 1945... 614,027
		Pit or trench silos.....farms reporting	1950... 57,560 1945... 65,723

¹Data for 1944 not strictly comparable with those for 1949.

²Totals for 17 Western States.

³The figure for croppers is for the Southern States only; for other States, croppers are included with crop-share tenants.

Item	U.S. total	Item	U.S. total
SPECIFIED FACILITIES AND EQUIPMENT^a—Continued		FARMS BY TYPE OF FARM—Continued	
Motortrucks.....farms reporting 1950...	1,840,682	Livestock farms other than dairy and poultry.....number 1950...	808,043
.....1945...	1,299,350	General farms.....number 1950...	495,741
.....number 1950...	2,209,531	.....1945...	
.....1945...	1,490,300	Primarily crop.....number 1950...	85,014
Tractors.....farms reporting 1950...	2,526,268	Primarily livestock.....number 1950...	134,275
.....1945...	2,002,662	Crop and livestock.....number 1950...	276,452
.....number 1950...	3,617,001	Miscellaneous and unclassified farms.....number 1950...	1,729,120
.....1945...	2,421,747		
Wheel tractors other than garden.....farms reporting 1950...	2,383,514	FARMS BY ECONOMIC CLASS	
.....number 1950...	3,257,149	Commercial farms.....number 1950...	3,703,128
.....1945...	206,038	Class I (Value of products sold, \$25,000 or more).....number 1950...	105,513
Garden tractors.....farms reporting 1950...	215,795	Class II (Value of products sold, \$10,000-\$24,999).....number 1950...	386,124
.....number 1950...	118,405	Class III (Value of products sold, \$5,000-\$9,999).....number 1950...	725,557
.....1945...	144,057	Class IV (Value of products sold, \$2,500-\$4,999).....number 1950...	882,322
Crawler tractors.....farms reporting 1950...	3,390,288	Class V (Value of products sold, \$1,200-\$2,499).....number 1950...	895,889
.....1945...	3,360,433	Class VI (Value of products sold, \$250-\$1,199) ¹.....number 1950...	707,723
.....number 1950...	4,206,687	Other farms.....number 1950...	1,679,034
.....1945...	4,148,275	Part-time ².....number 1950...	642,118
Farms by class of work power:		Residential (Less than \$250 value of products sold).....number 1950...	1,032,366
No tractor, horses, or mules.....farms reporting 1950...	1,244,015	Abnormal ³.....number 1950...	4,550
No tractor and only 1 horse or mule.....farms reporting 1950...	493,652	VALUE OF PRODUCTS SOLD, BY SOURCE	
No tractor and 2 or more horses and/or mules.....farms reporting 1950...	1,117,943	All farm products sold.....dollars 1949...	22,043,106,149
Tractor and horses and/or mules.....farms reporting 1950...	1,275,888	.....1944...	16,230,627,204
Tractor and no horses or mules.....farms reporting 1950...	1,250,664	All crops sold.....dollars 1949...	9,796,726,463
		.....1944...	7,507,597,166
TRADING CENTER AND ROAD^a		Field crops, other than vegetables and fruits and nuts sold.....dollars 1949...	8,015,930,583
Distance to trading center visited most frequently:		.....1944...	5,621,102,779
Under 1 mile.....farms reporting 1950...	391,260	Vegetables sold.....dollars 1949...	597,015,326
1 to 4 miles.....farms reporting 1950...	2,072,940	.....1944...	576,592,662
5 to 9 miles.....farms reporting 1950...	1,640,239	Fruits and nuts sold.....dollars 1949...	791,654,538
10 miles and over.....farms reporting 1950...	1,117,473	.....1944...	1,078,642,772
Average distance reported.....miles 1950...	6	Horticultural specialties sold.....dollars 1949...	392,116,016
Distance over dirt or unimproved roads:		.....1944...	231,258,953
0.0 to 0.2 miles.....farms reporting 1950...	2,298,916	All livestock and livestock products sold.....dollars 1949...	12,111,870,241
0.3 to 0.9 miles.....farms reporting 1950...	446,105	.....1944...	8,644,670,850
1.0 to 4.9 miles.....farms reporting 1950...	1,325,188	Dairy products sold.....dollars 1949...	3,079,131,579
5.0 miles and over.....farms reporting 1950...	391,754	.....1944...	2,531,407,944
Average distance reported.....miles 1950...	1.4	Poultry and poultry products sold.....dollars 1949...	1,823,472,120
Kind of road on which farm is located:		.....1944...	1,586,549,044
Hard surface.....farms reporting 1950...	1,647,184	Livestock and livestock products, other than dairy and poultry, sold.....dollars 1949...	7,209,266,542
Gravel, shell, or shale.....farms reporting 1950...	1,804,602	.....1944...	4,526,713,862
Dirt or unimproved.....farms reporting 1950...	1,678,019	Forest products sold.....dollars 1949...	134,509,445
