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**DEVELOPMENT OF
THE FURNITURE
AND JOINERY
INDUSTRIES
AND CREATION
OF A CENTRE**

18 MAY 1978

DP/YUG/78/068

YUGOSLAVIA

Technical report:
DESIGN OF SOLID WOOD FURNITURE

Prepared for the Government of Yugoslavia by the
United Nations Industrial Development Organization,
executing agency for the
United Nations Development Programme



United Nations Industrial Development Organization

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Based on the work of Arne Vedder, expert in furniture design

United Nations Industrial Development Organisation
Vienna, 1977

Explanatory notes

References to dollars (\$) are to United States dollars, unless otherwise stated.

The monetary unit in Yugoslavia is the dinar (Din). During the period covered by the report, the value of the (Din) in relation to the United States dollar was \$1 = 18.20.

The following abbreviations are used in this document:

DIR	design information representative
OOUR	Osnovna Organizacija Udruženog Rada (A self-managed unit of an enterprise)
PVC	polyvinyl chloride
ZOOUR	Zajednica Osnovnih Organizacija Udruženog Rada (A co-operative of self-managed units)

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ABSTRACT

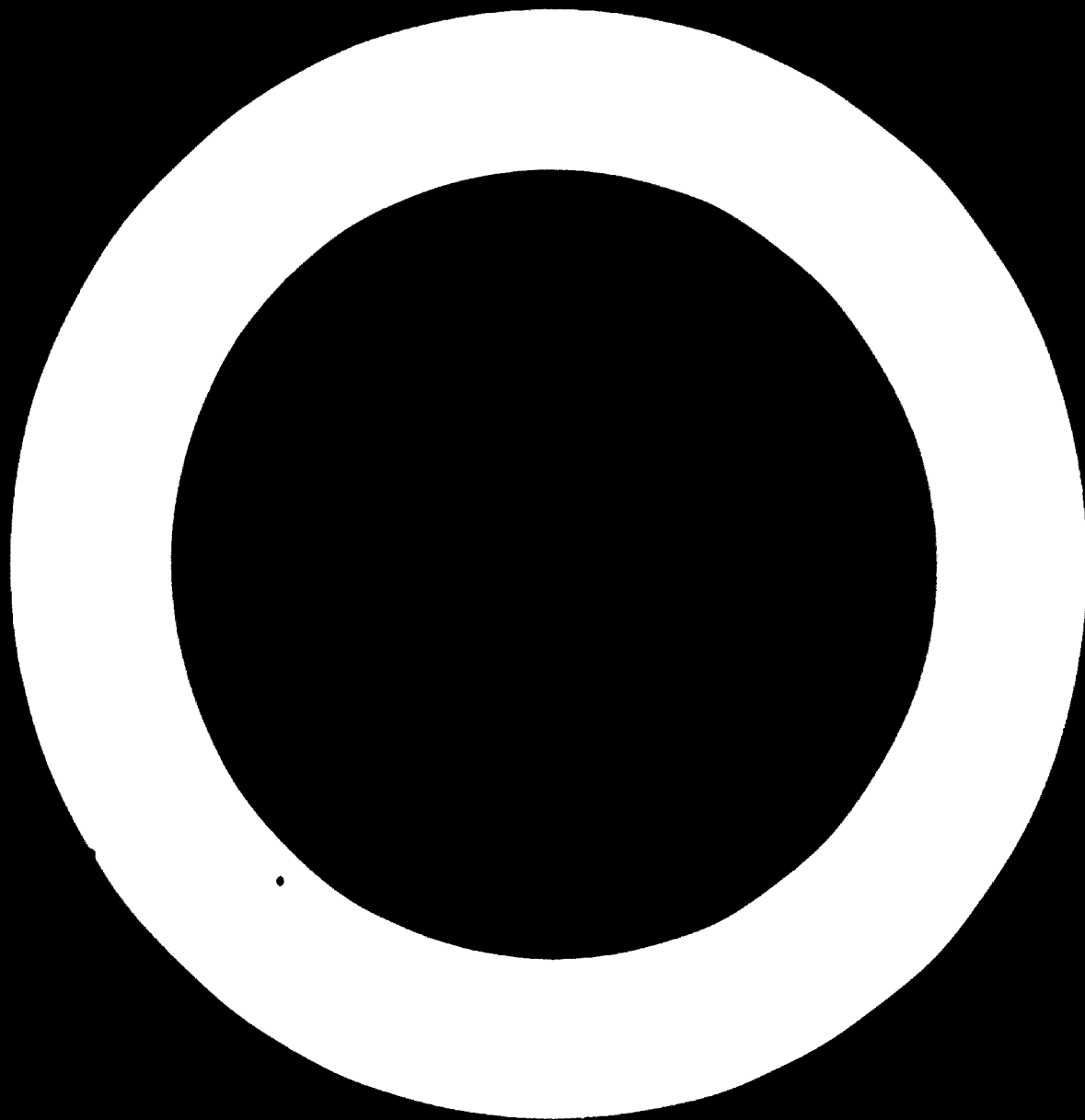
As part of the parent project "Development of the furniture and joinery industries and creation of a centre" (DP/YUG/73/006) that is being carried out by the United Nations Industrial Development Organization (UNIDO) acting as executing agency for the United Nations Development Programme (UNDP) in response to a request from the Government of Yugoslavia, an expert in furniture design was sent on a three-month mission to Yugoslavia to assist the staff of the ŠIPAD Design Centre in Sarajevo. The mission was carried out from 17 May to 15 June and from 31 August to 29 October 1976.

In the course of the mission, the expert visited numerous factories and designed various types of furniture for them.

The expert's principal recommendation was the establishment of small design and marketing units in a few cities important to Yugoslav exporters with the goal of attracting skilled foreign designers to design for ŠIPAD and to assist in marketing.

This mission was the second to be carried out by the expert in the last two years. Since he found that the situation, although improved in certain respects, had not changed greatly, his earlier findings,^{1/} although still pertinent, have not been repeated in this report.

^{1/} See report DP/ID/SER.A/8.



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INTRODUCTION

The furniture and joinery industries of Bosnia and Herzegovina contribute about 3% of the goods and services produced in the Republic and represent 4% of its exports. An ambitious five-year development plan is being implemented to double the production of furniture to attain a value of Din 2,000 million and to increase the work force from 6,000 to 9,000 persons. This plan calls for an investment of Din 300 million. Joinery production will increase from Din 200 million to Din 650 million and the work force will treble to reach 4,500 persons. Investment of Din 950 million is foreseen for joinery plants.

ŠIPAD, a co-operative forest industry organization consisting of 126 factories and employing 55,000 persons, accounts for 65% of sawmilling and 85% of the final products of the wood industries of Bosnia and Herzegovina. The Government of Yugoslavia, on behalf of that of the Republic of Bosnia and Herzegovina and ŠIPAD, has requested assistance from the United Nations Development Programme (UNDP) in developing the Republic's furniture and joinery industries.

The assistance being provided in design of furniture and joinery, production management, quality control, documentation and marketing is part of the project "Development of the furniture and joinery industries and creation of a centre" (DP/YUG/73/006) that is being carried out by the United Nations Industrial Development Organization (UNIDO) acting as executing agency for UNDP. The project, which began on 1 September 1974, is scheduled to last for three years and four months. The UNDP contribution is \$555,000, that of the Government of Yugoslavia, Din 19,247,900.

The long-range objectives, as set forth in the project document, are to enable the furniture and joinery industries in Bosnia and Herzegovina initially and in all of Yugoslavia eventually to make a greater contribution to the economy. Immediate objectives are to help the industries to increase the value of their products, to improve quality, to reduce costs of production, to design new products and to forecast market requirements.

The assistance in design is being provided to the factories through the ŠIPAD Design Centre in Sarajevo. This Centre has a staff of 17 and provides central services in the design of all types of furniture, joinery and prefabricated wooden houses for the factories in the ŠIPAD organisation.

As part of the project, Arne Vodder, an expert in furniture design, was sent on a three-month mission to assist the staff of the SIPAD Design Centre in Sarajevo. The mission was carried out from 17 May to 15 June and from 31 August to 29 October 1976. Annex I contains the expert's job description.

I. FINDINGS

The situation regarding furniture production has changed during the past year - most of the factories are now working at full capacity, some of them on two shifts, and sales seem to follow the increasing production quite well.

All present signs indicate that the Yugoslav furniture industry has an excellent opportunity to achieve new export records during the coming years. With such a fast-growing industry, naturally many problems still have to be solved.

Some of the major tasks are:

- To develop new designs and products
- To improve quality and quality control procedures
- To train workers and sales personnel
- To improve marketing
- To develop display techniques and set up mobile exhibitions, permanent showrooms and distribution centres

Need for new design

One of the greatest needs of the ŠIPAD factories is to develop new designs. This need has been mentioned also in the expert's previous report and those of other experts, but very little has been done about it. New development is essential if exports are to increase so as to keep up with the huge production capacity of the new factories. Yugoslavia exports annually to Denmark, a small market, furniture valued at about \$4 million. This export is based on extremely modest endeavours, and very little effort has been made to increase this figure. No Yugoslav showroom exists; no sales personnel call on Danish customers. The export is due to Danish importers who find their own way to Yugoslavia. A considerable expansion of exports of Yugoslav furniture could be achieved through a more effective design and marketing policy.

One way to increase exports not only to Scandinavia but to markets around the world would be to recruit independent "design information representatives" (DIRs) to work in a few cities important for Yugoslav exports, e.g. Copenhagen, Helsinki, Frankfurt, Rotterdam, Paris, New York and various cities in the Middle East and the Union of Soviet Socialist Republics.

The main idea behind this suggestion is to attract experienced designers to work for ŠIPAD industries. There are in Denmark each year about 15-20 highly skilled furniture designers who have just finished seven years of education in this field. They have difficulties in finding work. In Yugoslavia, ŠIPAD needs new designs and has 25 furniture factories with a huge capacity. Two or three DIRs, one of whom would be a Yugoslav, located in the market to be served and knowing not only the needs of the local market but also the possibilities of the ŠIPAD sales organization and their factories, would be able to solve some of the marketing problems. Since the man on the spot will know best what will sell on the market, he could co-operate with designers to obtain for ŠIPAD designs acceptable for the local market for production in Yugoslavia and to ensure that the vast raw material of beech and pine found in Bosnia-Herzegovina should be utilized to best advantage.

Since Copenhagen is the major furniture marketing centre for Scandinavia, it would be logical to establish the first design and marketing unit, composed of DIRs, there. The purpose of the unit is to attract Scandinavian designers to design furniture for ŠIPAD industries that is either to be produced in series and sold on the Scandinavian and other export markets and perhaps also on the home market or is to be manufactured by ŠIPAD for special large, contract jobs. ASKO in Finland and DUX in Sweden use Italian designers, for example.

Information on ŠIPAD and its DIRs should be spread among Scandinavian designers in order to obtain designs that ŠIPAD finds attractive and can use.

