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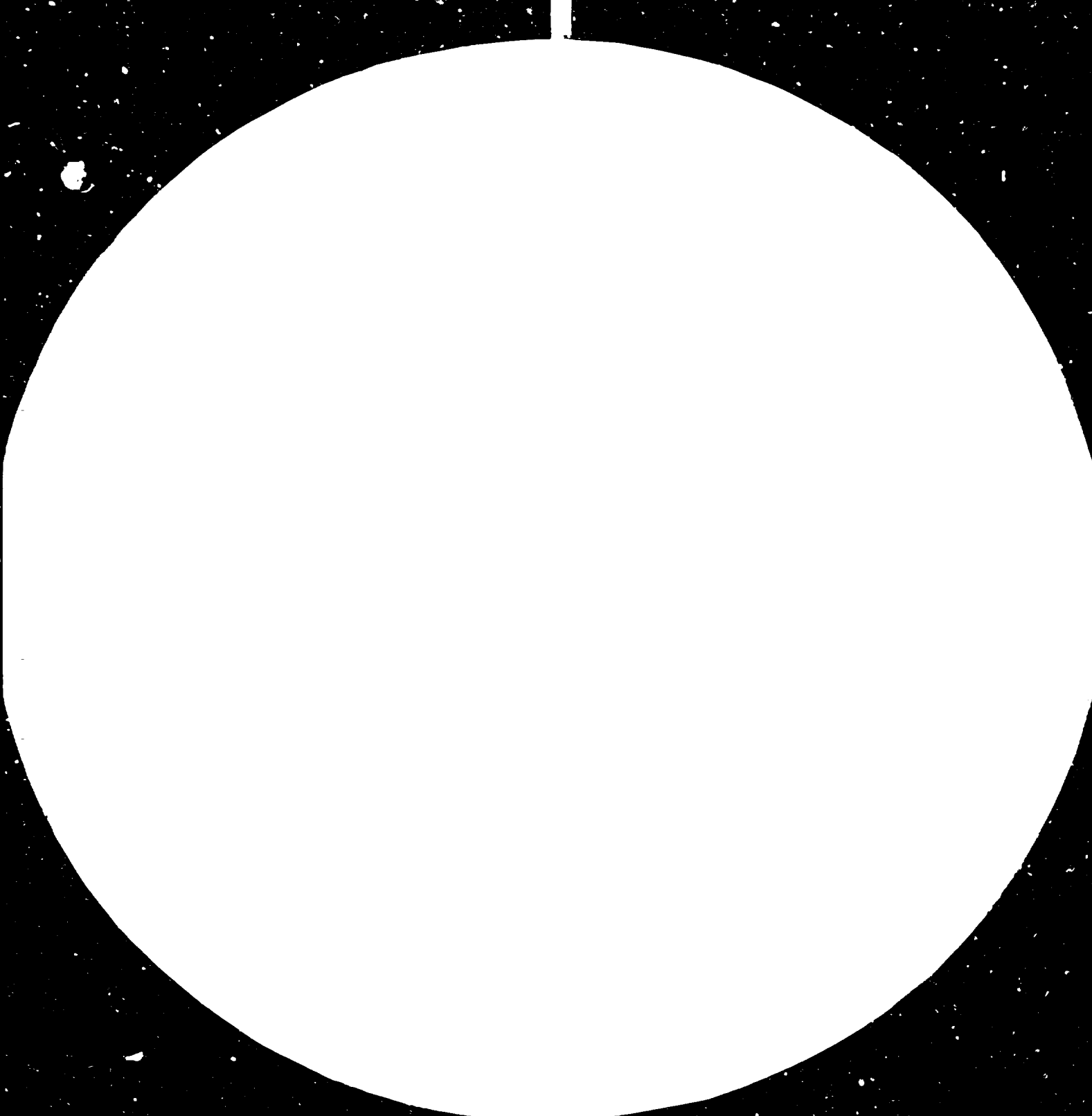
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FURNITURE AND HOUSING CUSTOMS IN THE 1980s AND 1990s 1/

by

Niko Kralj 2/

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2/ Professor of Design, Architectural Department, Ljubljana University, and Director Industrial Design Institute, Ljubljana.