		.....1944...	78,359,188
FARM LABOR^a		HORSES AND MULES	
Week preceding enumeration:		Horses and/or mules.....farms reporting 1950...	2,905,120
Family and/or hired workers.....farms reporting 1950...	4,548,846	Horses and colts, including ponies.....farms reporting 1950...	2,120,843
.....persons 1950...	8,539,102	.....1945...	2,828,412
Family workers, including operator.....farms reporting 1950...	4,471,252	.....number 1950...	5,401,636
Operators.....persons 1950...	4,244,796	.....1945...	8,499,204
Unpaid members of operator's family.....farms reporting 1950...	1,848,169	Mules and mule colts.....farms reporting 1950...	1,101,799
.....persons 1950...	2,738,098	.....1945...	1,486,249
Hired workers.....farms reporting 1950...	703,487	.....number 1950...	2,202,264
.....persons 1950...	1,556,208	.....1945...	3,129,590
SPECIFIED FARM EXPENDITURES^a		CATTLE AND DAIRY PRODUCTS	
Specified farm expenditures.....farms reporting 1949...	4,782,927	Cattle and calves.....farms reporting 1950...	4,063,945
Machine hire and/or hired labor.....farms reporting 1949...	3,549,089	.....1945...	4,688,746
Machine hire.....farms reporting 1949...	2,758,310	.....number 1950...	76,762,461
dollars 1949...	611,862,029	.....1945...	82,654,417
Hired labor.....farms reporting 1949...	2,663,944	Cows, including heifers that have calved.....farms reporting 1950...	3,930,706
dollars 1949...	2,418,322,985	.....1945 ³ ...	4,542,821
Feed for livestock and poultry.....farms reporting 1949...	3,875,047	.....number 1950...	37,238,986
dollars 1949...	3,025,352,617	.....1945 ³ ...	44,156,337
Livestock and poultry purchased.....farms reporting 1949...	2,950,177	Milk cows.....farms reporting 1950...	3,648,257
dollars 1949...	2,390,130,851	.....number 1950...	21,280,577
Seeds, bulbs, plants, and trees purchased.....farms reporting 1949...	3,336,437	Heifers born before Jan. 1.....farms reporting 1950...	2,424,505
dollars 1949...	544,393,679	.....number 1950...	15,728,101
Gasoline and other petroleum fuel and oil.....farms reporting 1949...	2,983,474	Steers and bulls born before Jan. 1.....farms reporting 1950...	1,871,795
dollars 1949...	1,132,075,923	.....number 1950...	12,729,996
Tractor repairs.....farms reporting 1949...	2,030,591	Calves born since Jan. 1.....farms reporting 1950...	2,301,298
dollars 1949...	388,463,625	.....number 1950...	11,065,378
Other farm machinery repairs.....farms reporting 1949...	2,333,452	Whole milk sold.....farms reporting 1949...	1,096,650
dollars 1949...	385,499,234	.....1944...	1,163,218
FARMS BY TOTAL VALUE OF PRODUCTS SOLD		.....pounds 1949...	68,344,039,573
No sales.....number 1950...	361,112	.....1944...	65,221,989,238
\$1 to \$249.....number 1950...	673,350	.....dollars 1949...	2,716,151,362
\$250 to \$399.....number 1950...	311,445	Cream sold.....farms reporting 1949...	862,128
\$400 to \$599.....number 1950...	326,102	.....1944...	1,176,457
\$600 to \$999.....number 1950...	510,237	.....pounds of butterfat 1949...	582,397,513
\$1,000 to \$1,499.....number 1950...	458,311	.....1944...	804,750,258
\$1,500 to \$2,499.....number 1950...	640,198	.....dollars 1949...	352,552,012
\$2,500 to \$3,999.....number 1950...	606,387	Butter, buttermilk, skim milk, and cheese sold.....farms reporting 1949...	120,570
\$4,000 to \$5,999.....number 1950...	499,893	.....dollars 1949...	10,428,205
\$6,000 to \$9,999.....number 1950...	502,195		
\$10,000 and over.....number 1950...	492,932	HOGS	
FARMS BY TYPE OF FARM		Hogs and pigs.....farms reporting 1950...	3,011,807
Field-crop farms other than vegetable and fruit-and-nut.....number 1950...	1,447,218	.....1945...	3,313,883
Cash-grain.....number 1950...	432,665	.....number 1950...	55,721,977
Cotton.....number 1950...	607,045	.....1945...	46,735,417
Other field-crop.....number 1950...	407,508	4 months old and over.....farms reporting 1950...	2,645,539
Vegetable farms.....number 1950...	46,074	.....number 1950...	27,255,143
Fruit-and-nut farms.....number 1950...	81,921	Less than 4 months old.....farms reporting 1950...	1,541,380
Dairy farms.....number 1950...	601,483	.....number 1950...	28,466,834
Poultry farms.....number 1950...	172,562	Sows and gilts for spring farrowing.....farms reporting 1950...	1,691,004
		.....1945...	1,839,458
		.....number 1950...	9,597,556
		.....1945...	8,482,031

