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FURNITURE AND JOINERY INDUSTRIES ✓
IN THE ARAB REPUBLIC OF EGYPT

by

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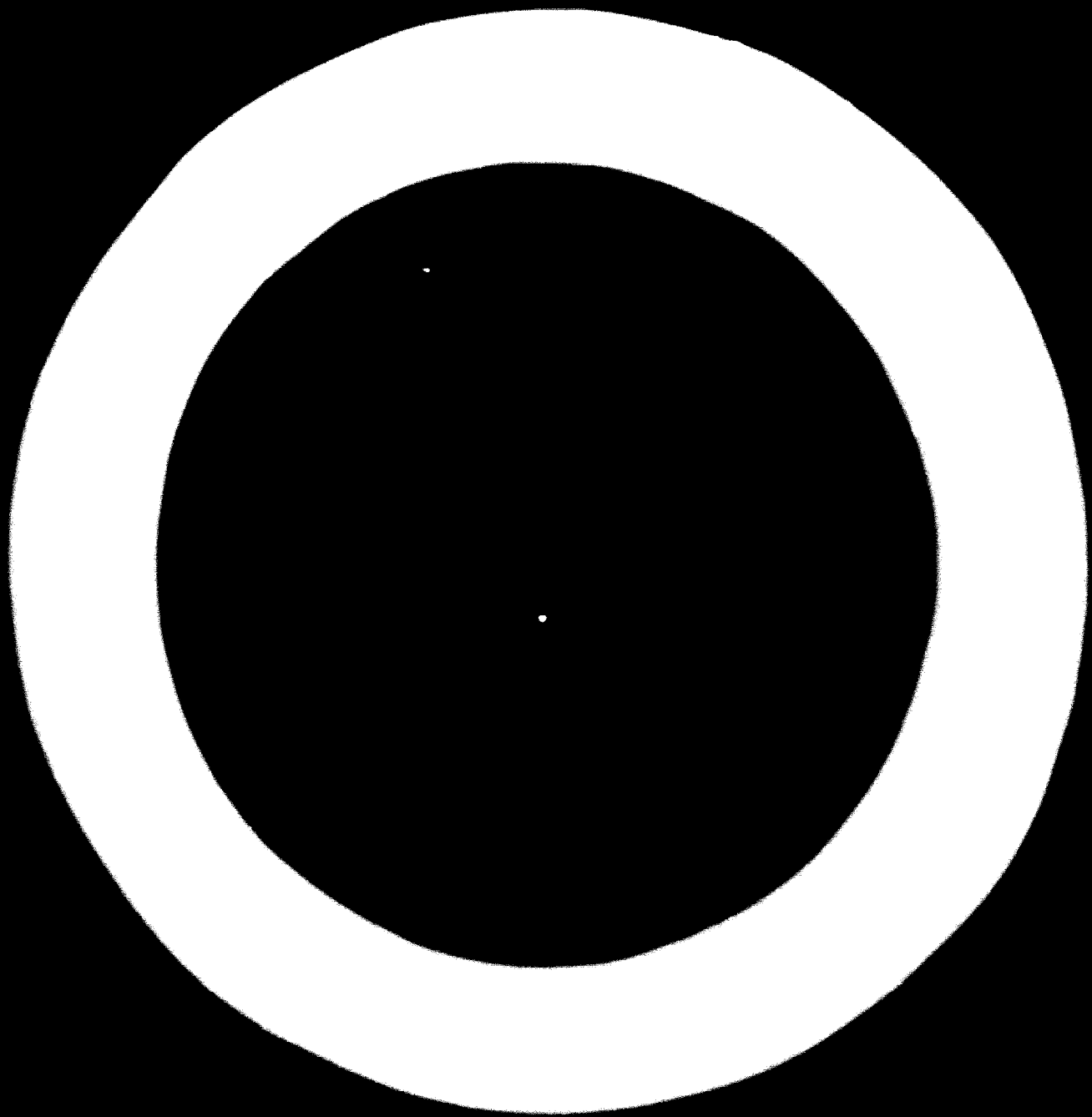
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Introduction

Wood manufacture in Egypt:

Long ago since ancient times, wood formation has taken its place to meet the main requirements needed to overcome the natural obstructions that faced them e.g. how to find the way to cross the Nile or to go through it. In this way they succeeded to build their well known ships from natural woods collected and assembled by ropes.

