CONSTRUCTIONAL CHARACTERISTICS OF UPHOLSTERED FURNITURE IN THE PRESIDENCY MUSEUM OF ATATURK MANSION

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Key words

Abstract

Mansion, Furniture, Technical, Sitting, Upholstery

Turkish Republic the Presidency Museum of Atatürk Mansion, previously known as “Çankaya Mansion”, is a stone structure located in the Presidency Complex. Atatürk, the founder of Turkish Republic, used the Mansion between 1921 and 1932. The Mansion served Atatürk both as a living space and a convenient home office where he could do his duties comfortably. In study, constructional upholstery features of sofa furniture in the Mansion have been analyzed in terms of technical design. The study aims to present the functions, artistic style, and technical features of the sofa furniture in the Mansion. The existing sofa furniture in the structure has been has been classified based on different categories in terms of style, forms, and functions. For the purpose of this study, certain pieces of sofa furniture on the ground and the first floors have been included in the analysis. The sample has been systematically evaluated in terms of ergonomics; upholstery techniques and methods of production as well as the materials used for the production of upholstery. The analysis has been conducted following a privileged permission from the Turkish authorities. Although the Presidency Museum of Atatürk Mansion is one of the most important buildings of the modern Turkish Republic era and has great historic value for Turkish people, there is no study in the literature that specifically examined the furniture design and techniques in the Mansion. This work is the first study that provides a systematic analysis of the characteristics of upholstered furniture in the Mansion.

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1. INTRODUCTION

1.1. Atatürk Museum Mansion

Following his arrival in Ankara on December 27th, 1919, Atatürk, the founder of Turkish Republic, initially used School of Agriculture and then Ankara Train Station Chief Mansion as a work office. Since these buildings were insufficient for meeting the working and resting needs of Atatürk an attempt to look for a better building began and a country cottage in Çankaya was presented to Mustafa Kemal on 30th May 1921 by Ankara Municipality (TCCB, 2014).

This small place, also known as “Atatürk’s Mansion” or “Çankaya Mansion”, has been used by Atatürk both as a home office and home for 11 years. This building has hosted many Turkish and foreign guests also have united notable people and have been a place where running discussions and national management took place (TCCB, 2005). Today this mansion serves as a museum.

Efe and Andaç (2015). “Constructional characteristics of upholstered furniture in the presidency museum of Ataturk mansion”
1.2. Furniture and Upholstered Furniture

By definition, furniture is the movable articles that are used to make a room or building suitable for living or working in, such as tables, chairs or desks (Postell, 2007). Furniture includes a broad range of human body support devices, surfaces for various activities, and storage and display pieces.

According to TS 4521, ‘wooden furniture is either a stationary or mobile using a good, made from wooden materials having solid wood, particleboard, fiberboard and plywood, making easy for people to sit, dining, study, resting and other functions’ (TS, 1985).

As for the upholstered furniture, various sitting, resting, lying, sleeping furniture such as stool, ottoman, chair, armchair, couch, cushions and bed and car upholstery come to mind. Upholstery was originally a decorative art. The upholsterer was to hang tapestries and drapes, and such surfaces furniture as he covered were planned to be decorative rather than comfortable. To sum up, making the construction named "frame" suitable for sitting or using by various supplies is called "upholstery". The presence of upholstered furniture is encountered in the first ancient eras. People in ancient civilizations first created "upholstered furniture" by stretching textiles, animal skins, or other natural materials over a sturdy frame. Chairs with fabric stretched over seat and back frames are still used for lightweight pieces.

![Figure 1](image)


Furniture has also obtained different characteristics in later periods. For example, During the Renaissance, simple cushions were placed on top the stretched fabrics, later fabrics were stretched over those cushions. By the sixteenth century, padding made of horsehair, feathers, wool, and down made cushion deeper and more comfortable. In the nineteenth century, springs were introduced and modern upholstered furniture had arrived. After that, little change occurred in upholstery construction until the introduction of synthetics during the 1930s, which had a tremendous impact on furniture industry (Allen et al., 2004). Example of Upholstered furniture from Ancient Egypt to Modern Period is shown in Figure 1.

1.3. The Materials Used in Upholstery and Ranking Process

Primary materials used in upholstery are frame, webbing, springs, padding supplies, and burlap and muslin are used for the interior part. Also upholstery fabrics and leathers are used for the purpose of decorative top fabric. There are five stages of the upholstery; these respectively include; 1-Frame, 2-Webbing and felt, 3-Springs, 4-Filling stuffing and padding in cushions, 5-Factrics and finishing touches.