Introduction

The Institute for Industrial Design at the University of Ljubljana has been keeping a close watch on the trends and developments in furniture-making, both in Yugoslavia and abroad, for a number of years. This activity has been performed in two ways:

- (a) by examining the literature coming in from all over the world;
- (b) by visiting all the major furniture exhibitions organized by economically developed countries, especially of the Western world, within the last twenty years.

Having monitored the changes in the production and in the sale of furniture for many years, we have been able to ascertain certain trends and to derive conclusions from them that have been used as a basis for our studies concerning the prediction of the possible future development of European furniture-making. This text is a condensed analysis of the development of world furniture in the past two decades and a prediction of the development of furniture in the next two decades, that is in the 1980s and 1990s.

After examining the world specialized literature on trends in the making of furniture, we reached the conclusion that pictorial presentation of interior architecture as displayed in various specialized magazines fails to reflect the actual state of affairs in the field of apartment furnishing, because the proposals only consist of avant-garde solutions that frequently do not meet the basic requirements of serial manufacture. This distorted presentation has been taken into account in our prediction of future trends.

Similarly, in numerous furniture exhibitions organized in the last twenty years throughout the world the firms exhibiting failed to present a realistic average housing culture of the countries exhibiting.

Many of the large furniture exhibitions have neglected to devote any time to the wishes of consumers, because they are open only to the merchants and to the specialists in this field.

Thus, even on the occasion of the large-scale exhibitions, the manufacturers failed to record the consumers' immediate comments and desires, especially those of the youngest generation, and were therefore left even more than before at the mercy of furniture merchants and their often doubtful taste.

Most of the European furniture exhibitions did not succeed in absorbing creative suggestions for development changes, although, acting in their capacity as social institutions, they organized public discussions, symposia and lectures. Nor did they succeed in presenting the actual state of affairs on the European market. Some exhibitions even fell short of presenting the true state of the market in their own countries, even though they were first and foremost big sales manifestations.

The furniture exhibited has never presented the actual state of world furniture nor of its technical quality. Though taken from the serial manufacture, the models displayed at these exhibitions were specially perfected, carefully selected, and additionally finished. Thus the furniture exhibited hardly represented models satisfying average demand: It was the kind of furniture intended for a rather narrow circle of wealthier consumers.

On account of a much too obvious commercial orientation and the neglect of paying attention to the recent social developments, the links between furniture and architecture were too slight. It appeared that furniture designers were waiting for the changes in the conception of apartments, because much of the seating furniture was oversized, attuned to apartments of exceptional size. Nevertheless, this "prestige" furniture sold very well.

While this type of furniture exhibition cannot be considered a success in terms of action-planning development, culture and art, they have become famous as a sales review and as a survey of the average world manufacture of

furniture. It should be conceded that these exhibitions, which are usually held biennially, have repeatedly presented original technical and technological solutions in furniture-making. In this connection, we are referring to the extraordinary technical quality and perfection of furniture fittings, of connecting parts, and of the products of the chemical industry.

A concise description of development characteristics that could be observed at these exhibitions should include the following comments:

Chest-type furniture

Whoever has paid attention to the changes in chest-type furniture as presented at international exhibitions held at Cologne in the last two decades, has been able to notice that the mobile chest-type furniture more and more gives way to the built-in and in particular inserted furniture; further, wardrobe chests increasingly reach up to the ceiling. The transition from mobile to insertable chest-type furniture has been accompanied by the conscientious coordinated work performed by the architect-builder and the furniture designer. This cooperation refers primarily to the dimensional and modular types of coordination, which is all but obligatory in the case of industrialized construction of apartments and also whenever such apartments are furnished with industrially manufactured furniture. The flexibility as a feature that is desirable in the building of dwellings, is now being introduced also in the very conception of furniture.