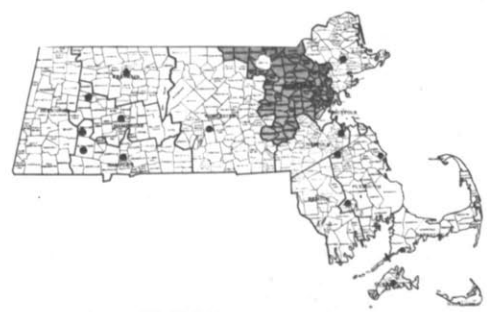
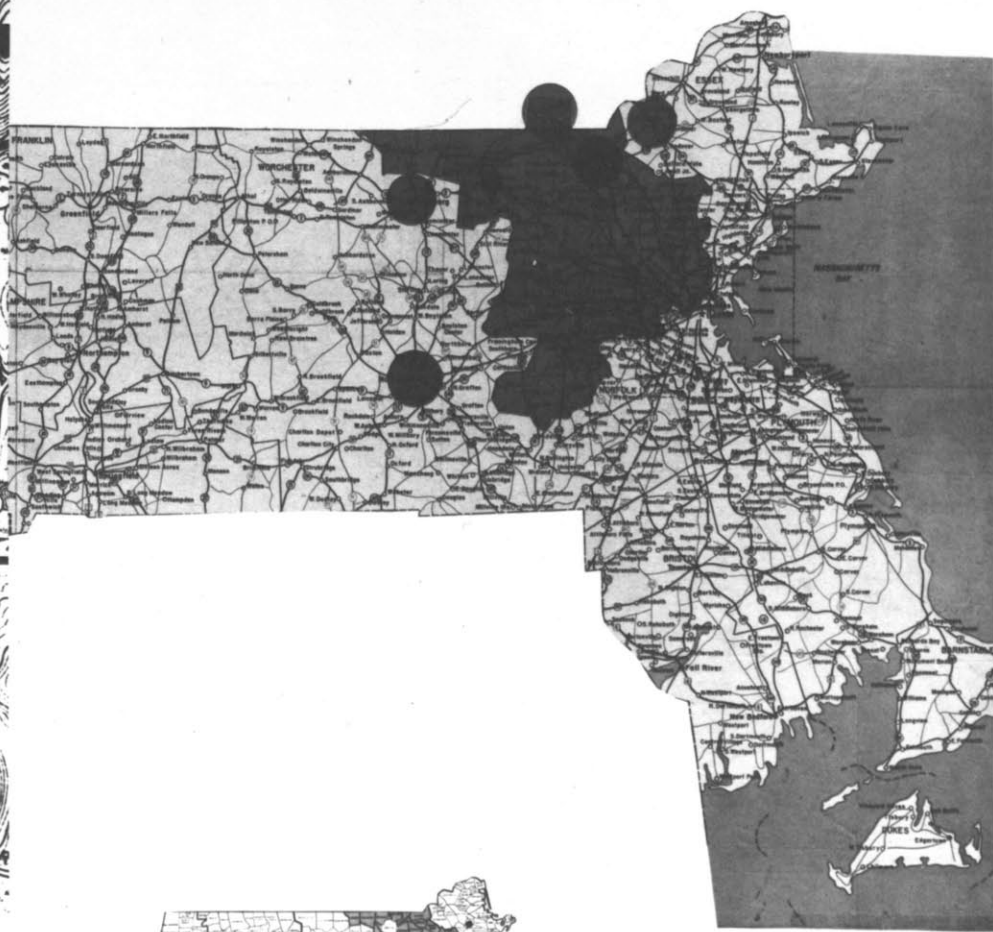
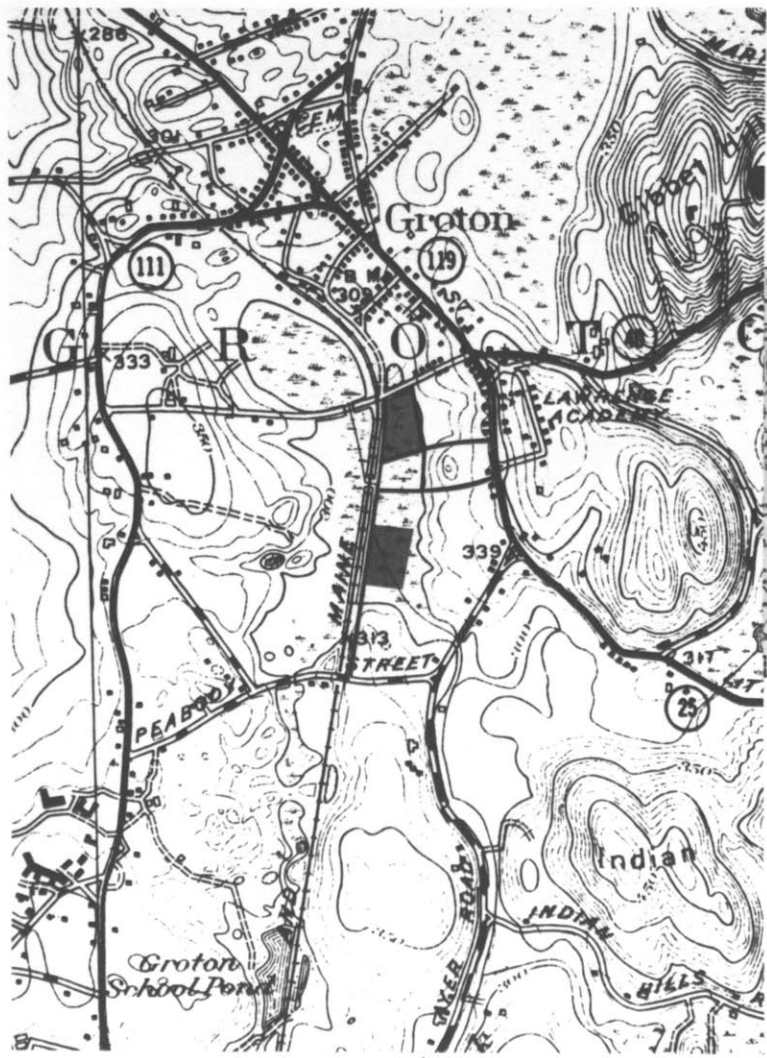
¹Part-time farms include those with value of products sold of \$250-\$1,199 and operator either reporting 100 days or more of off-farm work or reporting other income exceeding value of agricultural products sold.