Frame is the main roof forming something (TDK, 2015). In upholstery, the frame forms the basic structure and other elements are built on this structure. For instance, an armchair is formed by placing the webbings, springs, upholstery clothes, and top fabric supplies respectively and stacking up over each other on upholstery structure placed on the frame.

A frame is constructed of metal, plastic, or kiln-dried hard wood such as maple, poplar, oak, ash, birch, or elm. The wood frame should be firmly assembled and usually joined by double dowels that
are spiral grooved and then glued in place. Reinforcement braces of metal or wood should be glued and screwed to the corners.

Second proses are webbing. Like a frame, webbing is another element, forming the basis of upholstered furniture. Upholstery webbing is a coarsely woven band of jute fiber. It is used as a base for the pad and a support for springs. Webbing is graded according to its strength and firmness or weaves. Generally made of linen, jute, plastic or rubber, the webbing is arranged in a basket weave to provide support for the spring and cushions the necessary amount of webbing is determined either by the size of the opening in frame or by the weight it has to carry. Seats in chair or davenports should contain more strips of webbing than the backs. Where springs are used in seats, it is advisable to have at least one strip of webbing each way for row of springs.

The third stage is connected to the spring. Upholstery springs are used only in seats of furniture as they are made of heavy wire, form 9 to 11 gauge. The springs are the most important elements of upholstered furniture, giving flexibility and comfort. In terms of the purpose of use, coil springs are manufactured in 3 kinds: seating, backrest and cushions. There are zigzag springs placed among modern upholstery springs. Zigzag springs, used frequently in the work of mass manufacturing, are the pallet springs which have flat tape and zigzag form. The springs are very useful, durable and the most important modern upholstery springs which do not show indications of wearing as seen on coil springs.

The fourth main stage is to place the padding supplies for upholstered furniture, making the frame suitable for easy sitting and use may be desired. For this purpose, the padding supplies which shape the entity and form of the upholstery used may be divided as "Traditional padding supplies" and "Modern padding supplies". Traditional supplies include tow, jute, and etc., curled horsehair, cotton, bird feathers whereas modern padding supplies include natural latex and synthetic rubber. Decorative top fabric and final process are meant to cover the furniture frame with clothes such as lining fabric and canvas and make it decorative as desired. There are two types of weaving which are tight and loose. Canvas is large loose weaved burlaps. Tight canvas is used to cover webbing and springs whereas loose canvas is used to cover padding supplies. Upholstery fabric is used to cover the cushions and other parts of the furniture frame as dictated by the style. Finishing touches add the character and detail to upholstery pieces (Nothelfer, 1948), (Bast,1951), (Seager, 1952), (Dinçel, 1970), (İlter, 1990), (Allen, Jones, and Stimpson, 2004), (Miller, 2011).

1.4. Construction Techniques of Upholstered Furniture

The upholstery production includes different construction techniques than the massive and panel furniture construction techniques. According to Allen et al. (2004) hidden beneath the upholstery are the components that should produce durability, comfort, and quality in upholstered furniture. Because these elements are hidden, the designer must rely on manufacture’s written specification. In terms of manufacturing method of the upholstered furniture, there are two kinds of upholstered furniture observed. They are spring upholstery and non-spring upholstery methods. Other kinds include cushions and pillow etc.

In the work named furniture upholstery, performed by Nothelfer (1948), Dinçel (1970), and İlter (1990), they have handled upholstery methods in detail. Especially the work of Karl Nothelfer is considered as fundamental work. In these work, as non-spring upholstery method, there are applet upholstery methods performed on floor such as plywood and webbing tape whereas there are methods including applet, sewing and stuffing by using spiral and zigzag springs, as examples of spring upholstery methods. Among these methods, applet upholstery is the simplest method performed in upholstery.

In brief, the basic process stages in spiral spring upholstery are as follows: 1- Definition of the locations of the webbing tapes and placing them on the frame, 2- Choosing the springs according to
the type and features of upholstery, 3- Stretching the springs, 4- On Stretching the springs, placing them on the surface of webbing tape on the frame, 5- Sewing the springs onto webbing tape, 6- Tying the springs to each other with spring twine and fastening the spring twine with nail, 7- Cutting a piece of burlap as much as it can cover the springs and fastening it on the frame with nail, 8- Sewing the springs onto burlap separately, 9 - Placing padding supply on the floor covered with burlap and sewing the padding supply, 10- Ending the process as in other upholstery techniques (covering the padding supply with muslin and ending the upholstery by covering the muslin with top fabric). An example of spiral spring upholstery technique has been demonstrated on Figure 2.