Whenever a large number of identical items are manufactured, which is the case of large-scale serial manufacture of furniture, there arises the danger of excessive uniformity. The Cologne exhibitions have presented only poor solutions to the problem of how to avoid this danger. In the case of chest-type furniture, such solutions included variations by means of additions, various species of wood, finishes, and by real or dummy bordering. Attempts like these, however, can only be regarded as halfway solutions, whereas an adequate solution would have to include an in depth examination of composition keys for the design of composable and adaptable systems of chest-type furniture, on the basis of which it is possible to construct elements for the composition of an almost infinite number of combinations. Such solutions remain the task of future developments in this field; they are the sole proper industrial orientation in chest-type furniture.

Technological discoveries and new working techniques represent the strongest and the most permanent of all impetuses to the changes in plastic art. In the early Middle Age, chests and cupboards consisted of solid boards connected with metal strips and nails; such a solution imparted a peculiar plastic image to the chest or to the cupboard. Another example is the Renaissance border and panel, which also provided a plastic characteristic of the era. New working tools and effective synthetic glues led to the birth of plywood, particle board and fibreboards. Man learned about the properties of wood and its functioning, and the new materials consequently obtained gave the furniture a wholly new look. The border and the panel fused together into a new whole. The chest-type furniture made of this material has smooth surfaces; the borders are hard and sharp because all the surfaces are veneered. The borders and corners can no longer be chamfered the way it was formerly done with the solid wood construction, because that would uncover the cheap central part within. Such was the level of development observed on the occasion of the earlier Cologne exhibitions. However, large smooth surfaces began to appear tiresome, which is why they were later decorated with prints, inlays, and especially with stick-ons that were supposed to illustrate the former, rather more agitated border solutions.

In the manufacture of styled chest-type furniture, a conflict arises between the form, which is at least generally defined in terms of the prevalent style of the given period, and the modern technology and workmanship. Similar conflicts could be observed increasingly at the more recent Cologne exhibitions. The former solid border, later filled with the panel, now emerges as a sticker on fibreboard. The initial period of modern imitation of historical styles also in the matter of design (which can still be accepted) appears to be dwindling away, and a flood of deceptive solutions that were all nevertheless cheaper were shown at the last Cologne exhibition. Even if we succeeded in re-educating all the consumers, the deceptive solution - which is much cheaper - would still attract a number of customers. In this connection, the question arises, by necessity, whether it is advisable to defend firmly the organic solutions or to do away with our considerations for plastic art and design, that is, our clearly established principles as designers.

I am convinced that it is our task to design such furniture as is beautiful in its proportions, that is as functional as possible, that is solid, safe, and of interesting design, accessible to the user and generally affordable, foldable for transportation, adaptable and composable to suit the varying dimensions and other characteristics of apartments, and adapted to serial production of the manufacturer. I believe that our furniture design should in no case conflict with the technology and machinery treatment of today; nevertheless, it is our duty to remove all the errors which have led the field of furniture design into the present-day era of stick-on decorations.

Seating and resting furniture

In the period of the Cologne furniture exhibitions, that is, within the last twenty years, the trends in the development of seating furniture have been observed that can be summarily described as follows:

The seating furniture grew bigger and bigger from exhibition to exhibition until when, in the last few exhibitions, it has outgrown even luxurious dimensions.

In the last twenty years, the classical upholstering materials such as horsehair, wool and seaweed, have been almost entirely replaced by foamed elastic man-made substances.

In the course of the first few years of the period under consideration, the use of artificial leather increased rapidly, whereas lately it has been brought to a standstill; in certain countries, a decrease has already been observed.

Artificial leather is being supplanted by textiles and materials made of synthetic fibres. Recently, the trend has shifted toward an increased use of more expensive textiles, the use of velours is increasing, while the use of epingle fabrics is decreasing.