²Public and private institutional farms, community projects, etc.

³Cows and heifers 2 years old and over.

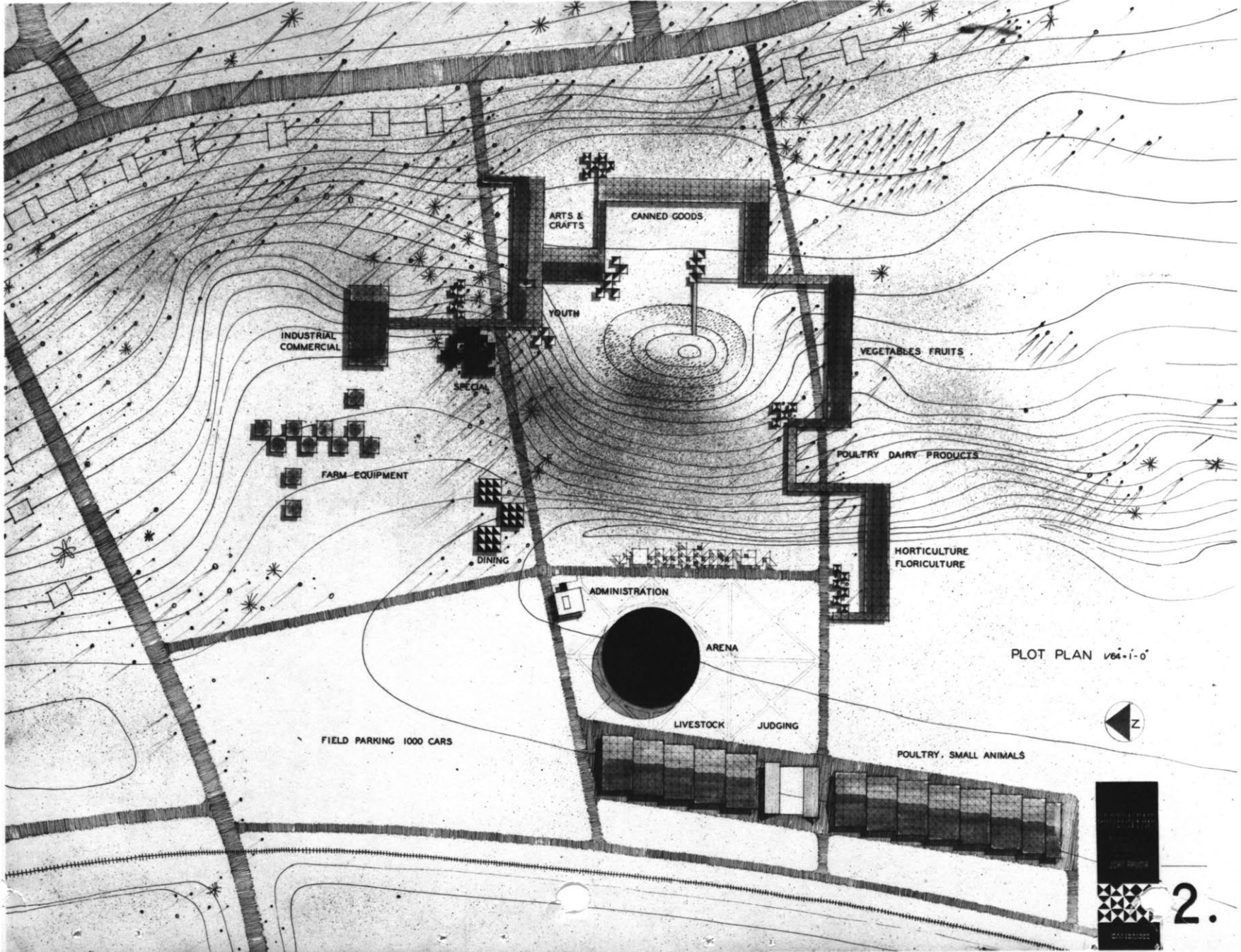
Item	U.S. total	Item	U.S. total
SHEEP AND WOOL		SPECIFIED CROPS HARVESTED—Continued	
Sheep and lambs.....farms reporting 1950...	320,314	Sorghums:	
1945....	456,986	Sorghum for all purposes except sirup...farms reporting 1949...	330,302
number 1950....	31,386,801	1944....	572,944
1945....	41,223,869	acres 1949 ¹ ...	10,069,295
Sheep and lambs born before		1944....	17,224,413
Oct. 1, 1949.....farms reporting 1950...	308,690	Harvested for grain or for seed ¹.....farms reporting 1949...	142,028
number 1950....	21,797,485	1944....	182,048
Ewes.....farms reporting 1950....	303,393	acres 1949....	6,324,674
1945 ¹ ...	418,251	1944....	9,060,514
number 1950....	19,829,400	bushels 1949....	141,744,437
1945 ¹ ...	30,631,794	1944....	177,702,212
Rams and wethers.....farms reporting 1950...	195,818	Cut for silage ³.....farms reporting 1949...	27,084
number 1950....	1,968,085	1944....	481,862
Lambs born since Oct. 1, 1949.....farms reporting 1950...	238,581	acres 1949....	3,367,308
number 1950....	9,589,315	tons—green weight 1949....	
1949....	285,534	Sorghum or cane hogged or grazed, or cut	
1944....	401,634	for dry forage or hay.....farms reporting 1949...	221,822
number shorn 1949....	22,442,203	1944....	3,262,213
1949....	178,752,564	acres 1949....	4,610,952
1944....	279,978,955	tons cut 1949....	
Average date of enumeration..... 1950....	Apr. 15-Apr. 28	Small grains:	
POULTRY AND POULTRY PRODUCTS		Wheat threshed or combined ⁴.....acres 1949...	71,192,010
Chickens, 4 months old and over, on hand....farms reporting 1950...	4,215,616	1944....	58,286,103
1945....	4,900,948	bushels 1949....	1,007,119,930
number 1950....	342,463,594	1944....	1,032,660,440
1945....	433,110,674	Oats threshed or combined ⁴.....farms reporting 1949...	1,392,583
Chickens sold.....farms reporting 1949....	1,713,435	1944....	1,471,413
number 1949....	588,320,345	acres 1949....	35,323,889
dollars 1949....	567,766,561	1944....	35,424,960
Chicken eggs sold.....farms reporting 1949....	2,420,718	bushels 1949....	1,135,392,209
dollars 1949....	2,409,646,763	1944....	1,041,112,029
Turkeys, 4 months old and over, on hand....farms reporting 1950...	131,801	Oats cut for feeding unthreshed ⁵.....farms reporting 1949...	244,472
