

## Research on Innovative Design of the Collocation between Bamboo

### Weaving and Other Materials

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*Abstract: In modern design, the innovative design of the collocation between bamboo weaving and other materials shows the beauty of materials. This paper analyzes the diverse forms and functions created by the innovative design of the collocation between traditional bamboo weaving and leather materials, ceramics, wood, stainless steel, plastic and fabrics.*

*Keywords: Bamboo weaving, bamboo weaving and other materials, innovative design.*

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#### 1. INTRODUCTION

Bamboo is a natural material, which is usually used in the weaving production of traditional farm tools and life utensils. In modern times, it can be combined and integrated with other materials, thus making this traditional but special material maintain modern sense. In the past, due to the limitation of material and technology, the materials which can be combined with traditional bamboo weaving objects are metal, porcelain, and other natural materials and the bamboo weaving is mainly used for coating porcelain and embellishing metal material while in modern times, the range of the collocation between bamboo weaving and other materials becomes more and more extensive along with relatively development of materials. The matching methods of bamboo weaving and other materials become more and more diverse, and the restriction of matching technology becomes less and less. Along with the development of design aesthetics, the collocation between traditional bamboo weaving and contemporary objects also tends to be simple and fashionable.

Bamboo weaving techniques are various, which can be ideal matched with other process materials no matter using coating, interleaving or splicing methods and maintain a high degree of coordination. The collocation between many modern materials such as leather, stainless steel, plastic, ceramic, fabric and so on and bamboo weaving creates more diverse forms and functions, which infusing fresh breath to the new type bamboo weaving.

## 2. THE INNOVATIVE DESIGN OF THE COLLOCATION BETWEEN BAMBOO WEAVING AND OTHER MATERIALS

### 2.1 The matching innovation of bamboo weaving and leather

Traditional bamboo weaving is applied to leather, and the texture effect of bamboo weaving is in obvious contrast with leather, which can also convey a fashionable and elegant design style. The British brand Ted Baker is a foreign fashion brand company. The lady bags design in 2012 combined the excellent traditional handicraft of bamboo weaving (E.g.Fig1). This series included shoulder bags, hand bags and Kelly bags. The materials used to make these three bags are colorful patent leather and real plane bamboo weaving with the dermatoglyphic pattern using common octagonal knitwear pattern in the south of the Yangtze river which is delicate and exquisite and combined well with fashionable colored patent leather .At the same time, a suitable size, beautiful and generous bowknot is added in the plane bamboos. The whole bag gives people a feeling of chic, elegant and fashionable while the use of traditional bamboo weaving makes the characteristic of the bag stand out particularly.

Anshiya, as a famous brand of fashionable lady leather handbags in China released a portable leisure bag with bamboo weaving as its main design feature in 2011 autumn and winter (E.g.Fig2). The main body of this bag is the three-dimensional bamboo weaving with strict structure, exquisite bamboo strip and delicate weaving. The three-dimensional bamboo weaving directly forms the shape of the bag, and the stout weaving form enhances the durability of the bag. The bright colored leather is used in the opening and other related parts of the bag. The whole bag uses bamboo weaving as main body embellished with real leather, which is artless but elegant and fashionable. The design is ingenious with the combination of tradition and modernity.



Fig. 1 Ted Baker fashion



Fig. 2 Anshiya bamboo weaving Series packages



Fig. 3 “Up and Down” tea set-“bridge”,

### 2.2 The matching innovation of bamboo weaving and ceramic

The combination of bamboo weaving and ceramic became famous both at home and abroad at the beginning of last century. Sichuan bamboo over porcelain, also known as "bamboo buckles porcelain" chooses the good chinaware of Jingde town as the base, and then uses slim and delicate bamboo filament and bamboo strip to stick evenly on the beautiful spotlessly white porcelain[1]. The bamboo over porcelain grips porcelain body tightly, which fluctuates in line with different conditions and forms smoothly. All joints in different procedures including

forming the bottom, turning over the bottom, turning over the top and shackling are hidden. The proportion of weft bamboo strip and warp bamboo strip should be kept evenly, which makes it look like natural formed and one integrated mass with downy color and luster, beautiful appearance and practical functions. The main products of bamboo over porcelain are bamboo over porcelain vase, tea ware and other containers.

Bamboo over porcelain, based on the shape of ceramics, weaves around its surface and coats the ceramic. The reason of the collocation between these two materials is as follows: first, both bamboo materials and ceramics are mild materials, which is not abrupt but coordinating when used in the same product. Secondly, both of these two materials have good shape-forming ability, which can be effectively combined in any product modeling. Moreover, the hole of thick bamboo weaving forms a contrast with the tightness of ceramic, which makes the product form full of changes. It is not only beautiful, but also has a function of hot resistance when using tea set which conceals a big drawback of ceramic.

In modern times, the combination of bamboo weaving and ceramic is also one of the most frequently used collocation explored and practiced by modern designers. Compared with the traditional coating way of bamboo over porcelain, modern designers tend to use splicing, or contrast, or fusion methods thus making the textures of these two different materials get better expression. The series products “Huangsi Pottery Sculpture” made by Li Yan, Wang Jingjing and Zhao Yang follow the design and production concept of "symbiosis", combining traditional bamboo weaving handicraft with modern ceramic design. The work combines the upper part made of the natural color bamboo weaving with the lower part of the pure white pottery to form a new utensil.

The brand “Up and Down” has a tea set named “bridge” (E.g.Fig3), which combines traditional bamboo weaving process technique with ceramic. The shape of ceramic tea set is traditional, using traditional bamboo weaving method to coat the tea pot body and teacup externally, which embodies the enjoyment of different material combination. The hard internal structure and soft external decoration show the visual effect of an iron hand in a velvet glove.