In the course of time they started to introduce woods in building techniques to move large stones, then the manufacture of wood started to produce chairs an example of which is shown in the opposite sketch :

Other furniture units were produced successfully such as beds, boxes and other small units for domestic use. These furniture units were produced using the primitive joinery methods utilising natural glues for bonding.



Further steps were taken towards improvements and decorative arts started to reveal curtains to show the outstanding monuments and statues made of woods. These are the treasures kept until nowadays which show that not only wood forming was progressing in a speedy way but also the painting of woods appeared to preserve their products for thousands of years.

The following ages adopted the skill of wood manufacture which spread all over through merchandise with other countries, thus more improved hand tools came into being and small production shops started to feed the surrounding market.

The following ages adopted furniture manufacture and well known designs were born after starting with the so-called "Ashour's" famous for the use of human figures and animal shapes on woods grooved and sculptured to show the final decorative shape of a chair or table etc.

The old Greek models followed and proved a superior development on the decorative forms of furniture units. Then Islamic styles took over.

After that Roman designs appeared with their famous sculptures and statues introduced into furniture manufacture. All these models and designs were produced besides the English and French styles.

Islamic styles

During this period, wood processing was linked with and progressed side by side with the architectural works. This fact can be clearly detected in the Islamic buildings, constructions and their interior decorations.

There was no technology as such, but the main factor that affected the quality and the quantity of production was craftsmanship, in addition to some engineering efforts.

Furniture manufacture in the old Islamic styles

During this period, woodworks utilized geometric shapes such as triangular and hexagonal forms, as well as fine-turned style and silver and copper inlay besides grooving Islamic decorative elements into the wood.

Grooving operations had to be limited to a few workers as it

was forbidden from the point of view of religion.

The Islamic arts and styles still survive and affect the recent arts and techniques of furniture and other wood products which are based on and considered to be an extension of these grand arts.

Current status of the furniture and joinery industries and their future prospects in Egypt

Furniture industry

It was mainly constructed and based on 3 factors:

Material - Machinery - Labour

Each factor will be analysed separately:

a) Labour or manpower:

About 15,000 workers are employed in the furniture workshops and factories. These workshops and factories are divided into two sectors:

1. Public Sector in which five factories are producing furniture employing about 10% of the total number of workers in the country.
2. Private Sector where small workshops are employing 90% of the total number of workers.

The furniture worker in Egypt depends mainly on traditional hand tools, gaining his experience through different types of carpentry and furniture parts produced manually.

The Government aimed at selecting some of these workers to constitute the first production units when planning to develop the manufacture of furniture by introducing the machinery and equipment needed to replace the main manual operations.

After the nationalization of industry, these factories were affiliated to the government and new machinery and techniques introduced.

b) Machinery:

Up til recently the woodworking machines consisted mainly of traditional machines representing 20% of the operations performed when producing furniture. The remaining operations were done manually.

Recently some of the big four factories started to mechanize and introduced some of the most up-to-date machines and equipment such as multi-purpose machines, edge banding and edge-lip trimming machines, copying machines, veneering line incorporating short cycle press and some other machines.

This trial was planned and implemented primarily in order to:

1. Adopt hand-made products to mass production.
2. Lower production costs to meet medium standard of consumer's incomes.
3. Standardize furniture products. *
4. Promote production for export.

The fact that standard production depends mainly on modern furniture designs lead to the development of designs which are fundamentally simple.

c) Materials:

1. Main raw material:

- Blockboard and particle board are used in furniture production; materials are produced locally (except the blockboard) consumption being double production.
- Plywood: Local production of plywood (about 10,000 m³) fails to meet local demand which has reached 34,000 m³/year.
- Veneers: 1 million sq.m. veneer are produced locally, inter alia, mahogany, oak, walnut and sycamore, which constitute the vast majority used.
- Sawn lumber: The sawn lumber used in furniture production comprising soft and hard woods, is mostly imported except for some 5 - 7 percent.