number 1950....	2,848,880	1944....	505,082
Turkeys raised.....farms reporting 1949....	162,244	acres 1949....	1,833,812
1944....	193,540	1944....	4,187,410
number 1949....	36,404,218	bushels 1949....	220,962,526
1944....	27,202,266	1944....	261,424,918
ANIMALS SOLD ALIVE		Barley threshed or combined ⁴.....farms reporting 1949...	296,638
Cattle, hogs, sheep, horses, or mules sold		1944....	372,727
alive.....farms reporting 1949....	3,520,750	acres 1949....	9,189,717
dollars 1949....	7,061,144,948	1944....	11,693,751
Cattle and/or calves sold alive.....farms reporting 1949....	2,982,616	bushels 1949....	220,962,526
1944....	3,014,338	1944....	261,424,918
number 1949....	36,318,636	Rye threshed or combined ⁴.....farms reporting 1949...	78,940
1944....	36,106,991	1944....	118,348
Cattle sold alive, excluding calves...farms reporting 1949....	1,868,166	acres 1949....	1,417,944
number 1949....	20,691,995	1944....	2,023,338
dollars 1949....	3,374,007,217	bushels 1949....	16,563,013
Calves sold alive.....farms reporting 1949....	2,310,438	1944....	21,348,502
number 1949....	15,626,641	acres 1949....	112,546
dollars 1949....	923,312,930	1944....	83,672
Hogs and pigs sold alive.....farms reporting 1949....	2,097,807	bushels 1949....	4,812,695
1944....	2,104,170	1944....	2,477,070
number 1949....	65,511,711	acres 1949....	40,189,048
1944....	68,122,231	1944....	20,765,238
dollars 1949....	2,383,565,134	Rice threshed or combined ⁴.....farms reporting 1949...	10,927
Sheep and lambs sold alive.....farms reporting 1949....	271,552	1944....	10,510
1944....	332,449	acres 1949....	1,818,871
number 1949....	20,003,070	1944....	1,394,129
1944....	28,734,601	bushels 1949....	89,431,985
dollars 1949....	340,304,479	1944....	65,043,952
Horses and mules sold alive.....farms reporting 1949....	256,149	Annual legumes:	
number 1949....	621,897	Soybeans grown for all purposes ⁶.....farms reporting 1949...	605,880
dollars 1949....	39,955,188	1944....	12,255,549
FARM SLAUGHTER		acres 1944 ⁷ ...	13,777,773
Any cattle or hogs butchered ².....farms reporting 1949...	3,339,574	Soybeans harvested for beans.....farms reporting 1949...	369,780
Cattle and/or calves butchered.....farms reporting 1949....	960,487	1944....	390,843
number 1949....	1,267,214	acres 1949....	10,137,760