### **2.3 The matching innovation of bamboo weaving and wood**

The collocation between bamboo weaving and wood can trace back to ancient China. The unique physical characteristic of bamboo makes it the first choice of furniture design. What's more, it has great corrosion resistance, strong compression capability, superb elasticity and excellent moisture absorption performance and it is not easy to wear or deform so that the modern designers show a great fondness of bamboo weaving when designing furniture.

Japanese designer Hiroki Takada designed a tea ceremony chair which was peculiar in shape but obtained rich appreciating value (E.g.Fig4). The design concept came from a tool of traditional Japanese tea ceremony. The designer used formal beauty to interpret, and the combination of plane and line makes the design obtain change in size and density. A number of holes were punched around the chair surface, and bamboo interlaced upright inserted in each hole surrounding the wooden seat surface. The bamboo weaving back with excellent elasticity should maintain the sense of comfort.



Fig. 4 Tea ceremony chair designed by Hiroki Takada



Fig. 5 Bamboo weaving and wrought iron chair

#### **2.4 The matching innovation of bamboo weaving and stainless steel**

The feeling that metal brings to people is always stouthearted, indifferent and hard while what bamboo weaving conveys is a kind of warm, pliable, damageable impression so that these two crafts materials are very different in texture and application areas[2]. The ceiling lamp shown in the figure is the combination of metal and bamboo weaving (E.g.Fig6). Compared with pure bamboo lamps and lanterns, the metal lamp holder adds a modern sense naturally, which makes it better blend with modern home environment while the bamboo weaving lamp-chimney can bring home warm, traditional breath of life. In this product, metal and bamboo weaving well reconcile the texture feeling conveyed by each other and achieve a harmonious combination.

Japanese design team Nendo utilizes bamboo furniture construction skills in the production of iron pipe and uses traditional bamboo weaving skills to weave metal plate, which brings delicate hand feeling and humane expression to this heavy produced cold material (E.g.Fig5). The combination of bamboo products and metal gives people a kind and natural feeling and gives people a soft and hard complementary feeling in visual aspect so that the fusion of different art forms and materials can present another formal beauty.

#### **2.5 The matching Innovation of bamboo weaving and plastic**

As one of the most representative materials in industrial production, plastic has been widely used in various products. Since the 1960s, plastic has become one of the most popular industrial design materials. Plastic is a kind of high polymer material that is made entirely by artificial synthesis. From this perspective, it forms a sharp contrast with the bamboo material that originates from nature. However, as an artificial material, plastic has its own advantage which is the infinite possibilities of formal change. As for this, it can be matched with bamboo to the maximum extent. In terms of form, there is a high degree of matching between bamboo and plastic while on the other hand, plastic changes a lot in shape, texture and color thus bringing more colorful forms for bamboo products.

The matching design of bamboo and plastic is quite different from other materials in the combination mode. Plastic also has good plasticity like bamboo which can mould any forms such as line, plane and solid so that the matching design of bamboo weaving and plastic has abundant forms[3]. Combining these two characteristics and molding the product form through interweaving bamboo strip and plastic are one of the most effective combinations of these two materials. The product shown in the figure utilizes interweaving method, so as to form a sharp

contrast with these two materials which brings new texture and new experience in product form (E.g.Fig7).



Fig. 6 Bamboo weaving and wrought iron lamp



Fig. 7 Bamboo weaving and plastic tweezer



Fig. 8 Bamboo weaving shoes

## 2.6 The matching innovation of bamboo weaving and fabric

Fabric is a kind of textile made of fiber, which is similar to bamboo weaving in the formation of cross-weaving while the final weaving surface textures are quite different. Fabric is smoother and more delicate while the pattern of bamboo weaving is more clear[4]. Bamboo weaving is flexible while fabric is soft, which can be complementary with each other. The bamboo weaving bag shown in the figure is made of the pliable, tough and stable bamboo weaving to weave the bottom shape, combining with the soft fabric to create the top shape with strong variability. Both of these two technological properties are utilized and reflected in this small bamboo weaving bag. The bamboo weaving shoes shown in the figure integrate bamboo weaving and embroidery (E.g.Fig3), which reflect modernity and delicacy through simplicity. These shoes utilize the characteristics of thin bamboo weaving which is same as fabric so that embroidering on it is not abrupt at all but very fashion. As both bamboo weaving and fabric have strong plasticity, the combination of these two methods can bring more abundant functions and forms to bamboo products especially appropriate for bags and suitcases, storage basket and other products.

However, it is necessary to pay attention to the combination of fabric and bamboo weaving design and color when matching bamboo weaving with fabric. Bamboo weaving largely presents in simple but elegant images, but can be dyed to create different color textures while fabric design and color is diverse so that the coordination of these two different colors and designs can bring different texture feeling which is pure and fresh, simple but elegant and gorgeous. Each kind of combination can create different effects comparing different feeling of fusion.

## 3. CONCLUSION

Along with the changing times, the traditional bamboo weaving is no longer suitable for modern aesthetic ideas so that modern bamboo weaving will present a more plentiful appearance and shapes in the design, and material diversification is one of its development trends. Different materials such as the ceramic with mild feeling, the wood with simple and

unsophisticated sense, the plastic with colorful appearance, the mental with smooth beauty and the good hand-feeling fabrics are matched with bamboo weaving, which bring different feelings of cold or warm, empty or full, light or heavy and bright or dark, bringing unitary bamboo weaving products with more diversified appearance and form while material diversification is one of the modern design trends.

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