Recently, the use of padding on furniture has been on the increase. Thanks to modern technology, this type of furniture has become much cheaper; consequently, most consumers can afford to buy it.

In the last two decades, the world market has witnessed the appearance of a large number of new springs and elastic fastening devices.

Also in the last two decades, fixed upholstery in the seating furniture has been largely abandoned, and is at present mostly replaced by separate pillows.

The period of the last twenty years has also witnessed the advance of Teak timber on the European market; lately, however, especially in the last years, it has been more and more replaced by other species of wood, specially Oak.

Virtually all the exhibitions held in Europe and the United States of America point to an ever-increasing percentage of the seating and resting furniture that is composable, foldable, and also well-adapted for loading.

In the last twenty years, we have had the opportunity to observe beginner's errors of design in the use of synthetic substances. At present, however, furniture exhibitions have proven that the designers are beginning to understand the plastic materials and to use them adequately in their designs.

The trends in furniture-making after World War II show that the manufacture of double-function furniture has been decreasing.

In the last twenty years, the height of seating furniture and of tables and desks has been reduced by several centimeters: the chairs for eating and for work from 46-47cm down to 43-41cm, and the table from 78cm down to 72 - 73 centimeters. This reduction in height results from the anthropometric studies as carried out especially by the Swedish designers, from the Japanese and Arabian life-styles, and from the impact of the Japanese and Arabian manner of sitting on European furniture.

Also in the last twenty years, the advancement of the Scandinavian furniture - especially of the Danish sculptural furniture - has been great. At present, however, its former great demand gradually begins to decline.

The European furniture-making of the last two decades has witnessed the rediscovery of Thonet's bentwood furniture and the admission of the "Bauhaus" furniture into the treasury of modern classics.

Flat-top working surfaces - tables

Let us now survey very briefly the postwar trends in the field of table-making.

In the last twenty years, internationally endorsed standards of dimensions of all types of tables have been consolidated. The height of tables was reduced by 5 centimeters along with the simultaneous reduction in the height of the seating furniture.

In the period under surveillance, i.e. the last two decades, the percentage of tables with mounting legs used in Europe has increased considerably. In the Socialist Republic of Slovenia, some eighty per cent of all the industrially manufactured tables had mounting legs as early as 1971. In recent times, the use of Ultrapas ^{1/} and of Formica ^{1/} as protective surface finish has been on the decrease; conversely, the use of veneers has been increasing.

Major trends in the development of production of tables in the last twenty years have included a detailed division of the types of tables in terms of intended use (work table, school table, tea table, dining table, dressing table, coffee table, children's table, etc.). Also within the last two decades, the chemical industries have produced a number of quality varnishes and dyes used for both matted and lustered finishes.

This analysis goes back to the developments recorded from the beginning of the 1960s, when the Cologne furniture exhibition was inaugurated. I suggest that the appraisal of future developments proposed below take in a roughly identical unit of time, i.e. the period up to about the year 2000.

The last twenty years represent a period that is relatively easy to recall and summarize; similarly, the twenty years to come are not too distant to

^{1/} trade names

frustrate our attempt to extrapolate present trends to construct an image of the future as reflected in the next twenty years.

It is quite realistic to expect that the next two decades will bring in major changes in the conceptions of and solutions applied to human habitation, including furniture.

These major changes will undoubtedly be promoted by the ever-faster formation of agglomerations of city dwellings. At the beginning of the present century, about one-twentieth of the people inhabiting the earth lived in cities. This figure increased to as much as one third by 1960 and to four-tenths in the decade between 1970 and 1980. In another twenty years, the number of people living in the cities will amount to a staggering threefourths of the entire human population.

Such a trend in the development of migration will call for an extensive industrialization and for a large-scale construction of dwellings that will also entail modified considerations in the design of convenient industrial furniture. Major changes in furniture-making will be also affected by the increase of average life expectancy to about 80 years. Even at present, furniture manufacturers have good grounds for expecting profitable sales of furniture intended for old people, in particular those manufacturers who specialize in this type of furniture.