A ŠIPAD DIR committee should be established to select designs for which there would be a market.

Danish and foreign sales organizations, contractors, institutions etc. should be contacted to interest them in having special production manufactured by ŠIPAD industries. Inquiries would be handled preliminarily by the DIRs using, when necessary, workshop drawings, based on their experience of what ŠIPAD could actually produce.

Denmark is already a well-established centre of international trade in furniture; northern Europe's largest and most modern permanent furniture exhibition (the Bella Centre), where all four Scandinavian countries exhibit, is located in Denmark. This permanent trade centre is now planning to expand further to incorporate selected European furniture collections for the retail

as well as for the contract markets. Copenhagen is also host for the annual Scandinavian furniture fair and annual contract furnishing fairs to which buyers come from all over the world. Most exports of Norwegian and Swedish furniture to North America is routed via Copenhagen and often consolidated with Danish furniture exports. It would very often be to the advantage of customers in Canada and the United States of America to route even Yugoslav furniture via rail to the Copenhagen free port for individual inspection, packing and consolidation into small, individual container shipments destined for the many hundreds of retail stores in these two countries that do their own direct import in containers but that cannot always buy one full container-load from each supplier.

No big organization is needed for the design and marketing unit, only a small, limited company employing perhaps two full-time workers. Jørgen Høyer has offered to co-operate with the design and the marketing departments of ŠIPAD. The approximate annual cost of running this office would be \$30,000.

In accordance with Scandinavian and international practice, the remuneration of the designer should be in the form of a royalty, normally 5%, but could, considering the anticipated size and extent of the production series, be set at 3% of the ex-factory price. In case of custom designs, such costs could be covered by ŠIPAD's client and paid by the client to the designer.

The marketing would be the responsibility of the local partner. The marketing commission is normally 8-10%; but, since larger sales, often through other sales organizations, are anticipated, this remuneration should be set at 5% of the ex-factory price for all furniture exported by or through ŠIPAD. An agreement dealing with these details and terms should be negotiated separately. This commission would cover all his costs of operation, including all travelling and office costs.

No marketing commission on a percentage basis should be payable to the local partner until the first production dealt with under this proposal has been sold and invoiced. It therefore follows that the costs of operation (office, travelling, advertisement etc.) from the time of the establishment of the DIR unit and until the time when a reasonable commission comes through must be borne not only by the local partner, but also by ŠIPAD. To compensate

for initial operating costs, ŠIPAD should participate with a minimum of DKr 5,000^{2/} per month for a period of 12 months from the establishment of the DIR unit. If after one year the turnover exceeds DKr 1,200,000 (5% of DKr 1,200,000 = DKr 60,000 = 12 months at DKr 5,000) the commission basis should be adopted.

The Design Centre has recently become an independent OOUR and now makes the contracts with the industry for its design. One great problem is that the factories do not have much confidence in the Design Centre at present and prefer to make their own designs or co-operate with free-lance designers, which does not make it easier for ŠIPAD to co-ordinate the production of a range of furniture.

The Design Centre is needed for several purposes within ŠIPAD, for example, to design for the home market and for domestic and foreign exhibitions to modernize the outlets all over Yugoslavia.

A very skilled co-ordinator who could co-ordinate sales, production and the work of the Design Centre with the DIR unit abroad is badly needed. This co-ordinator could be an economist, technologist or marketing specialist.

To attract original design, it is necessary to arrange a licence or royalty system, since no well-known designer will be interested in selling his design for a fixed salary. The percentage system also ensures that the designers shall be interested in making designs that will promote sales, since they are economically interested in good sales. Annex II contains a suggested contract between a designer and the producer.

Product development

ŠIPAD should not rely exclusively on the information provided by the DIR units. A small committee for product development should be established in Sarajevo. The industry will have to allocate a certain percentage, probably about 5% of its turnover a year, for product development if it is to keep ahead of the market.

The committee should consist of perhaps four members - an architect, an engineer, a salesman and a producer. These members should meet weekly and

^{2/} During the period covered by this report the value of the Danish krone (DKr) in relation to the United States dollar was \$US 1 = DKr 5.80.

when necessary take advice on ergonomic matters from medical and physiotherapists. Finally, the institutes for wood and textile technology should carry out the necessary tests of strength, surface finish and upholstery materials.

During this last mission a very good relationship was established with the leather factory in Visoko, which has made samples for four factories - Bina, Varda, Neretva, and Standard. The quality of the leather is extremely good; and it is highly recommended that this soft leather produced in Yugoslavia be used instead of the imported fabrics, which are very difficult to get in good quality. The hides from Visoko are about 5 mm thick and are also very well suited for more rustic furniture.

Leather furniture is sold increasingly all over the world, and the good quality of this material will enhance the quality of the product, eliminating the need to import textile materials for high-quality products. For table tops, Yugoslav marble would also be very well suited and would enable new creations to be introduced.

As the younger generation wants furniture different from what its parents have, there is a great market for new designs, as research has shown.

Young people are well informed about prices. They want to know how furniture is made, and they prefer solid wood furniture to veneered furniture. The young consumer places an entirely different emphasis on furniture in the home from that of his parents. It is not something to be saved and preserved; it is to be used, enjoyed and replaced when the time is right. Young people like furniture that has a dual purpose. In Scandinavia, the increasing interest in ecology has led to the idea of economizing industrially with the shrinking resources of the earth, and it is now the fashion to design furniture that will fulfill a specific function with the lowest possible consumption of material. To achieve this result, independent development work, based on a well-defined product policy, with the purpose of utilizing the highest possible percentage of the wood, is carried out in Scandinavia. This policy could be introduced in Yugoslavia.

Quality control

Quality control is important if BIPAD is to succeed in increasing exports of furniture at a higher price. It is always easier to obtain a better price as soon as the quality of both design and production has reached a level where the competition is not so strong.

Quality control at the first stage should take place in the factories by workers specially trained for that purpose. The next stage would be inspection by staff from the Institute of Wood Technology. Since higher quality will mean a great deal for ŠIPAD's reputation and future sales, quality control should be given a high priority.

At least once a month, staff from the Institute should visit the factories to study production and give advice on quality, show slides and in general act as consultants paid by the factories on the basis of a certain percentage of the turnover.

The prototype workshop should be started - all equipment is at present available. The workshop could be used as a link between ŠIPAD and the factories.

Prototype workshops in factories should have their own tools so that they can work independently of the factory production. The equipment can be bought from the product development fund, equal to 5% of turnover.

ŠIPAD should arrange to take workers by bus to visit factories for 2-3 days, for instance, to Una to learn about quality. Staff from the Institute should join the trip and comment on what the workers see. A journalist of the ŠIPAD newspaper should be present to take photographs and write about the factories. Such a trip would make the workers feel that they are members of the ŠIPAD family.

Training of personnel

On several occasions during the mission the expert found it difficult to have samples of prototypes made because of the lack of skilled workers.

Training courses should be organized, and all workers should be required to join them for two weeks a year. The most skilled should have the opportunity to continue for another two weeks of training in their field of work to study how their work influences production and sales. The courses should cover use of the machinery, quality control, surface treatment, and internal transport (many pieces of furniture are damaged at this point).

These training courses would give the workers an understanding of the importance of their work and introduce competition among the workers in the various factories. The sales personnel also must be trained if ŠIPAD is to increase domestic sales and exports. The store carrying furniture of the highest quality will soon fail if the sales personnel are incompetent.

The customer wants to have precise information on design - colour combinations, fabrics, wood finishes and fillers used in upholstery. Exaggerations should be avoided, since they would soon prove to be false and result in claims that would be difficult for the store to fulfil. Nothing will create more ill will and lose more future sales than promises before a sale, followed up by excuses after the delivery.

The sales personnel should learn about the goods and have courses in this field. They require specialized knowledge of upholstered furniture because many new materials have been developed - polyurethane, latex, cotton or a combination of them. With case goods, unlike upholstered goods, most of the construction is visible; here primarily a knowledge of wood and surface treatments is important. Courses on new materials should take place at least once a year because of the rapid development of new production methods, a few of which are application of high-pressure laminates; moulding of polystyrene, polypropylene, ABS, PVC, vinyl; post-forming laminate; processes for moulding rigid polyurethane foam and its various possibilities for uses ranging from upholstery shells to picture frames. Properties and upkeep of textiles and leather materials used in upholstery could also be the subject of a course.

The technical directors should also be trained to recognize good quality, for instance by organizing small seminars with lectures at which slides and samples are used to show various types of construction, surface treatment etc.

Such courses would also give participants the opportunity to exchange experience in their field and also give them a feeling that they all belong to the ŠIPAD family. They would also benefit from study tours abroad to "see and feel" the quality of competing products.

Marketing

The ŠIPAD marketing department should be made more dynamic and undertake research best suited for its production, sales and delivery. Once the proposed DIR unit is at work, ŠIPAD will receive a good deal of basic information from abroad to be used by the marketing department. This information, together with domestic marketing information, will form the base for new designs and will make it much easier to persuade the 28 furniture factories within ŠIPAD to co-operate so that they do not compete with each other and turn out the same production.

As soon as this information begins to flow, it will be much easier to take decisions based on facts and not on the feeling that such and such a model would be good for this or that market. If after some years a model sells poorly on one market, it does not necessarily mean that the factory will have to stop producing this model - it may sell very well on other markets.

Part of the factories should concentrate their production on institutional furniture as is done in northern Europe. This sector has undergone dramatic and positive changes. New banks present a friendly welcoming face to their clients. Waiting rooms of hospitals are being planned with new insight into the needs and desires of those who have to wait there. The office is approaching the home environment in its general atmosphere, with wall-to-wall carpeting, flowers, recreation rooms and good lighting. The need for a good environment at places of work is self-evident and reasonable. This hitherto forgotten sector could absorb 33% of the ŠIPAD production, for it needs office furniture of good quality.

ŠIPAD office furniture should be sold through channels other than the regular outlets. There is a great advantage in having a separate permanent showroom for this purpose where the furniture could be shown in the right setting; which would increase sales much more than a mere reduction of prices. Instead of having five outlets in Sarajevo, one big warehouse might be a better solution. Then the whole building opposite the Hotel Europa could be kept as an attractive, well-equipped showroom, with carpets, curtains and proper lighting.

Within the factories information is lacking on marketing and its advantages. The ŠIPAD newspaper could be used to provide such information and also to explain the importance of delivering furniture to the institutional sector on schedule. The importance of keeping to the delivery time cannot be underlined enough. In this respect the factories in Slovenia are doing better than ŠIPAD.

Display techniques and showrooms

ŠIPAD has about 120 outlets in different parts of Yugoslavia. During the mission the expert did not see one that would attract Scandinavian consumers. They are like warehouses. A challenging job for the Design Centre and a good graphic designer would be to change this image of ŠIPAD.

Visits to factories

OOUR Neretva in Konjic

The expert visited the OOUR Neretva on 21 May and 8 June 1976. He met with the director and Mr. J. Mulić from Mostar.