2. Auxiliary material:

- Adhesives:
 - animal glues are used in the manual production of furniture.
 - chemical glues, such as ureaformaldehyde are used for the mechanical production of furniture where veneering operations are completed using presses.
- Fittings: most of the different kinds are locally available.
- Upholstery materials: springs, strips, foam nylon and foam rubber are locally available and used for furniture production purposes.

The above factors are the main features of furniture production which is still more a craft than an industry since manual operations continue to play a major part in the manufacturing processes.

Consequently, plans have been studied carefully to achieve the optimum objectives needed to consolidate furniture industry. These plans have concentrated mainly on the following:

- Standardization of furniture production and reduction of costs through simplified models produced to suit modern buildings and to conform with living requirements.

To achieve this goal, a study has been performed for the establishment of a standard furniture factory to be executed in two stages (1975 - 1982) each producing 3000 sets per year, (living room, dining room and bedroom suites) on a one-shift operation basis. This capacity can be multiplied by increasing the working hours per day. The second objective of this project is to increase the volume of furniture exports.

The attached table shows the production of furniture and exports since 1967 and the expected values for the future up to 1982, the end of the Egyptian Government ten-year plan.

- Availability of new workers trained to operate modern machines and equipment.
- The development of materials used for the production of furniture to minimize wood imports through planting local forestry which can be utilized in future as a main source of raw materials from logs.

Joinery industry (doors and windows)

The production of doors can be classified under two items:

1. Temporary doors used on building sites and in the countryside, there being three types:

- a) So-called summer doors composed of vertical wooden strips assembled together by horizontal strips.
- b) Summer doors composed of vertical wooden strips assembled together by horizontal strips and reinforced by inclined strips.
- c) Summer doors composed of vertical wooden strips assembled together by horizontal strips and reinforced by inclined strips and assembled all together inside a frame.

Permanent doors:

- a) The so-called sabras door is composed of solid longitudinal wooden strips held together and bound by a frame.
- b) Panel doors in which a panel of particle board or blockboard is used and framed using a soft wood frame.
- c) Pressed floors where two layers of plywood or hardboard are pressed on an intermediate frame which can be consolidated by soft wood strips according to the required strength.

These doors are hinged to the outer fixed frame using metal hinges.

Types of windows produced in Egypt:

1. Normal windows;
2. French windows;
3. So-called Malcan windows;
4. Glass windows;
5. Sliding windows;
6. Rolling windows;
7. Arabic style windows.

The first three types are similar, being composed of two parts (inner and outer) for sun protection. These kinds differ only according to the area of the opening and the strips of the outer part of the window (fixed or movable strips).

- Glass windows are produced without the outer wooden sun protection. It can be described as a glass panel framed in a soft wood frame. Sometimes the glass area is divided into subsidiary geometric areas.

- The sliding and rolling windows are made of thin sheets of wood connected together in the form of a curtain and moves between two vertical sides, the upper end being connected and rolled on a drum with a balance weight.

- Arabic-style windows also include some decorative arts, such as fine turning pieces as well as coloured glass.

Materials used in the production of doors and windows:

The joinery industry in Egypt mainly depends on woods as its raw material. The common woods used are soft woods as well as hard woods (beech and oak) plywood and particle board.

Trials are now being carried out to develop this industry to fulfil the requirements of modern buildings.

No doubt, the moderate climate of Egypt has facilitated the continued use of wood as a basic raw material for the production of doors and windows.

Local joinery production standards and competition from metal windows:

The development of the joinery industries in Egypt and the introduction of metals depend mainly on the development of metal sections from aluminium alloys and other materials and the minimization of production costs for these materials in comparison with the relatively very low cost of woods.

However plans have been made for the establishment of a new factory to produce light metal sections for the production of

doors and windows which will help, as can be expected, in the standardization of this industry.

Machinery used in the joinery industry:

The major volume of doors and windows production is concentrated in privately owned small factories which utilize some traditional machines, such as hand saws, planers, thicknessers, mortisers, tenoners and "talkar machines".

The time is not yet suitable for the nationalization of this industry although it is necessary to start a unique system of production to achieve the standardization required.

Labour or manpower in the joinery industry:

About 10% of the woodworkers in Egypt are employed in the field of joinery industry, i.e. about 2000 workers, machines representing about 8% in the manufacturing processes.