![Figure 2. Some stages of spring coil upholstery technics (Brown, 2013)](image)

(a) The naked frame, b- Webbing fitted, linked the coil springs and springs lashed in, c- Burlap covering the frame around, d- Attached the Dacron around the seat, e- Fabric covering the frame around.

2. MATERIAL AND METHODS

The material of the study consists of 5 seating upholstered furniture in different locations of The Presidency Museum of Atatürk Mansion. In terms of choosing the furniture, furniture with same function but different form, material, and style has been considered. As the method of study, the furniture in the Museum Mansion has been personally analyzed in terms of form, purpose of use, production materials and production techniques and necessary notes have been taken down and the photos of details of the furniture have been taken. Inventory records of the furniture have been examined. Some statistical data have been obtained by SPSS software using the information obtained.

3. RESEARCH RESULTS

3.1. Upholstered Furniture in Atatürk- Museum- Mansion

First, the furniture in the Mansion has been examined in terms of technical features and their distribution to the locations in the Mansion. For example, wooden furniture consists of 46% of the all furniture whereas upholstered furniture consists of 54% of the all furniture. Among the locations of the Mansion, it has been observed that Bedroom has the maximum number of wooden furniture (16%) whereas Service room has the minimum number of wooden furniture (1%). Among the furniture of the Mansion, it has also been observed that most of the furniture has the function for resting in sitting (53%) whereas the least of the furniture has the function for sleeping (1%).

During the analysis of upholstery in a general framework, sofa furniture without upholstery workmanship and furniture such as table, screens, coffee table which has simple upholstery workmanship have been excluded in the study. The furniture in the study consists of chairs (51, 2%), armchairs (32, 6%) and sofas (8, 1%). In the study it has been observed that %75,6 of the furniture has the spiral spring upholstery (it has been determined that it was performed on webbing tape) among traditional upholstery techniques, and 8,1% of the furniture has applet upholstery technique performed on flat floor or webbing tape, and 2,3% of the furniture has cushion application on wooden furniture. Also it has been made firm that silky Hereke fabric has been used for 44, 2% of the furniture, morocco leather for 40, 7% of the furniture, moire fabric for 10,5% of the furniture and velvet fabric for 3,5% of the furniture.
Figure 3, shows the furniture which has the same function but has different forms, style, purpose of use, material used and production technique, placed in Atatürk Museum Mansion. Armchair “A” in the Table 3.1 is placed in “Green Hall” in the Mansion. It has been stated that the armchair covered with silky Hereke fabric has made of walnut tree and has the French 15th Louis style. “B” chair in the Dining Hall has been designed with Renaissance style. The chair decorated with seashell carving art is made of oak and its surface covered with morocco leather has also been ornamented with decorative nailheads. Located on the Hall of First Floor, armchair “C” has been designed with modern style and its surface has covered with velvet fabric. It has been made firm that “A, B and C” furniture has the function for resting in sitting position and they have been produced with spiral spring upholstery technique.

“D” furniture in Figure 3, is an Art Deco style office chair and made of oak and covered with green moire fabric. It has been produced with applet upholstery on webbing tape. The process stages of this upholstery style are as follows: 1- Marking the webbing tapes according to the size of the upholstery frame, 2- Placing the stretched webbing tapes with nails, 3- Cutting a piece of burlap as much as the size of the frame and placing it on webbing tapes with nail, 4- Sewing the padding supply (with long space) to fasten it on twine, 5- Cutting a piece of muslin a bit bigger than the size of upholstery frame and placing it on the back side of the frame, 6- Placing the padding supply on twine by hand and tightening it with twine, 7- Covering the padding supply with burlap, 8- Ending the upholstery process as in the other techniques by covering the frame with facade fabric and ribbon.

Furniture “E”, the sitting part and the part under the armrest of which are made of wooden lath, has an “Art and Craft Movement” style. It has back and seating surface parts covered with Hereke fabric and has one piece mattress. According to İliter (1990), when talked about “mattress”, cushion, pillow and beds used in sitting and resting furniture come to mind. The
mattress used on sitting parts is called “seat mattress” or “cushion” whereas the mattress used on back and leaning parts is called “back mattress” or “pillow”.

3. CONCLUSION

This study intends to analyze the upholstery production techniques of the sofa furniture such as sofa, armchair, chair in Museum of Atatürk Mansion. The study on the furniture has shown that most of the furniture has been produced by traditional frequently upholstery technique. Especially spiral spring upholstery has become prominent among other techniques. To look for comfort lies behind the use of this technique for both small and large size furniture. It has been observed that to increase the sitting comfort in applet upholstery mattress (cushion, pillow etc.) has been used frequently.

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