Background

Konjic is well known for its long tradition of wood-carving. Except for the workshop of Mr. Mulić senior, most of the work has been done in home establishments up to now. OOUR Neretva, a producer of sawnwood and packing cases has decided to produce furniture in the national style based on this carving tradition.

The construction of the building, which was to have had 6,000 m³ but has since been reduced to 4,300 m³, was to start in autumn 1976, and production in the summer of 1977.

It will not be difficult to obtain enough skilled craftsmen, 60-100 in the beginning and up to 200 when the factory is running at full capacity. Some of the items will be made outside the factory, in homes or in the small workshops around Konjic. These small craftsmen will thus be able to keep their work and not be put out of business by the factory.

The problems

The loan of Din 36 million that management has been promised will not cover present expenses; thus more funds will be needed until the factory can show profits.

Since this type of furniture will be new on the market, it is essential to have full support from SIPAD regarding sales promotion, advertisements in periodicals and newspapers and on television.

The selection of the sales personnel is important. Persons who have a feeling for the furniture and who understand something about its origin will be best at selling it.

Results of expert's visit

The expert designed a line of exclusive office furniture for executives. Figure I shows the conference chair as an example. This furniture could be sold in two versions, carved or plain. He also designed a lounge chair and tables, which could be incorporated into the office line. Prototypes have been made using leather from the Visoko leather factory. The prices will be rather high, but the quality is the best possible.

Collaboration between the expert and Visoko was very good.

Conclusions and recommendations

Compared with several other factories there will be no problems regarding design or quality, as Mr. Mulić will run the prototype workshop and the whole production is based on this work. One or two technical assistants will be needed to elaborate the drawings so that Mr. Mulić can concentrate on the creative work.

The expert considered the plan realistic and suggested concentrating initially on the following:

(a) Contract-jobs, mainly for hotels and restaurants, coffee houses and shop interiors. The time factor is very important; delivery must take place on schedule;

(b) Furniture for exclusive offices - desks, wall units, cabinets and chairs - specially meant for management of enterprises, hotels, banks etc. The prices would be high, so there would be no competition from other producers;

(c) Furniture for the private sector - single pieces or groups to be sold in shops;

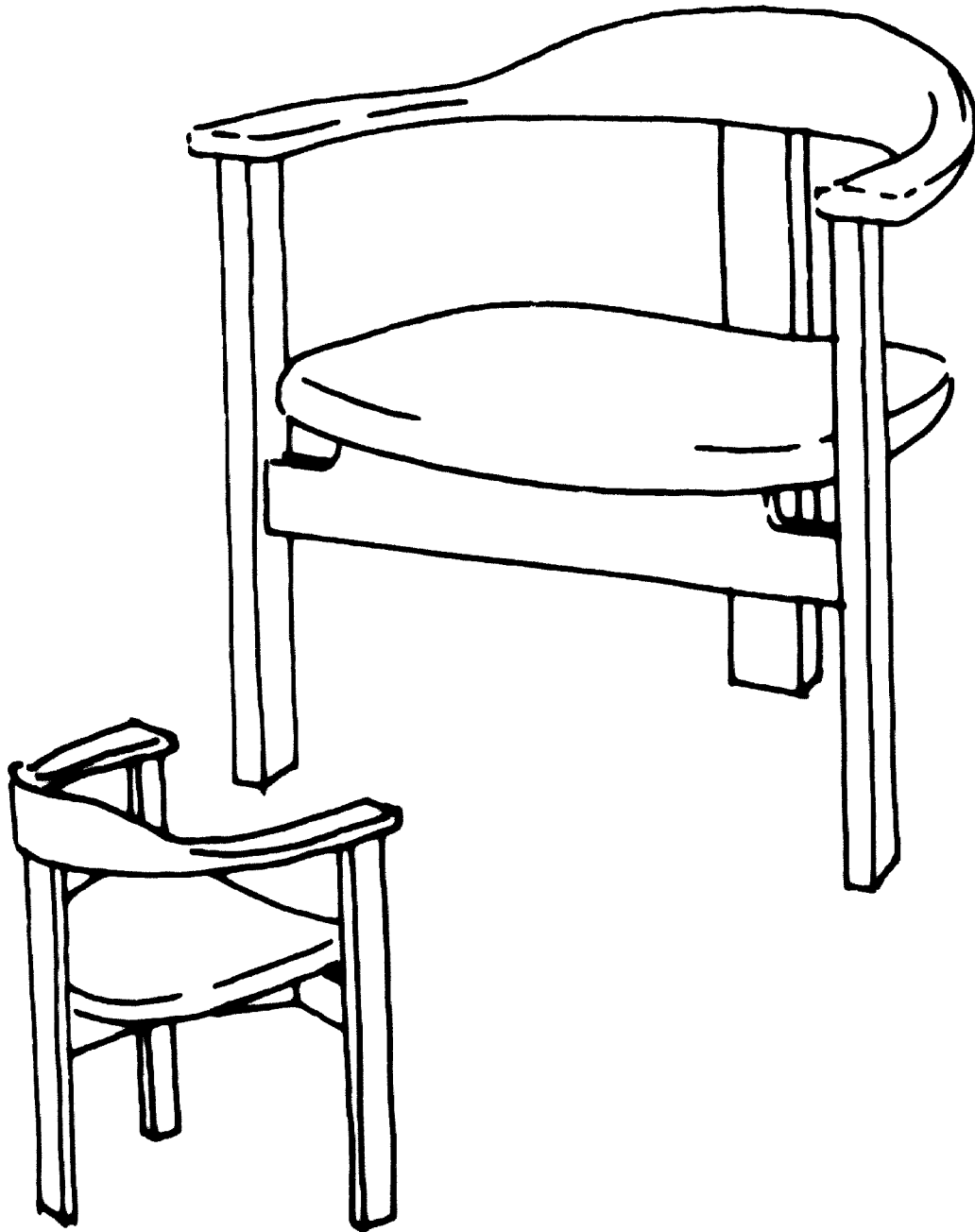
(d) Small items, toys, kitchen articles, souvenirs. Production of such articles would train the workers. Some items could be made outside the factory.

A good part of the production should be based on pneumatic tools to ensure flexibility.

Production on a small scale could start immediately in the present factory as soon as the tools are available, to train the workers and to have samples made for promotion and training of sales personnel etc.

The expert endorsed the suggestion made by the marketing expert regarding the establishment of a small museum, combined with a sales outlet and a school for wood carving. Konjic could become known in its field just as Interlaken in Switzerland is known for wood carving and Halland in Sweden for glass production.

Figure I. Conference chair designed for OOUR Neretva at Konjic



A committee of three or four persons from the university, museum or art gallery should be formed to select and evaluate the furniture. Each piece should be marked with a label giving some historical facts about the origin of the design. A special trade mark for Konjic should be created, which could be glued to the base of the hexagon table being produced, stressing the hand work involved instead of details on the factory or production.

If possible, it would be a good idea to draw on the fine reputation of Mr. Mulić senior and use the name of his workshop in combination with the new factory: OOUR Neretva - Mulić, for example.

OOUR Varda in Višegrad

The expert visited the OOUR Varda on 24-25 May. He met with Momir Telesic and Nikola Gasic, the directors of the factory, Š. Mulić from Mostar, and the factory's designers.

Background

The new factory has started on a small scale and will be ready for full production in autumn 1976. The factory produces at present about 1,000 tables a month in solid pine for Sweden. These sales could increase, since the quality is good. The main production will be in pine and beech. When production is at capacity there will be about 600 workers on the furniture line and about 120-150 occupied with other products.

The factory is in quite a good position to produce new lines based on the work done by Mr. Mulić and the late Mr. Faruk. New furniture is also being made by the Design Centre. About 40-50 new models will be ready by autumn.

The Varda factory is working hard preparing new models for production. Many of these new models are well suited for export if the right fittings can be obtained. The work done by Mr. Mulić will form a good basic production together with the furniture designed last year by Mr. Alija.

The expert examined samples of a new line of beech furniture for hotels - for conference rooms, restaurants etc. It will be ready by autumn.

Three parallel lines of furniture will be produced:

Solid pine and beech furniture

Case pieces - wall units etc.

Special items (individually produced for particular locations or hand carved)

With the planned flexibility it would be easy to switch over from one line to the other according to demand.

It is planned to sell about 80% of the production through furniture dealers in Yugoslavia and as exports and 20% as special items in the contract trade for hotel rooms and restaurants etc.

Three or four other factories in the area will form a group called DRINARIVER. These factories will supply Varda with boards, plywood etc. for its production.

The problems

The main problem will be to sell the huge production planned. The pine and beech furniture will be well suited for export. Since exports have to be prepared in advance, the question should be taken up by ŠIPAD very soon.

Another problem will be to obtain new designs, mainly for exports. Co-operation with some free-lance designers from the export markets would be advantageous.

Since the fittings are very important, they must be obtained from Siso in Denmark or H&fele in the Federal Republic of Germany. Without the right fittings, no knocked-down furniture or exports are possible.

Quality must be maintained so that each shipment will conform to the required quality.

The expert designed a range of furniture for hotels, restaurants, congress halls and colleges made in beech (see figure II). He also corrected the design being used in the factory.

Conclusions and recommendations

Several new pieces together with some of the furniture from last year that has been modified form a line of furniture with a new image. All these items will be ready for the Belgrade fair in November 1976 and should be

Figure II. Hotel furniture designed for OOUR Varda at Vilegrad

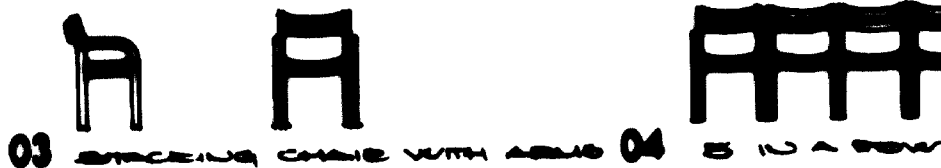
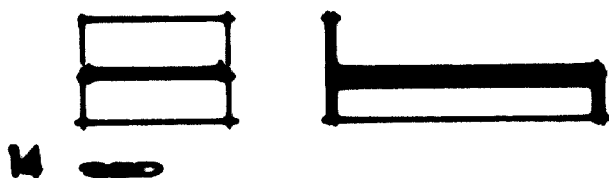


Figure II (continued)



displayed in a very good place within the ŠIPAD exhibition. After the exhibition, it might be a good idea to make a special exhibition in the Skenderia showroom in Sarajevo. With the new pieces from Farvir, about 100-120 m² will be needed for this purpose. Simultaneously with production planning, sales promotion should be organized. A good trade mark should be made; three V for Varda-Višegrad was discussed. The basic idea seems to be sound, but a skilled graphic designer would be able to improve on it.

All the furniture should be marked with this trade mark.

As part of the furniture is meant for export, it is important to design a good packaging system.