Another important influence upon housing conditions will be exerted by repeated reductions in the hours and days spent at work. A four or even three day work-week will engender more spare time and the related problem of yet another dwelling-place (cottages to spend weekends in). The latter entails the task of designing suitable furniture. Furthermore, new requirements regarding the furnishings will have to be supplied on account of an increasing mechanization in the household.

Twenty years ago, we - the architects - were able to state safely that a laboratory-type kitchen fulfilled its functions adequately in most apartments. Today, however, we have come to realize that such a kitchen actually separates the mother-wife or the housewife from her children and her

entire family. Therefore, we are beginning to revert to the roomier, classical type of kitchen, and to the recollections going back to the ancient times of the common hearth, when the abode included some corner area allocated for the goat. I do not intend to propose that we reintroduce the custom of keeping a goat in the apartment, but it can safely be concluded that the laboratory-type kitchenette must not be regarded as permanent.

In the past decades, bedrooms mostly only served as the apartment units for sleep and rest only, which was at least partly due to the inadequate heating of bedrooms. The widespread central heating of today, however, has begun to bring in another function of the bedroom, namely that of a place for learning and working. A place for studying at home is much needed, especially in the light of the fact that an ever-increasing percentage of the younger generation chooses to attend schools at the non-compulsory level, thereby lengthening considerably the period of their schooling. Centrally heated and correspondingly furnished bedrooms have been acquiring more and more characteristics of the working room, and this trend is bound to continue. Those manufacturers who will succeed in adapting their products to this new trend and increasing convenient furniture, designed to offer both working and resting facilities, can, without doubt, expect profitable sales.

Considering the fact that it took us a mere twenty years to change our conception of the laboratory-type kitchenette and to reappraise the value of the classical, roomier kitchen, and that at present we are inclined to add to the classical function of the bedroom (provided that it is centrally heated) also the function of the day-time room for work or even for children, we have good grounds for believing that the relatively short period of the next two decades may witness even more radical alterations in the field of housing culture.

According to a recent conception, all the rooms of the apartment have been taking on the role of "resident" rooms, as the classical division into kitchenette, living room, dining room, bedroom, etc. appears to be fading away more and more noticeable. With this trend, manufacturers have begun to adapt the conception of the apartment as well as of furniture to the housekeeping requirements and not the reverse. In this way, the old-fashioned conception of the system of rooms had to be discarded, because it was designed in such

a manner that the resident's wishes concerning the design of his apartment - his immediate environment, as it were - were hampered by the walls. The resident must be given an area limited only by the ceiling, pillars, windows and the knot of sanitary fittings, while it must be he himself who handles the interior arrangements by using simple chest-type and partition elements supplied by the industry.

The sphere of design activities has been expanding continuously. Designers now participate in the making of even purely technical products that were formerly - not long ago, to be sure - made only by mechanical and production engineers, technologists, and constructors. These articles are obviously the fruit of teamwork and since the designers are typically untrammled by technical preoccupations, they contribute the largest amount of creative stimuli. The former traditional decorative and applied art is being replaced by a vivid interest in the embellishment of industrial products and thereby in the beautification of man's environment as a whole. This new activity of industrial design generates an increasing interest in craftsmanlike manual skills, and the latter activity will supplement the resident's needs for individualist additions existing beyond the environment as created by industry.

The housing culture of tomorrow will be decisively affected by the mechanization - or even automation - of household work, and also, to a considerable extent, by the apartment furniture designed in such a way as to enable additional purchase, later modification, exchange, permanent alteration, etc. These whole technically-conditioned requirements will be part of the needs and demands for modification to the human dwelling, and thereby to the furniture.

The people will show a tendency to spend either more or less of their spare time in their cozy homes, depending on the policies of furniture-makers and their influence on life-styles and habits.

It is however, not impossible that the foregoing technical development should encounter a reaction, owing to which furniture buyers might revive the old customs in their homes including the corresponding furniture and fittings.