Cattle butchered, excluding calves....farms reporting 1949....	461,302	bushels 1949....	212,439,934
1944....	686,068	1944....	187,725,331
number 1949....	557,419	Soybeans cut for hay.....farms reporting 1949...	198,451
1944....	917,990	acres 1949....	1,072,653
Calves butchered.....farms reporting 1949....	536,064	1944....	1,380,134
1944....	412,661	Soybeans hogged or grazed, or	
number 1949....	709,795	cut for silage.....farms reporting 1949...	54,777
1944....	610,240	1944....	582,837
Hogs and pigs butchered.....farms reporting 1949....	3,086,720	Soybeans plowed under for green	
1944....	3,823,227	manure.....farms reporting 1949...	40,838
number 1949....	7,368,524	acres 1949....	462,299
1944....	10,519,608	1944....	261,884
Meat, lard, hides, and other products		acres 1949....	1,540,189
sold from animals butchered.....farms reporting 1949....	391,067	1944 ⁷ ...	2,503,552
dollars 1949....	20,989,937	Cowpeas harvested for dry peas.....farms reporting 1949...	106,845
SPECIFIED CROPS HARVESTED		1944....	207,032
Corn:		acres 1949....	382,184
Corn for all purposes.....farms reporting 1949...	3,403,965	bushels 1949....	1,953,126
1944....	3,922,854	1944....	3,602,688
acres 1949....	83,336,045	Cowpeas harvested for green peas.....farms reporting 1949...	64,573
1944....	92,259,098	acres 1949....	150,649
Harvested for grain.....farms reporting 1949....	3,200,269	bu. in shells 1949....	2,091,540
1944....	3,669,795	1944....	62,715
acres 1949....	75,136,672	acres 1949....	321,234
1944....	84,349,033	1944....	262,451
bushels 1949....	2,778,190,131	Cowpeas hogged or grazed, or cut	
1944....	2,788,432,462	for silage.....farms reporting 1949...	44,521
Cut for silage.....farms reporting 1949....	424,779	acres 1949....	311,777
acres 1949....	4,336,562	Cowpeas plowed under for green	
1949....	38,006,618	manure.....farms reporting 1949...	39,571
Hogged or grazed, or cut for		acres 1949....	374,345
green or dry fodder.....farms reporting 1949....	307,596	1944....	225,192
acres 1949....	3,866,811	acres 1949....	2,725,480
		1944....	4,052,028
		Peanuts harvested for picking or	
		threshing.....farms reporting 1949...	183,117
		1944....	226,301
		acres 1949....	2,133,897
		1944....	2,957,943
		pounds 1949....	1,721,913,217
		1944....	2,008,855,504
		Peanut vines or tops saved for hay or	
		forage.....farms reporting 1949...	111,971
		acres 1949....	1,334,617
		tons 1949....	673,881