The production planning with three parallel lines gives good flexibility in the production and seems very promising. Nevertheless, it is recommended that the line of other products continue and increase - wooden parts for lorries, toys, and kitchen articles. A kitchen made in pine will be rather expensive and will not compete with the production from Gradačac.

With the size of the factory and the space around, the manufacture of elements for wooden houses and laminated beams might be considered, since these elements seem to be lacking. In Scandinavia laminated beams are used a great deal because of their low weight and the long span they permit.

Prefabricated entrance doors in various styles could also be produced, and also laminated benches for public places - parks, stadiums etc. If the impregnation is adequate, the wood could stand in the ground up to 20 years. (Such a guarantee is given in Denmark.) A prospectus on front doors, laminated beams, and melamine laminate will be sent direct to the factory by the expert.

Una at Bosanska Krupa

The expert visited the Una factory on 27 May 1976. He met with the factory's director, Ideis Baonjević, and its technical director, Muhamed Midžić.

Background

Production is running smoothly and the factory works on three shifts. There seems to be no problem regarding sales either. The quality is good. Most of the furniture is sold outside the ŠIPAD organisation.

A new wall system in oak, with tables and beds, has been made. The design was bought from the Federal Republic of Germany. Some Italian designs have also been bought. Except for these imports, no new designs have been developed since the autumn of 1975. The furniture from Una has never been exhibited in Sarajevo.

The problems

The factory makes furniture, partly in the colonial style. With this style of furniture there is a keen competition on the world market and sales are limited.

The main problem for the moment is the lack of original designs. New, individualistic designs always bring more money than designs based on the specifications of foreign buyers.

Conclusions and recommendations

The factory is operating well and makes some of the best furniture within the ŠIPAD group. Thus ŠIPAD should work more closely with the factory regarding information and sales. There is no reason why the main part of the furniture should be sold outside the ŠIPAD organisation.

Since the foreign market is very sensitive, it would be advisable for the factory to co-operate with a team of designers from the Design Centre or free-lance designers to obtain original designs through licensing instead of buying designs haphazardly, since in that case there is no guarantee that the design has not been sold several times.

OCUR 4 November in Bihać

The expert visited the OCUR 4 November on 28 May 1976.

Background

The factory needs immediate support from ŠIPAD, since sales are poor. At the time of the visit the workers were on a three-week leave because of the serious situation.

A new range of school furniture consisting of about 29 items designed by the Design Centre has been worked out. These items look very promising. The quality of production has improved since the last visit in October 1975. The new office line is ready to be sold; it needs only the addition of a few dividers in the drawers and a standard filing system.

The problems

With the changes in the payment system made recently in Yugoslavia, factories in a position not to insist on the 50% advance payment or loan are better able to sell than others, and they receive the orders. Co-operation in this matter is needed. Also, it is very important to accelerate the sales efforts.

The factory has some difficulties in obtaining the right fittings from Siso or HÄfele, locks etc., which are necessary to make the line called 4N complete and ready for selling.

Results of expert's visit

The expert designed:

- (a) A line of office furniture in beech with a wall system, desks (figures III-X) and a conference chair (figure XI);
- (b) School furniture in beech with tables and chairs in three sizes. (figure XII). Both lines were shown at Belgrade at the fair for school furniture in November 1976.

A ready-made line of furniture designed earlier by the expert for laboratory use has been handed over to this factory for testing on the market. This line is fully equipped with tables - cabinet tables for balances and fume cupboards in three sizes. The line has been in production several years in Denmark and sells very well.

Conclusions and recommendations

The factory is of a reasonable size, the production is well organised and the quality is good. The staff of the design bureau is working diligently on research problems.

Information on the requirements of institutions should be compiled, to enable the factory to increase the production of office and school furniture and also to develop furniture for kindergartens. Chairs to fit the office line are badly needed in addition to the office line 4N. A line of school furniture is under preparation and drawings will be sent to the factory from Denmark.