Some of these specific workers tend to change their profession to the production of furniture as the latter is a source of constant income, while the former is subject to market fluctuations influenced by the availability & non-availability of building materials.

Standardization in the wood-processing industry

A step prior to the standardization of the wood industry has been taken after careful studies, as standardization is a step behind the mechanization of the whole production processes.

Hereunder we will classify the wooden articles produced in Egypt and the standard size of each:

Veneer: The standard thickness of veneers produced is 2.5 mm. There are no limits as to length and width of the veneer produced.

Plywood: The main plywood specifications are as follows:

- three-layer boards
- standard thickness 3 mm
- size 1530 x 1530 mm

Blockboard: Standard size 1220 x 2440 mm

- thicknesses 1, 19, 22 mm.

Sawn lumber: Standard thicknesses produced are 2.54 cms and multiples thereof.

N.B. This specific thickness is a simple inch conversion

Parquet: Plates 480 x 480 mm are assembled from small pieces 120 x 20 x 11 mm each

Archetectural: Common sizes of doors:

Woods, doors
and windows:

90 x 210 - 220 cm

70 - 80 x 210 - 220 cm

240 x 210 glass doors (Partitions)

300 x 210 - 220 cm (Partitions)

Common sizes of windows:

120 x 150 cm

180 x 150 cm

60 x 80 cm

Circular windows dia. 70 cm.

These dimensions and others are commonly used but not standards as production is still primitive.

Particle boards: Standard sizes are : 1220 x 2440 mm 0.3000
Thickness from 8 - 25 mms.

Wood products for the spinning and weaving industry:

These products are manufactured according to the requirements of the spinning industry, the main factor affecting this type of production being the high density required.

Furniture design in Egypt

Many specialized high institutes of arts are participating in the development of furniture design in Egypt as they are the main source of supply for academic designers.

These institutes are the Applied Art Institute and the Fine Art Institute with its two divisions at Cairo and Alexandria. The more distinguished designers in the field of furniture and interior decorations have graduated from the Applied Art Institute.

As a matter of fact, the consumer's taste bounded by different social circumstances and traditions effects the designers' ideas and impressions.

Designers can be classified as follows:

A. Traditional designers:

These designers work in the field of traditional designs. They work for maximum profit irrespective of the quantities produced or techniques followed. They work without having any idea about wood development processes or standardization of this industry, or modern machinery or equipment.

B. Modern designers:

These designers are working at the large export-oriented factories in the private sector. Some of them also work in the public sector for companies who are responsible for nationalizing this industry and planning mass production to meet the consumers' requirements as regards quantity, variety, quality and price.

In the meantime there is still a lack in the design departments of the above factories. This points to an urgent need for well-trained designers who are familiar with the mass production techniques.

Endeavours in the field of furniture design:

The main factors affecting our designers are:

- Architectural development
- Social status
- Political status

These factors play a major role in the way a designer may face and solve his technical problems.

In retrospect, it becomes clear how political situations affected the designer's works, as clearly shown in the famous designs of Louis XV and Louis XVI and the 'Louvre' workshops and all the designs made to suit the taste of the king and his desire.

The most common designs in Egypt nowadays are the modern designs. This is related to the industrial development where new materials come into being and have been successfully applied to the furniture industry, such as particle board, plastics, and hardboard.

Arabic styles alongside modern designs:

The group of designers who believed in the idea of preserving Arabic Styles are known for their specialities in this field. They are almost academic professors, their works appear fantastic but costly, hence the predominance of Arabic style designs in tourist regions e.g. houses and hotels of Khan El Khalili.

The main trend amongst modern designers is to combine modern and Arabic styles to serve mass production on the one hand and to promote exports to countries interested in classic Arabic styles on the other.

Types of furniture products commonly marketed in Egypt

1. Modern sitting room suites consisting of standard units made according to the availability of building areas and composing of chairs and sofas.
2. Standard kitchen units.
3. Standard units for living rooms such as tables, chairs, multi-purpose cupboards, sofas which can be converted into beds, desks.
4. Complete modern bedrooms.