¹Ewes and ewe lambs kept for breeding. ²Includes those farms reporting sheep and lambs butchered in Texas and in the Mountain and Pacific States. ³81 farms reporting 546 acres in Virginia for grain or for silage and included in utilization figures. ⁴Data not available for States where separate inquiry was not carried in enumeration. Crop was of minor importance in such States. ⁵Does not include data for California; for that State, this item included with small grain hay. ⁶Includes acres grown with other crops. ⁷Does not include acres plowed under for green manure.



DISTRIBUTION OF MAJOR FAIRS IN MASSACHUSETTS

MASSACHUSETTS
 JOHN BAUM
 COLLEGE

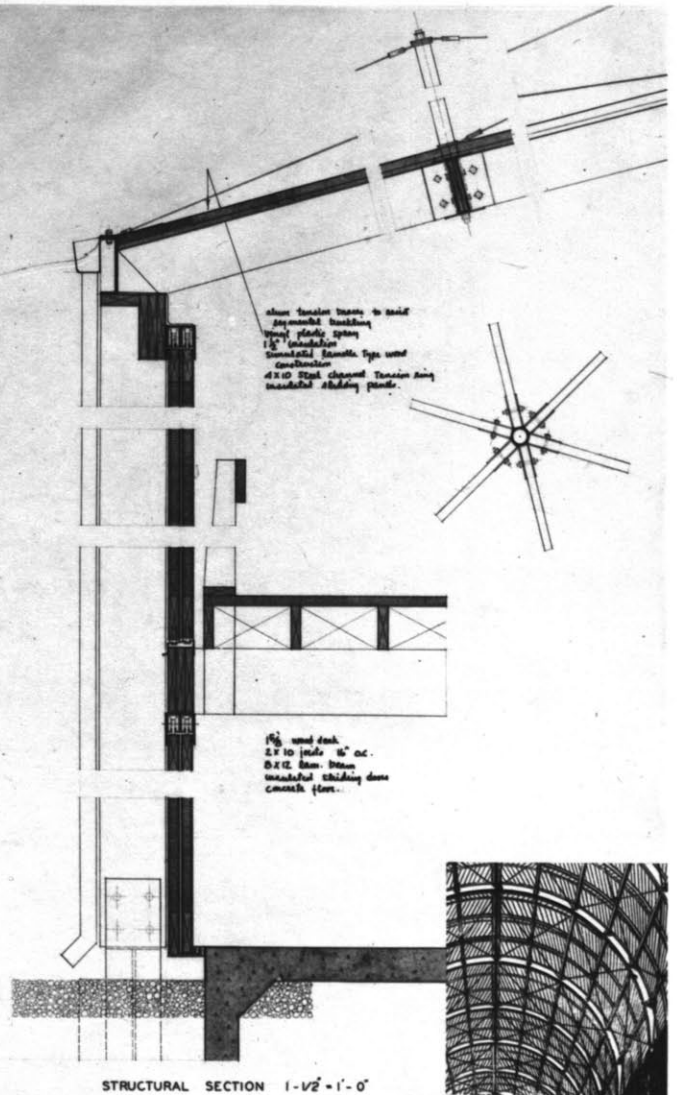


1/2 PLAN
GROUND FLOOR

1/2 ROOF PLAN

1/2 PLAN
MEZZANINE FLOOR

ELEVATION



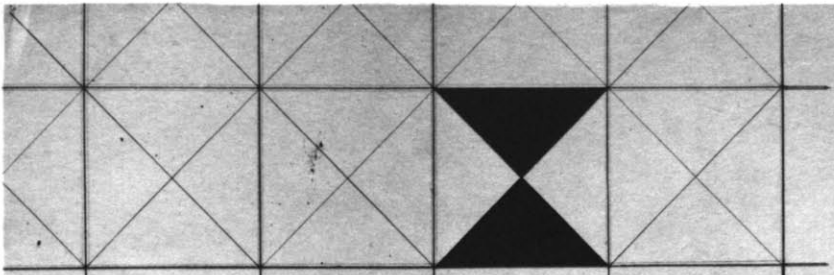
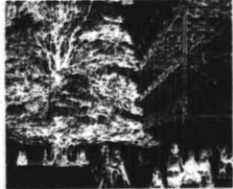
show tension truss to hold
assembled building
steel plate system
1 1/2" insulation
structural concrete type used
conductor
4x10 steel channel tension ring
insulated shading panels.

1 1/2" steel deck
2 1/2" insul 1/2" oc.
2x2 steel beam
insulated shading done
concrete floor.

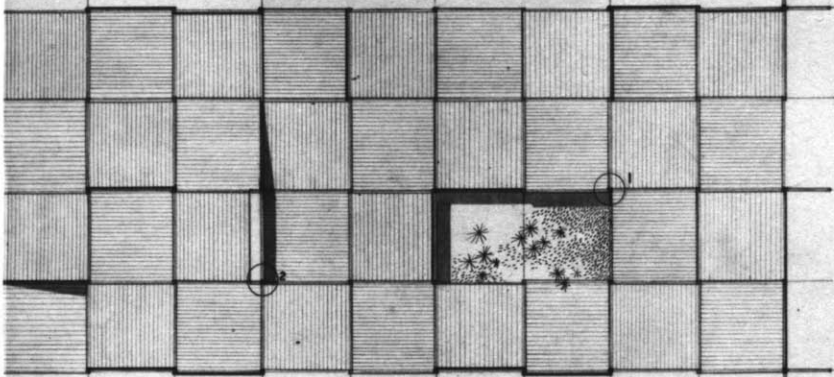
STRUCTURAL SECTION 1-1/2" = 1'-0"

ARENA 1/64" = 1'-0"