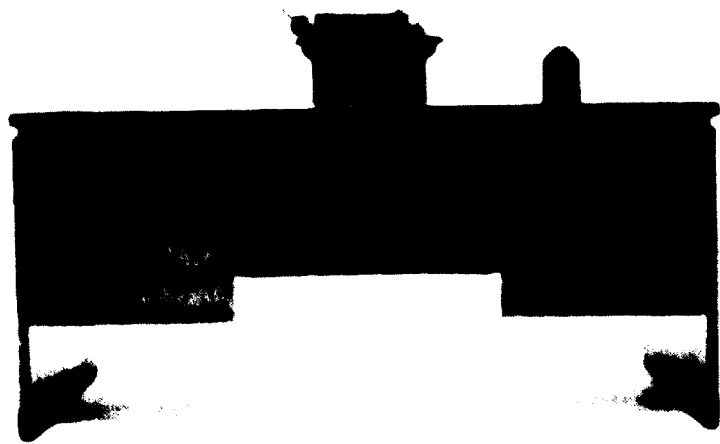


Figure III. COOR Bina at Bihac, Program Olimpija: Writing desk TYPE BI-01

Figure IV. OOUR Bina at Bihac, Program 4/1: Sideboards 4



Figure V. COUR Bina at Bihac, Program 4M: Cabinet 14

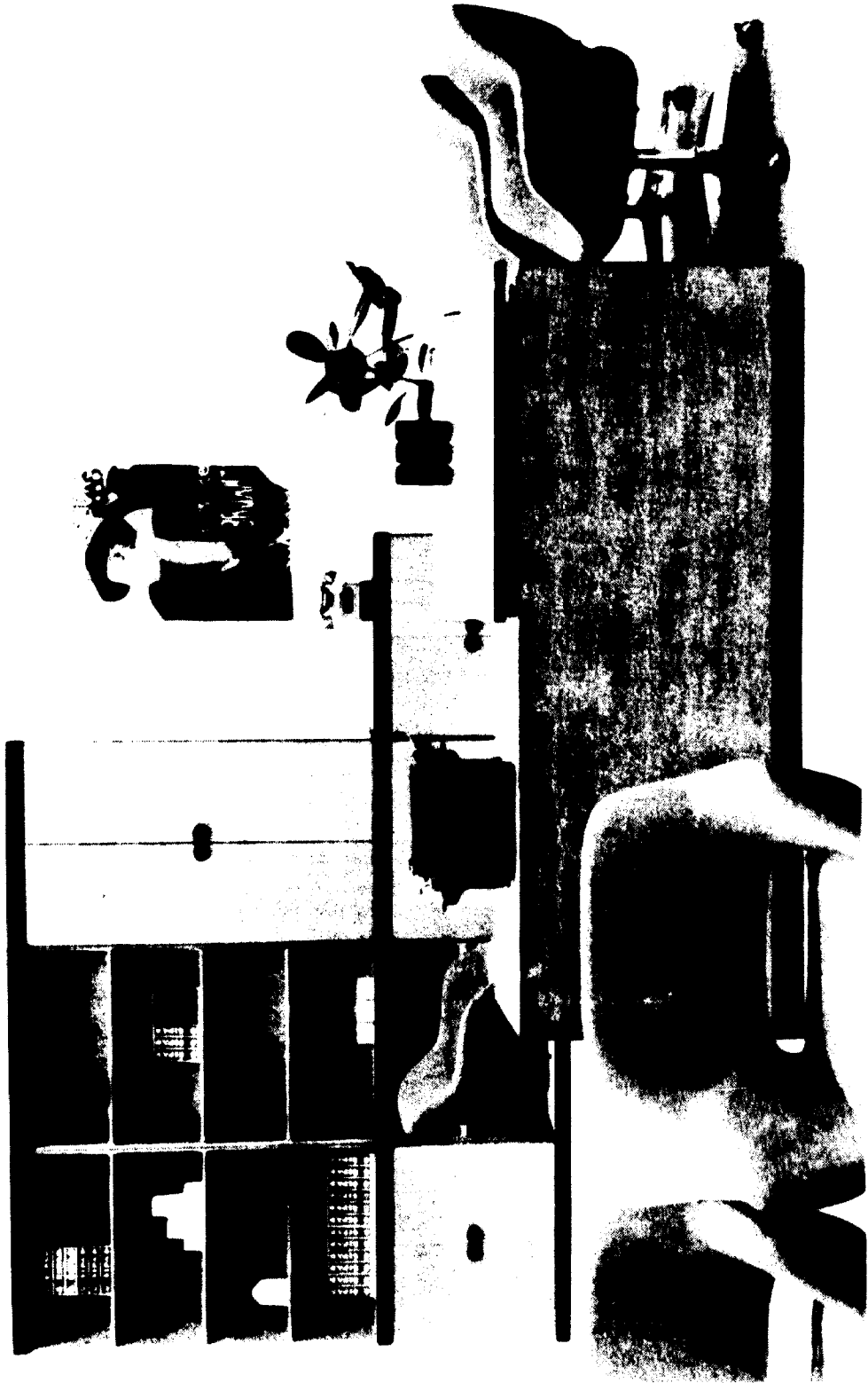


Figure 11. OORR film at Bihaf, Program 48: Sideboards 5

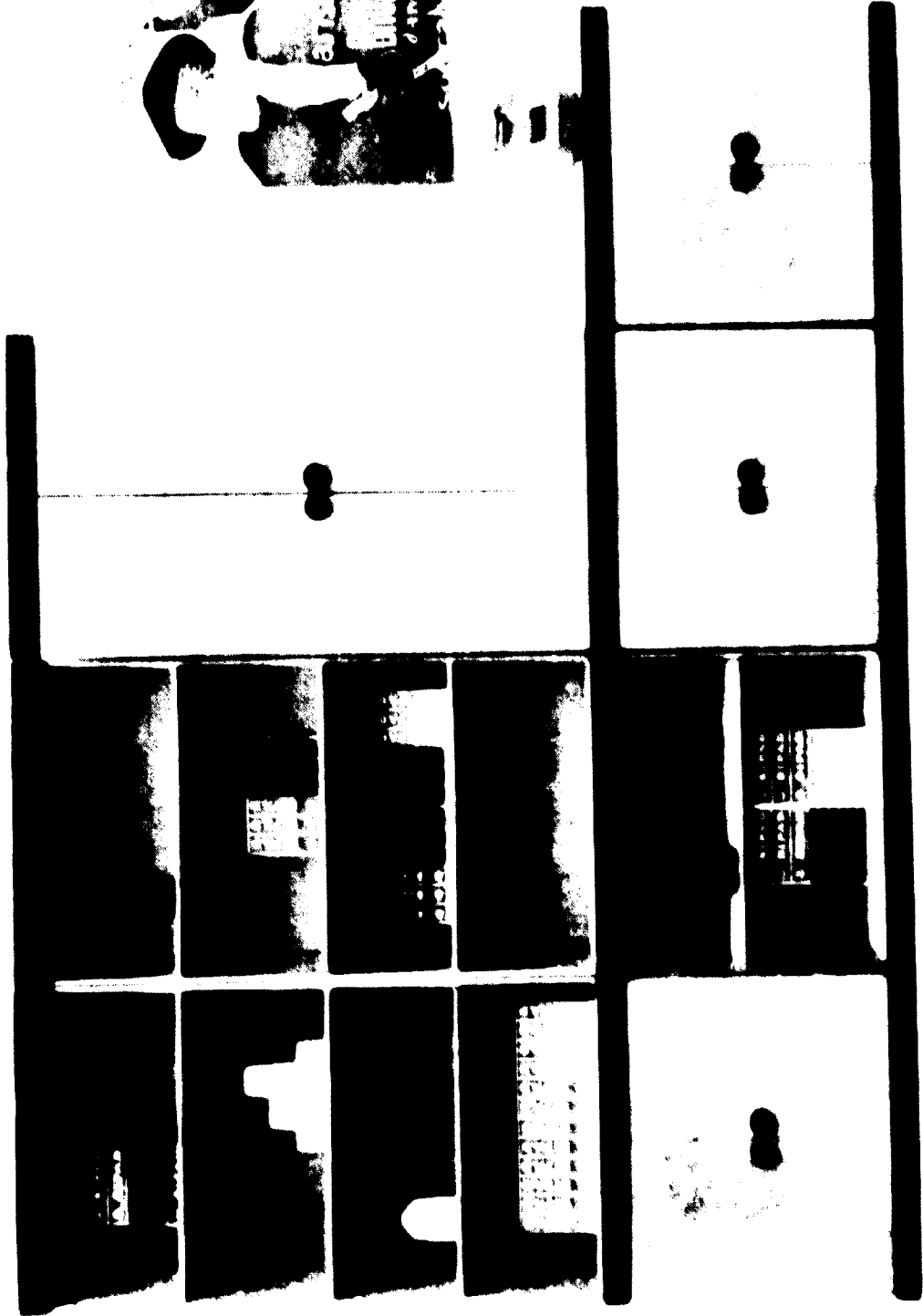


Figure VII. 0022 Bin of Binah, Program 48: Cabinet 15

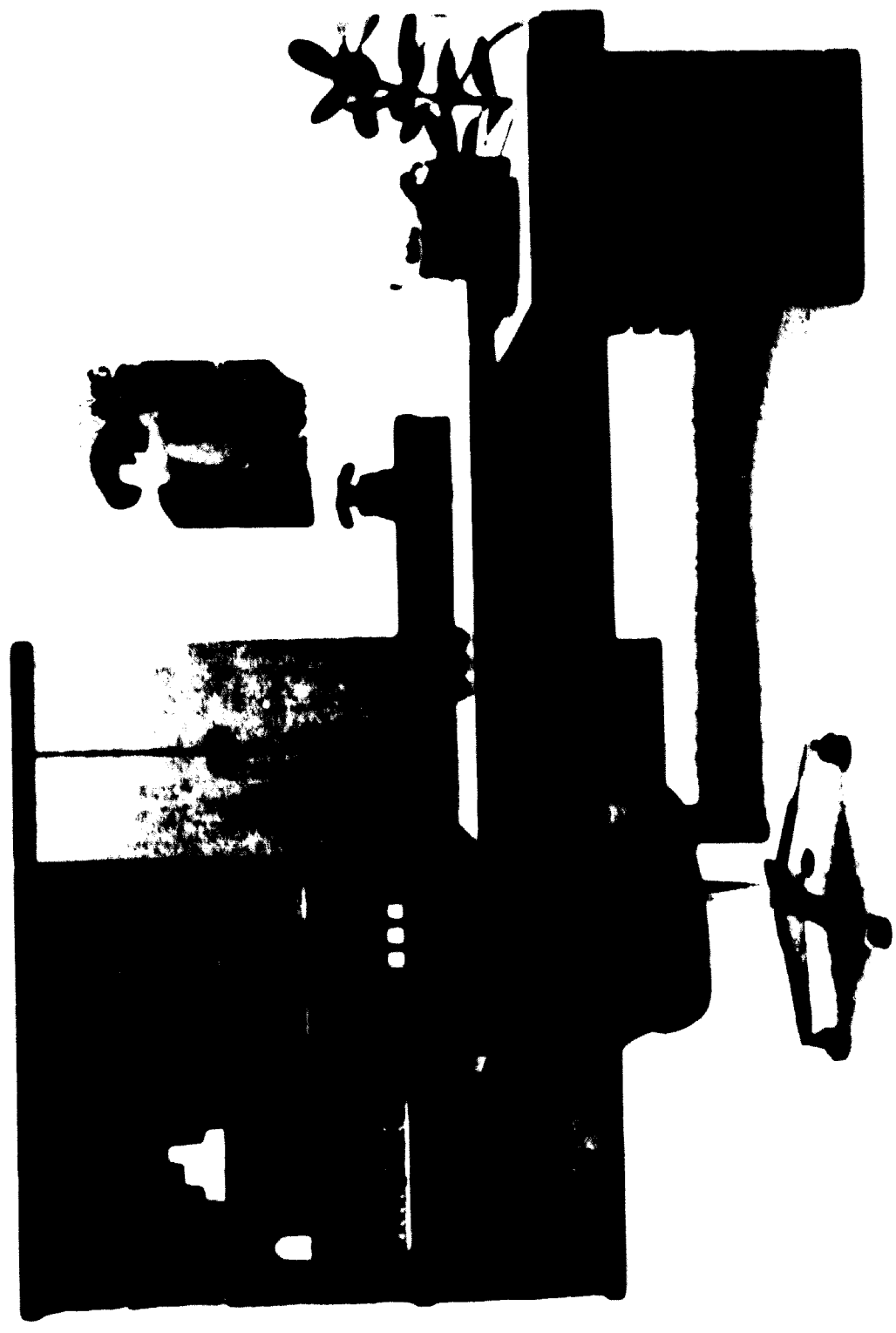


Figure VIII. OUR Man at Blauf, Program 4: Conference Set 4



Figure II. COUR Bina at Elnaf, Program 4/1: Cabinet 16

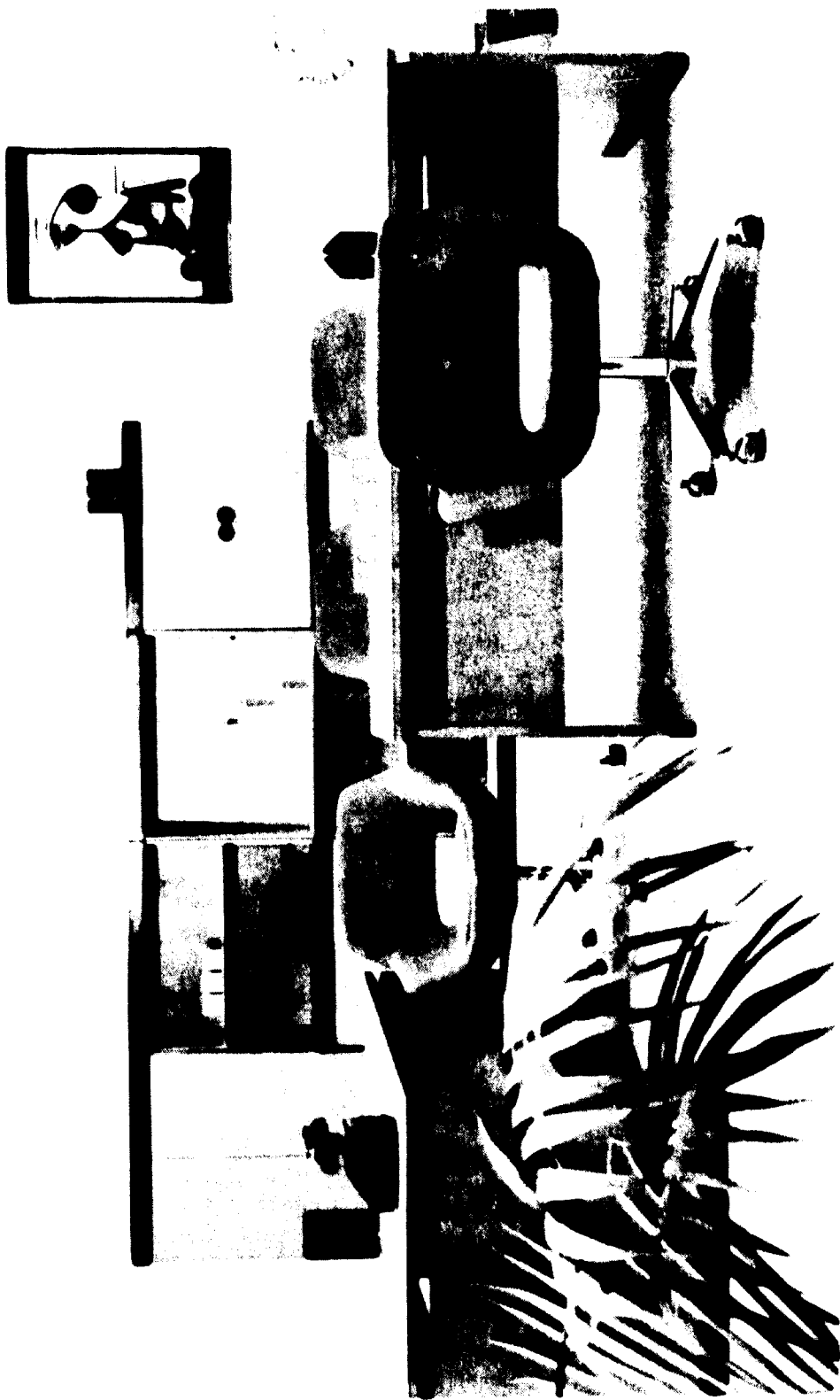


Figure 1. OOUR Bina at Bihać, Program 4M: Sideboards 6

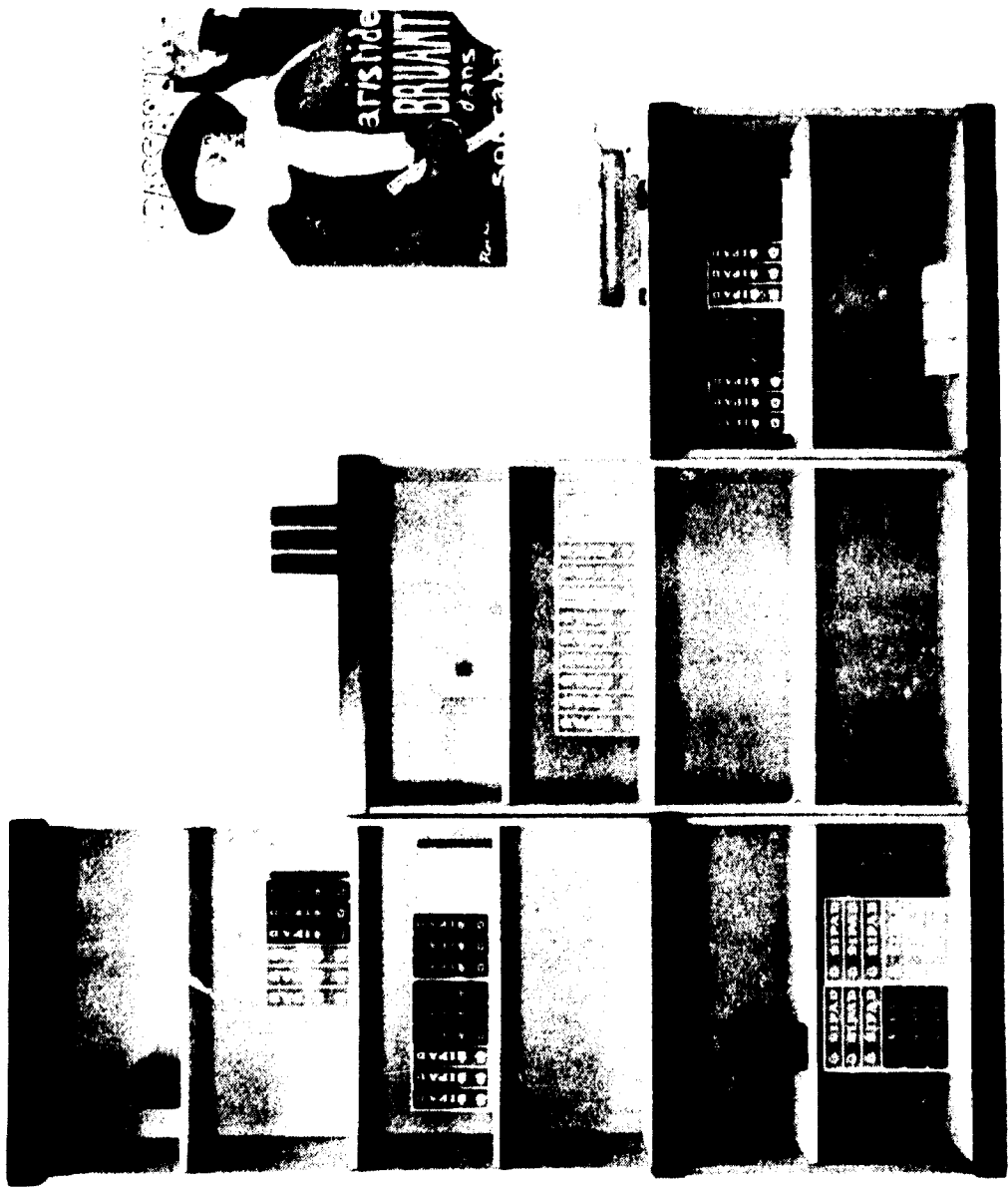


Figure XI. Conference chair designed for OOUR Bina at Bina6

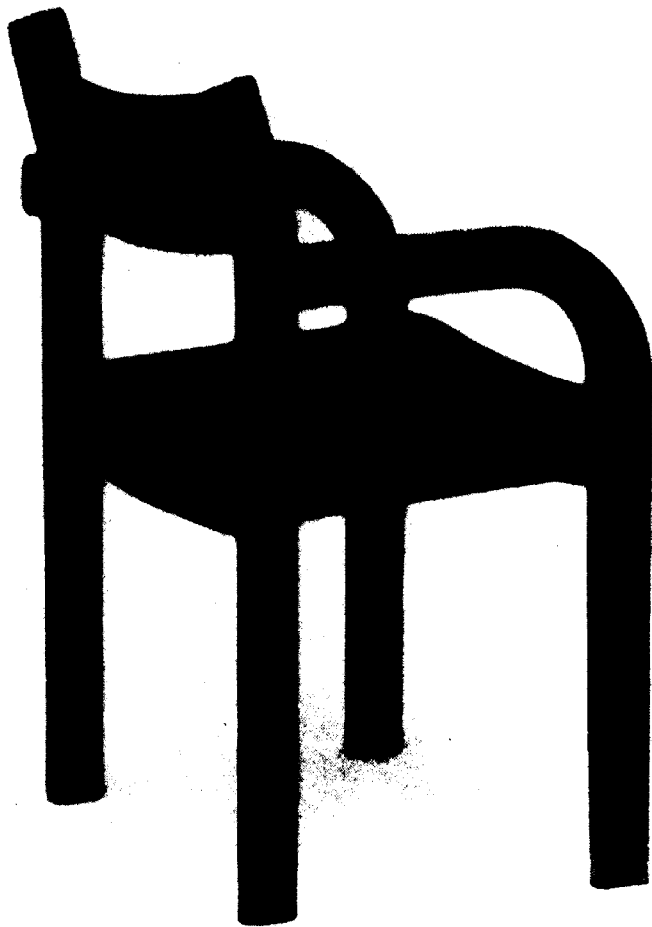
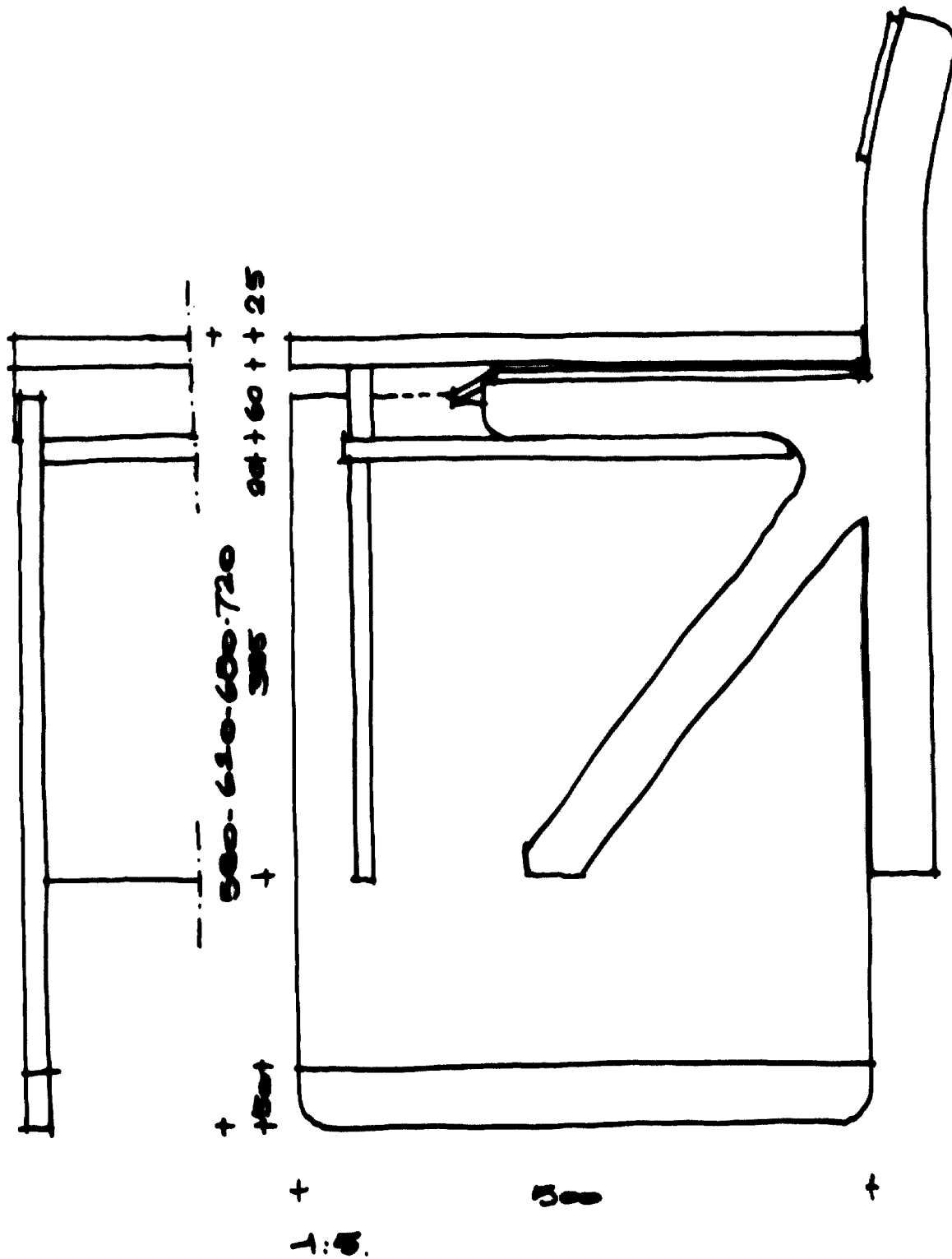


Figure XII. School table and chair in beech designed for OOUR Bina at Bihad



OOOR Luc in Trebinje

The expert visited the OOOR Luc on 31 May. He met with the directors.

Background

Luc has recently joined the ŠIPAD organisation and is doing very well. Most of its business takes the form of contract jobs. It has close relations with architects and engineering enterprises. In between the contract jobs the factory produces 50-300 items of entrance-hall furniture. The new factory construction is ready; the machines are on order; and the factory will be ready for production in 1977. The size of the factory is 4,000 m², and when production begins 420 workers will be employed. Value of the turnover is estimated at some Din 70 million.

The quality has improved, mainly because of a better quality of raw materials, in particular, boards.

Besides the contract jobs and the production of entrance systems, a large amount of joinery is produced, all of which is sold on the home market. In the joinery factory the possibility of making entrance doors was mentioned.