Having sketched the reasons that might bring about the changes, I would now like to forecast the future development of furniture until the year 1990.

The world will witness the standardization and the typification of built-in kitchen furniture and fittings, and also probably of wardrobe chests.

The kitchen and the dining area will change into a "resident" kitchen, whereas the laboratory-type kitchenette will disappear.

The living room including the TV will begin to lose its former everyday role as dining room.

When furnished adequately, bedrooms will increasingly take the role of a daytime room for work or even for the children.

New apartments will do away with mobile wardrobes of the chest type, and introduce small cupboards for storing or depositing things.

Large enterprises will be formed that will rent furniture.

Light, rather more comfortable or small-size seating furniture, will make its influence felt widely.

A considerable demand for the imitations of "style" furniture will continue to exist for a few more years, to be followed by a period of mature modern and post-modern furniture and fittings.

Kitchens of tomorrow will show more colours and more natural wood.

The systems of chest-type furniture and shelves so far used attest to a number of imperfections; we may expect improved solutions adapted to each and every spatial design. These solutions will be perfected modularly, dimensionally, and constructionally.

Veneer will remain number one in the manufacture of apartment furniture. Surface finishing of panels using wood imitations will decrease.

Fashion and fashion accessories will become an important factor of the future's furniture demand.

New original technological solutions will represent the chief impetuses in the field of furniture design.

We may anticipate a rapid development of the techniques of spreading polyurethane foams on pliable, chiefly plastic structural frameworks that will enable a combined elasticity. The latter, in its turn, will originate a new technique of manufacturing elastic coverings resembling pillowcases.

I also predict that wood will soon begin to be substituted by plastic substances in such a way that in contrast with the present state of affairs, plastic materials will function as supportive and wooden parts as decorative elements.

Most of the products hitherto manufactured of plastic materials are marred by elementary errors in design. The new materials and products bear the imprint of the form of earlier products.

In the course of the decade which has just started, we will learn to design products with forms peculiar to the new materials. Foamed solid and elastic materials will be provided with reinforcements, interior armatures, fasteners, supports.

New spreading techniques will in all probability replace expensive textile coatings, consolidate the joints and the structure, and make the production in general cheaper. New and adequate synthetic glues together with the coating technique will revolutionize the manufacture of furniture and of pillows. The practical possibilities of synthetic materials are all but limitless, and they can be adapted to each particular technique used in manufacturing the items.

Mass production of plastic materials that are as hard as steel is imminent. Larger quantities of plastic furniture will be manufactured, especially combined with wood.

Exotic veneers, and particularly oak veneer - whether natural, or toned - will proliferate.

Plexiglas ^{1/}, which is notable for a number of excellent properties will make itself felt in combination with other materials.

The use of Ultrapas ^{1/} materials and of foil sheets will diminish. There will be no fundamental changes in the proportion of matted and lustered surface finishing.

The use of plastic fittings and of small, dainty chest-type furniture made of plastic will increase.