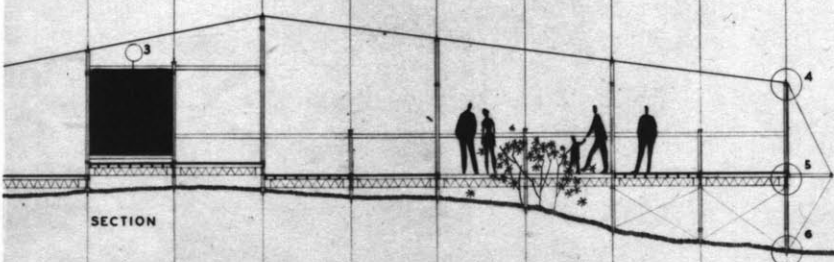




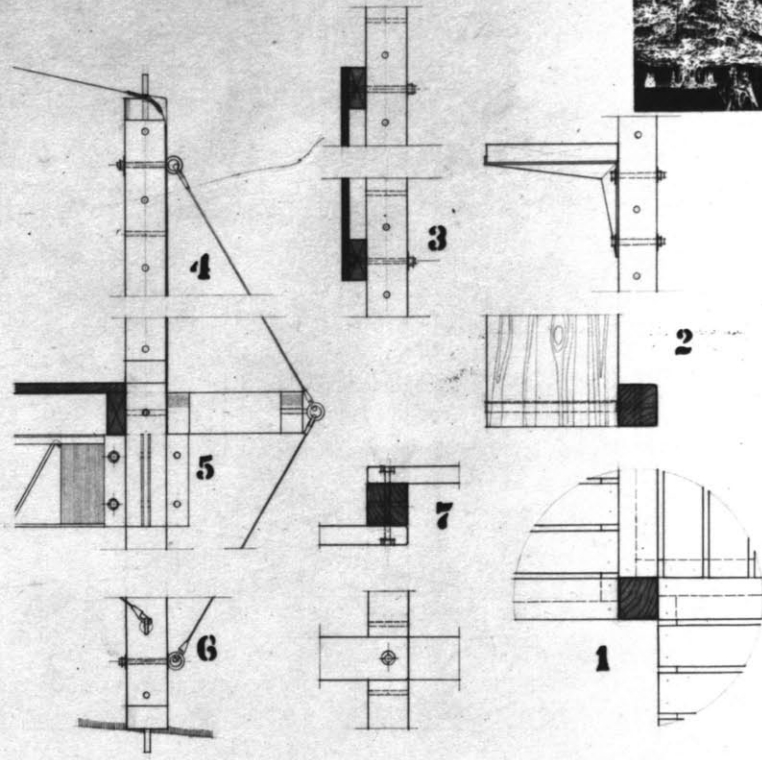
ROOF PLAN



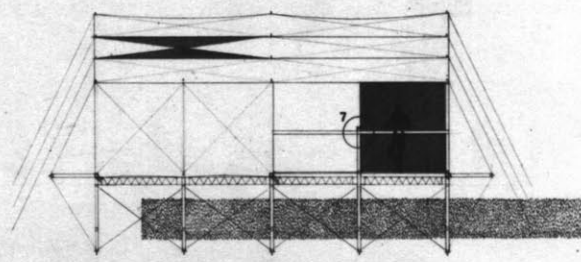
FLOOR PLAN



SECTION



DETAILS 3" = 1'-0"

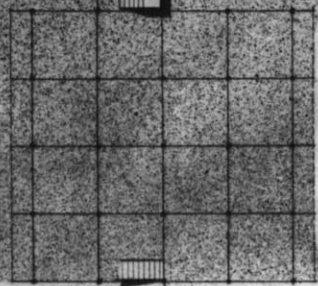


ELEVATION

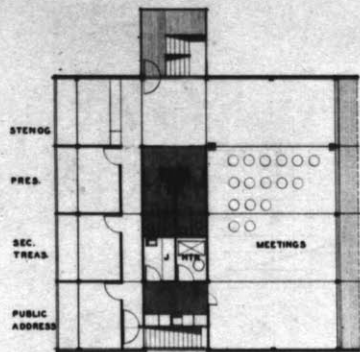
DEMOUNTABLE EXHIBITION STRUCTURE 1/4" = 1'-0"



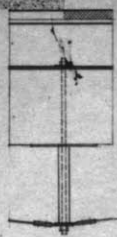
4.



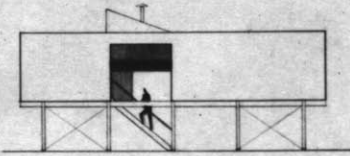
GROUND PLAN



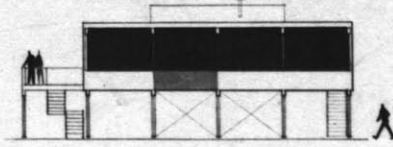
FLOOR PLAN



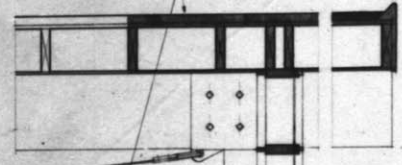
SOUTH ELEV



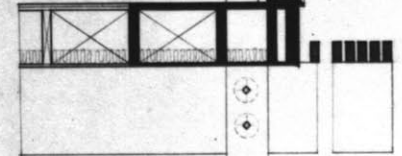
WEST ELEV



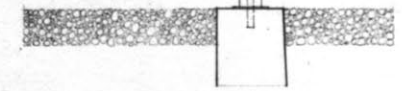
NORTH ELEV



1st floor space
12' x 12' x 12'
2nd floor space
12' x 12' x 12'
3rd floor space
12' x 12' x 12'



1st floor space
12' x 12' x 12'
2nd floor space
12' x 12' x 12'
3rd floor space
12' x 12' x 12'



STRUCTURAL SECTION 1/2"-1'-0"

ADMINISTRATION BUILDING