The possibility of exporting the entrance-hall elements will exist when the new factory starts production. A new line of entrance furniture has been designed and will be developed to include a wall system (wardrobes) for apartments.

The problems

For the time being the one great problem for the factory seems to be to obtain new designs. Closer co-operation with the Design Centre should be achieved.

Results of expert's visit

Samples of furniture for entrance halls were shown at the Zagreb fair in September. Brochures and information regarding folding doors and joinery were requested and have been delivered to the factory.

Conclusions and recommendations

As soon as the new factory is ready to begin production, new models will be needed for the export markets. The production of furniture for bathrooms and for hotels could also be considered.

In September some samples of bathroom furniture and a system of wardrobes for apartments will be ready. These new items will be ready for the Zagreb fair in April 1977.

OOOR Entereer at Stelac

The expert visited the OOOR Entereer on 1 June 1976.

Background

The factory has been a member of the SIPAD organisation only for one year. The management of the factory (the director and the technical director) is new. A development programme until 1980 has just been completed. Production is running on one-and-a-half shifts and 196 workers are employed. Sales are made mainly through SIPAD.

Production will consist mostly of furniture partly made of metal and laminate boards for hotels, restaurants, motels etc. The factory co-operates closely with a near-by factory to obtain metal parts in steel or aluminium.

Some outdoor furniture in beech has been designed by Humaproject. The Design Centre has made an attractive line of school furniture based on a metal construction.

A new road to the coast that is to be ready in 1977/78 will facilitate the sale and delivery of items for contract jobs for hotels, motels etc.

The problems

Further investment is needed if production is to start.

New designs in the above-mentioned field are requested.