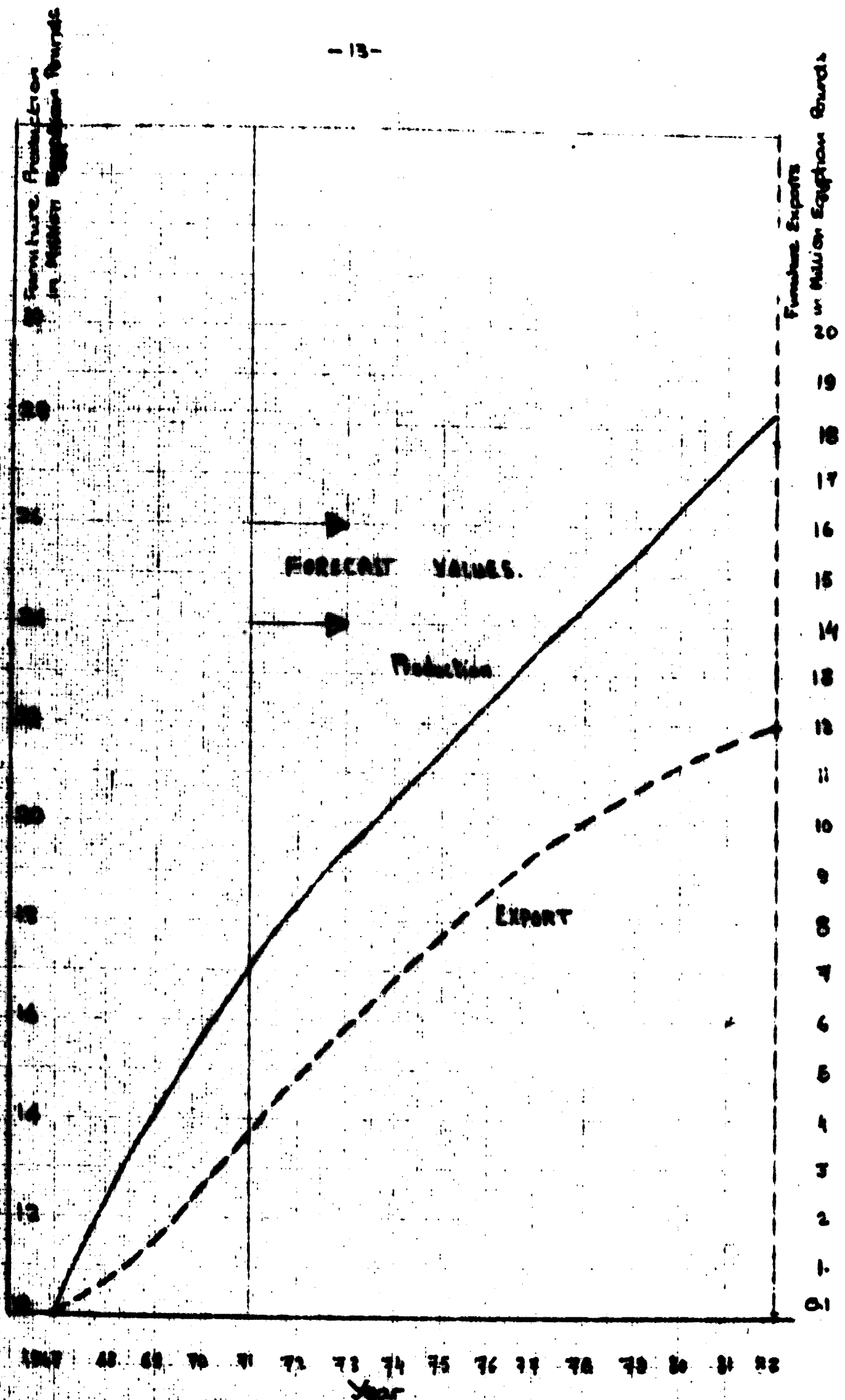
Further problems facing designers:

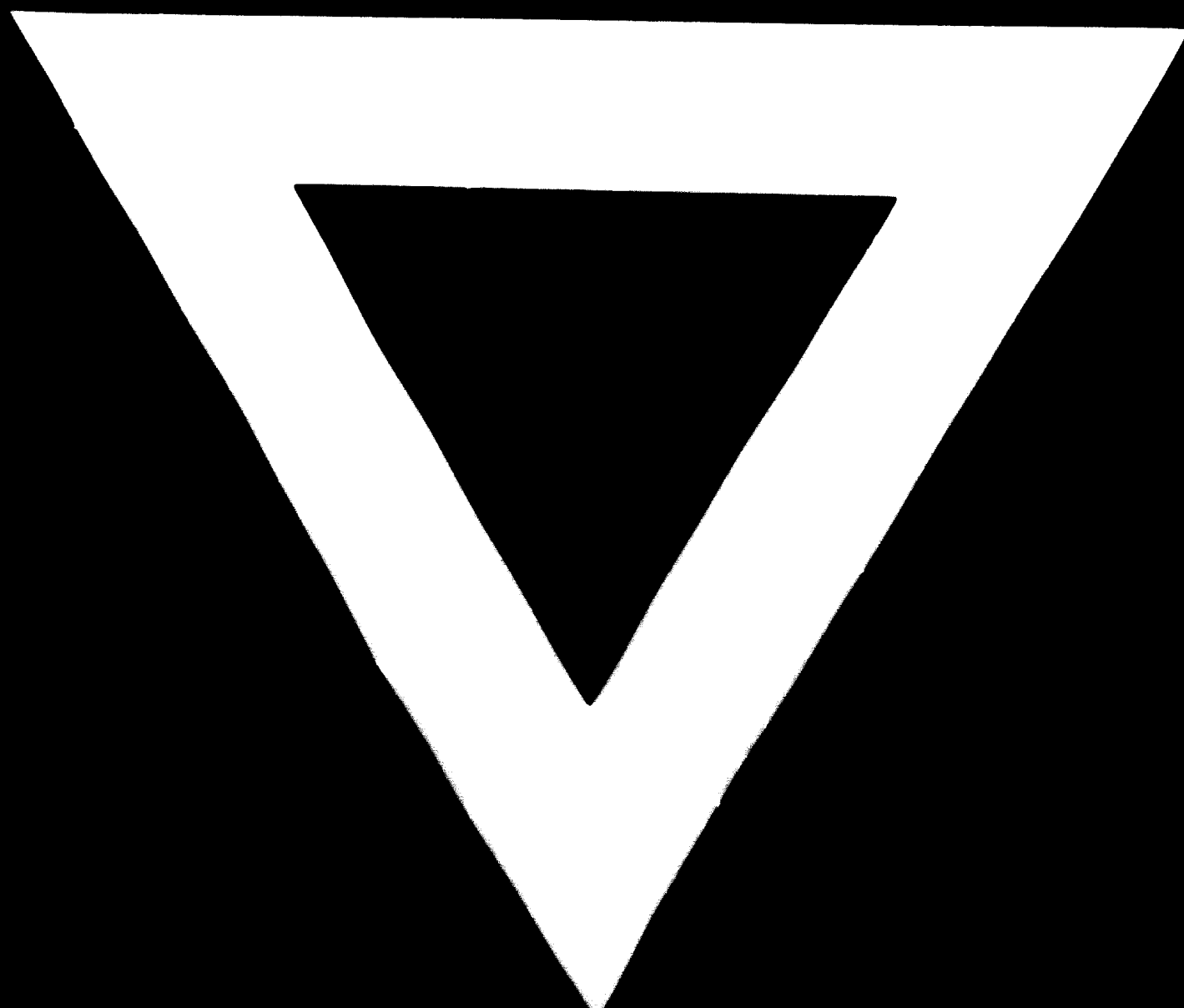
The problem of high prices for auxiliary materials, such as for rubbers and for nylon, linings, springs.

The solution to this problem from the furniture manufacturer's point of view is to establish specialized factories to produce these auxiliary materials quantitatively and according to fixed standards. This problem sometimes forces the designers to use sections using the most available but rather primitive auxiliary materials.

Proposals under consideration for developing designs and designers:

- A. There should be a regular training programme abroad organized for young designers to acquaint them with the most up-to-date designs.
- B. An academy for higher design studies should be established and professors from developed countries should be delegated to work at this academy.
- C. The need for an advanced university course concentrating on the specific specialisation of each department and getting rid of excess programmes in general sciences.





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