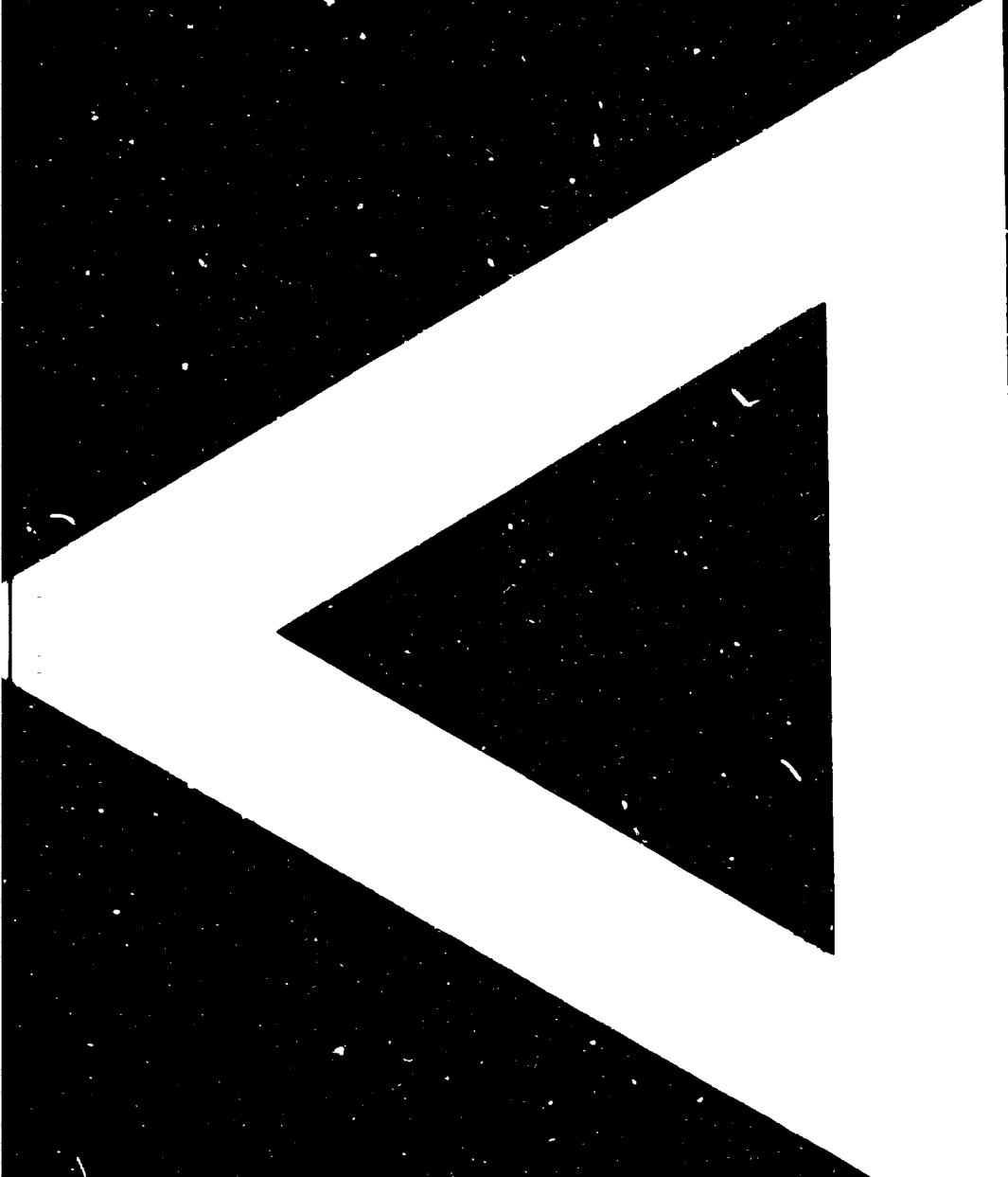
Similarly, the use of frames made of solid wood on the front panels of kitchen furniture will proliferate. The same observation can be applied also to the development of movable (i.e. not built in) chest-type furniture.

In the near future, we can count on a mechanized or perhaps even computerized and formally pure manufacture of furniture resulting from the efforts made as well as from the enormous financial resources that the furniture industry will have to invest in both experimental design work and research work.

This large-scale production involving the international division of labour will nevertheless leave room for smaller manufacturers. The latter will fulfill individual artistic requests, producing various additions to industrially-manufactured furniture and sets of furniture.



^{1/} Trade names.



the \mathbb{R}^n is a \mathbb{R}^n -valued function on \mathbb{R}^n . The function f is called a *vector field* on \mathbb{R}^n . The vector field f is said to be *irrotational* if $\text{curl } f = 0$. The vector field f is said to be *solenoidal* if $\text{div } f = 0$. The vector field f is said to be *divergence-free* if $\text{div } f = 0$.

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