Results of expert's visit

The expert designed a special chair in pine and canvas for outdoor use and small tables in three combinations of metal and wood and marble.

Conclusions and recommendations

The factory should occupy a very good position within the SIPAD group, since it is one of the few factories able to deliver furniture of metal and wood combined.

A good office chair would be a suitable item to develop. This chair could be used together with the office programme from OOOR 4 November. The idea

of attempting to sell part of the production - small items for outdoors use, made knocked down and well packed - in the touristic area on the coast is realistic.

There is a lack of communication between SIPAD and the factory. Closer co-operation should be maintained so that the various factories do not compete with each other but co-ordinate their programmes.

Standard in Sarajevo

The expert visited Standard five times. On 4 June 1976 he met with the director of the new Jahorina Group, in which 22 OOURs with about 9,000 workers are merged.

Background

The factory has 300 workers. The aim is to double the turnover and increase exports. The quality has improved during the last year, partly because better particle board has been used. Production consists of wall elements and upholstered furniture of a medium quality. No solid wood is used; production is based on veneered or laminated board.

On 21 September the expert inspected the production and the showroom after which a discussion took place. It was agreed not to change any of the existing models, but to try to develop new products, partly from the designs made by the two UNIBO experts during their stay in Sarajevo and partly through closer co-operation with the Design Centre. Future co-operation in the design field with Scandinavian designers was mentioned as a possibility.

The factory is selling its stock at reduced prices to get rid of the old models.

At a meeting on 25 September with the director, Mr. Brajkovic, and the design and production staff of the factory, the full-scale design of an upholstered sofa group was discussed, and it was agreed to have samples made as soon as possible.

At another meeting on 1 October with the design staff together with the UNIBO expert in design of upholstered furniture Mr. Tapiovaara, it was agreed that prototypes for several upholstered furniture groups should be ready before the end of the mission.

It was difficult for the factory to find time to make these prototypes because of a previous commitment to develop models for the Soviet Union.

The factory lacks skilled workers to make the prototypes. Nevertheless, 25 October was fixed as the date on which these were to be made and November the date for the next lot of prototypes.

The problems

One of the main problems is to obtain a completely new design for the type of a better quality than that now produced. It is also very important that be taken to increase exports.

Another problem is to train workers so that production will be carried in quality.

Result of the expert's visit

The expert designed his and the revision of an experimental work group with the safe tables (see figure 2111).

Conclusions and recommendations

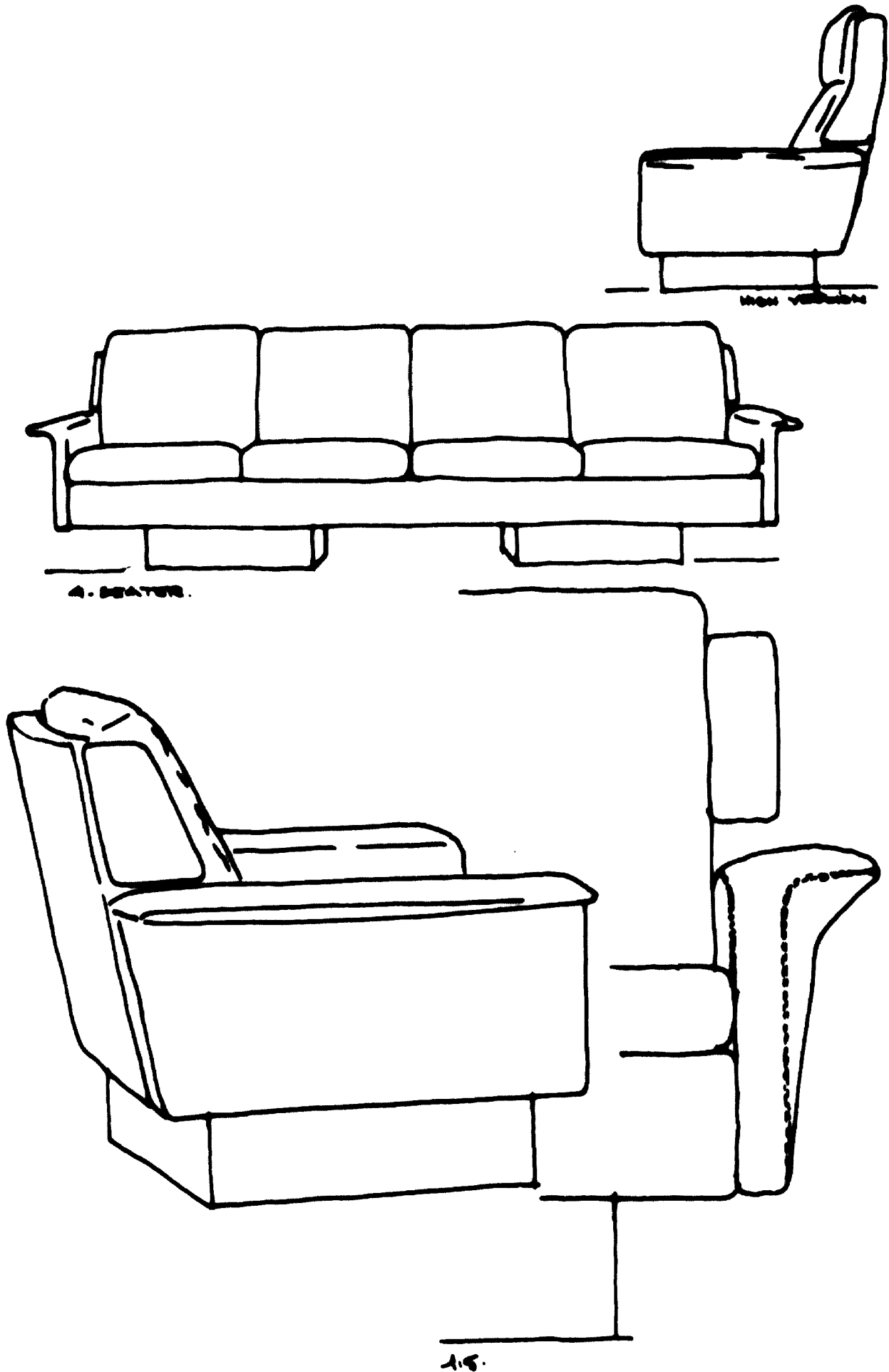
The designs are fully correct. The - has - cooperation between the State Centre, sales departments and the factory is essential to achieve a satisfactory new product.

The factory needs also some improvements for its working office. The working type working will be sent back to the factory and should be used as soon as it is ready. The working should be used for the expansion of the office.

It is the intention to have the State Centre and the factory to be the most possible place in the Republic of Cuba as evidence to the workers in - . The advantage would be the long run time to improve the factory's production.

The new machine required, the completed machine - , should be checked by the working department as soon as possible. The treatment and special parts of - .

Figure XIII. Sofa group designed for the OOUR Standard at Sarajevo



II. RECOMMENDATIONS

1. Small design and marketing units should be established in a few cities that are potentially important to Yugoslav furniture exporters, with a view to attracting skilled foreign designers to design for ŠIPAD and to assist in marketing.
2. Institutional furniture should not be sold exclusively through the regular outlets. Instead, a special department should be set up, probably at ŠIPAD headquarters, to promote sales of this type of furniture through catalogues and by responding to official calls for tenders. This central office would co-ordinate sales for the whole country.
3. Since not all the changes necessary to make the ŠIPAD outlets attractive to customers can be undertaken all at once because of the prohibitive cost, ŠIPAD should, on a priority basis:
 - (a) Make 20 mobile exhibitions with modular screen walls (could be a frame covered with canvas or wooden boards). The total size of each exhibition area would be 4 x 5 m, depending on the space available. They would be completely furnished with lamps, lighting, curtains and carpets, and finished so as to achieve the atmosphere of a dwelling. The exhibitions should circulate among the best ŠIPAD outlets and the campaign should be followed up in the newspapers or on television with some publicity;
 - (b) The profitability of the outlets should be checked and 40% of them closed, not at one time, but perhaps at a rate of 10% a year. The remaining 60% should be remodelled at a rate of 20% a year;
 - (c) In the longer term ŠIPAD should have perhaps 10 big stores throughout Yugoslavia, each of about 10,000 m² in area, where the consumer would have the chance to see all furnishings for a house or flat, including items not produced by ŠIPAD, such as household appliances. Just as fashion shops show what accessories to buy and wear with a new dress, the ŠIPAD store should sell the right lamp with the right sofa and carpet in the right colour;
 - (d) ŠIPAD should set up one large, permanent showroom, part of which would also contain above-mentioned non-ŠIPAD products. Such a showroom would in the long term be less expensive and would give ŠIPAD a much better reputation and greater sales possibilities than taking part in the exhibitions at Zagreb, Belgrade or Skopje. At these exhibitions ŠIPAD needs only a very small, but elegant, exhibit to induce customers to visit the nearest big ŠIPAD store.
4. To obtain new designs, either a domestic or international competition should be considered (see annex III). Exact information on the products to be designed should be given to the contestants in order to get the items ŠIPAD intends to produce.

5. ŠIPAD should co-operate with the School of Applied Art by providing funds for a class for furniture designers.
6. Soft leather produced in Yugoslavia should be used as a cover for upholstered furniture instead of imported fabrics.
7. Quality control should be given a high priority. Staff from the Institute of Wood Technology should visit the factories to study production and give advice on quality. ŠIPAD should arrange factory visits for workers to make them realize the importance of quality control and of producing high-quality furniture.
8. Intensive foreign language courses should be arranged for Yugoslav designers, since they are unaware of what the modern trends are on the markets ŠIPAD wishes to enter owing to the language barrier. In the meantime, the Documentation Unit should screen foreign publications, translate them, and circulate the translations to all concerned.
9. The ŠIPAD newspaper should be used to inform the OOURs about the activities - exhibitions, new furniture, study tours, language courses etc. - and to educate the readers on good design and quality. It should show photographs of the latest furniture. The newspaper still seems to be mostly concerned about the forest and wood industry and gives very little news about the 28 furniture factories and 120 outlets.
10. ŠIPAD should arrange study tours and fellowships for designers and technical directors with UNIDO assistance (see annex IV). Mr. Mulić should have the possibility to go on a two-month fellowship to the Near East and the Soviet Union in order to study the market, particularly with regard to the new production of the furniture from OOUR Neretva at Konjio.
11. Prototype workshops should be set up, equipped with their own tools, to facilitate the introduction of new designs into production.

Annex I

JOB DESCRIPTION

DP/YUG/73/006/11-03/K(31.4.D)

Post title: Expert in the Design of Wooden Furniture

Duration: Three months (split missions)

Date required: As soon as possible

Duty station: Sarajevo, with possible travel in the Republic of Bosnia and Herzegovina

Purpose of project: To assist the development of the furniture and joinery industry of the Republic of Bosnia and Herzegovina, including the creation of a centre.

Duties: The expert will be attached to the SIPAD Design Centre (which will eventually be incorporated into the centre to be created). The expert will be responsible to the National Project Director and will, in collaboration with SIPAD Design Centre's Yugoslav staff, work in the Design Centre. Specifically, the expert will be expected to:

1. Develop designs of furniture for private homes and hotels in collaboration with the staff of the SIPAD Design Centre and the staff of the following SIPAD furniture factories: VERDA in Višegrad, UHA in Grupa, KONJUH in Zivinice, 4 NOVEMBER in Bihać and VRANICA in Foynica.
2. Review the existing programme and participate actively in the design of a new line of office furniture in collaboration with the staff of the SIPAD Design Centre and the staff of the 4 NOVEMBER Factory in Bihać.
3. Review SIPAD's past products in the field of school furnishings, and, in collaboration with the staff of the Design Centre, the BINAC factory in Vlasnica and JADAR Factory in Svornik, create new product lines for school furnishing.
4. In collaboration with the staff of the SIPAD Design Centre, design a range of children's furniture for the VRANICA factory in Foynica.
5. Train counterparts in the design of such furniture.

The expert will also be expected to prepare a final report, setting out the findings of his mission and his recommendations to the Government on further actions which might be taken.

Qualifications: Furniture designer with considerable experience in the design of veneered and solid wood furniture for industrial production. Designing experience for export markets highly desirable.

Language: English; knowledge of French desirable.

ANNEX II

SUGGESTED CONTRACT BETWEEN DESIGNER AND PRODUCER

It has been mutually agreed between (1.) (name and address of designer) hereafter referred to as Designer, and (2) (name and address of producer) hereafter referred to as Producer, to begin collaboration in the production of furniture.

This collaboration will start with a programme of furniture designed as stated below: (date and number of the design and also the purpose of the furniture - school, bedroom, conference etc.)

The Producer will pay (name) for the production rights and royalties, $\frac{1}{10}$ of the factory price for each piece of furniture sold.

The licence fee is to be paid as long as the furniture is in production with the percentage based on the production (factory) price of furniture.

The fee is to be paid every three months in (currency US\$, £, F or Din) to the following address:

(name and address)

The copyrights for the design belong to the designer and can be withdrawn if the quality does not correspond to the standards accepted by the designer and the factory.

No changes in the design or construction will be made without the agreement of the designer.

Place and date

Producer

.....

Designer

.....

APPENDIX III

PROPOSAL FOR A COMPETITION IN DESIGN OF FURNITURE

NATIONAL COMPETITION IN DESIGN OF MOODERN
FURNITURE FOR SMALL HOMES

BIPAD - SARAJEVO

The participants

BIPAD invites Yugoslav architects, designers or other interested persons to take part in a competition in furniture design.

The scope of competition

The competition is intended to develop ideas for furniture, mainly in beech or pine, that is suited for large-scale production and will be used in living rooms, bedrooms and dining areas of small homes.

The design should ensure that maintenance shall be easy and that the product will be easy to knock down for export and storage.

Dates

The competition will open with this announcement and close at noon (1200) on (day, month, year). Entries received after this date will be rejected.

Prizes

Prizes will be awarded for the best designs for furniture groups for living rooms, bedrooms and dining areas.

The total amount to be awarded is Din 160,000.

The jury will determine the prizes, but the first prizes will not be less than Din 60,000.

The jury retains the right not to award any prize if it finds no entries of sufficient merit.

The jury

(Names should be indicated. The jury, of six to eight persons, should consist of members of BIPAD Komerc, the production COOUM and two architects.)

Presentation of entries

All designs submitted must be anonymous and bear no identifying symbol.

Each drawing submitted must be marked with a different 5-digit number. In addition, a non-transparent envelope containing the full name and address of the competitor must be marked with the same number.

Designs must be original and must not have been the object of sales negotiations or developed for the purpose of sale.

Designs must be submitted on an unmounted plane based on the A standard size. Drawings should specify the materials, especially the woods to be used and other explanatory remarks considered useful.

Drawings should be delivered, post-paid to the following address:
ŠIPAD, Marsala Tita 15, 71000 Sarajevo.

The work of each competitor will be insured against fire or burglary for Din 3,000.

The judgement

The jury's decision will take place on (day, month, year)....., and the decision will be published in the press the following day. The winners will be notified by letter at the same time.

Exhibition

Designs will be exhibited at (place)..... from (day, month, year) to (day, month, year)..... . Names of competitors will be published unless a competitor indicates that he wants to remain anonymous.

Return of entries

All drawings that have not been selected for production will be returned after the exhibition, and the competitor will then be free to offer his project to someone else.

The winning project or the selected drawing will be started as a prototype. The competitors are obliged to co-operate in the development of their own work.

Award of prizes

The prizes will be awarded at the official opening of the exhibition.

Royalty

SIPAD agrees that in any negotiations for the manufacture and sale of furniture based on the prize-winning designs the basis of compensation to the designer shall be a royalty of 3% on all sales of the items, based on the factory prices.

Questions

Questions about the competition may be sent to the competition director

Mr.

SIPAD.....

Address.....

Questions received after (date).....cannot be answered.

Annex IV

PROPOSAL FOR A STUDY TOUR FOR DESIGNERS AND TECHNICAL PERSONNEL
FROM THE DESIGN CENTRE AND THE PRODUCTION COURSE

If a study tour for designers and technical personnel is to produce good results, it is necessary to concentrate on a few places and to limit the number of participants. Therefore, for a two-week study tour, only Scandinavia should be visited. The tour should be limited to 10-12 persons and an interpreter. The best time would be in April. The best-designed Scandinavian production is exhibited in Copenhagen at the Bella Centre, the permanent trade centre. There is no reason to combine the tour with the furniture fair in May; furthermore it is better to visit one or two of the best factories at a time other than during the fair.

A possible schedule is outlined below.

Sarajevo - Copenhagen

Four days

- First day: Bella Centre (Swedish, Danish, Norwegian and Finnish furniture)
- Second day: Institute for Wood and Textile Technology and IKEA warehouse (cheap but good furniture)
- Third day: CADO Centre (showroom for expensive furniture) and school for furniture designers
- Fourth day: Lyngby Centre (12,000 m² furniture and household articles) and the Franco and Son factory in Hillerød

From Copenhagen to south Sweden to see DUX factory in Trelleborg and factories in Malmö. Night train from Malmö to Stockholm.

Two days in Stockholm

- First day: Institute of Design - Nordiska Kompanier - Nordiska Museet
- Second day: Nobel Institute and some furniture exhibitions
- Night boat from Stockholm to Helsinki.

Three working days in Finland

- First day: Helsinki: Institute of Design

Second and third day: Lahti: Aho Oy, Peem Oy, Upo Oy, Lepokalusto Oy,
Lahden Korkka Oy (plastic shells factory)

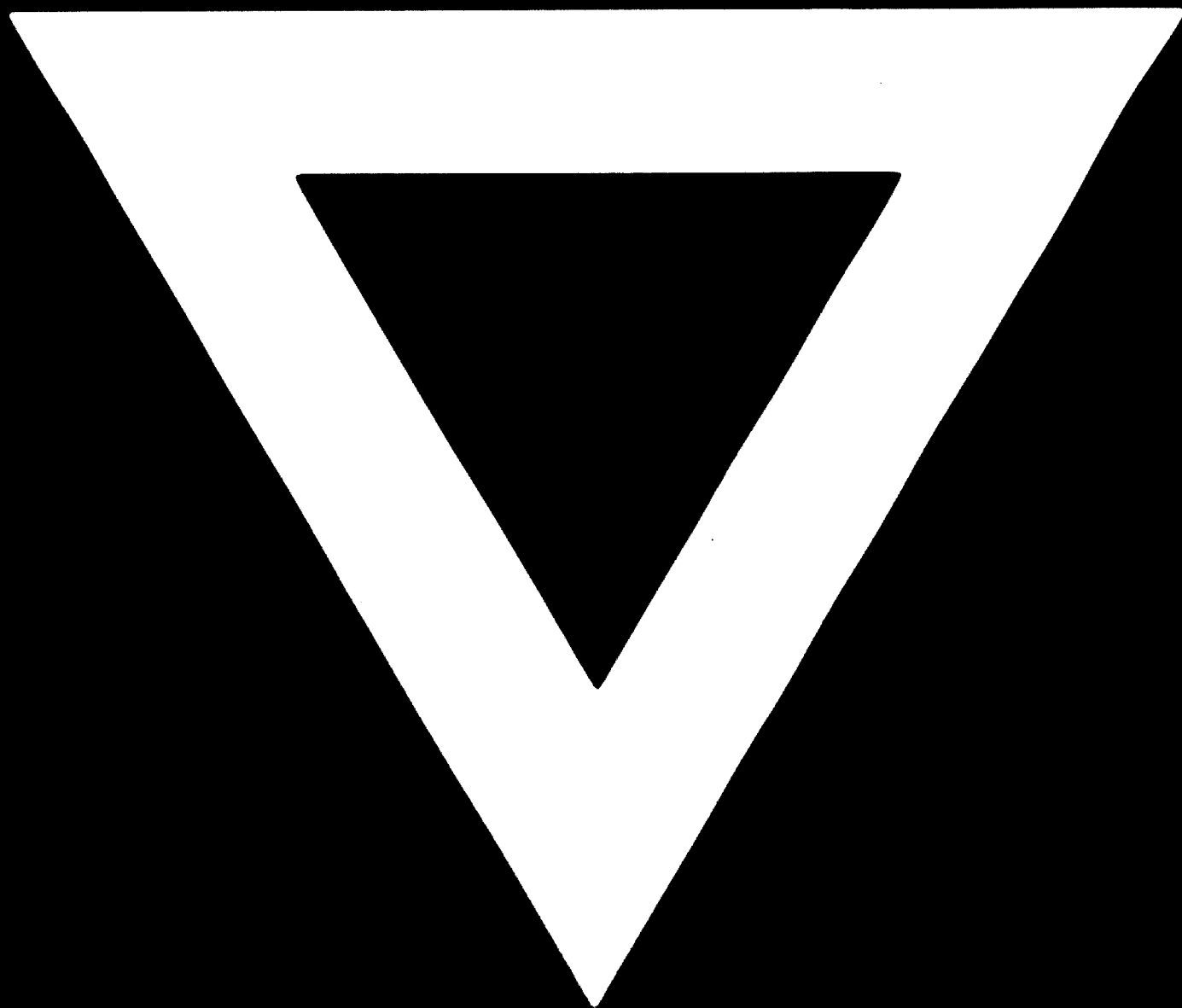
Fly from Helsinki to Frankfurt and back to Sarajevo.

It is highly recommended that experts on the spot be asked to join the group to explain technical details.

The cost of such a study tour is estimated as follows:

Allowance for 12 tour members for 14 days (dollars)	
(12 x \$55 x 14 days)	9,240
Tickets estimated at \$650 each	<u>7,800</u>
	17,040
Allowance for experts for 10 days	(about) <u>1,750</u>
	13,790

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