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To cite this article: Shoichiro Sendai (2019) The conception of “equipment” by Charlotte Perriand: cross-over between Le Corbusier and Japan, Journal of Asian Architecture and Building Engineering, 18:5, 430-438, DOI: [10.1080/13467581.2019.1678473](https://doi.org/10.1080/13467581.2019.1678473)

To link to this article: <https://doi.org/10.1080/13467581.2019.1678473>



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Published online: 02 Nov 2019.



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# The conception of “equipment” by Charlotte Perriand: cross-over between Le Corbusier and Japan

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## ABSTRACT

This paper aims to clarify the conception process of the “equipment” notion, which is one of the key notions of French creator Charlotte Perriand (1903–1999), using her articles. First, in chapter 2, this paper analyses Perriand’s notion of “equipment” during her Atelier Le Corbusier period. Next, chapter 3 treats her understanding of Japan and chapter 4 analyses the transformation of her notion of “equipment” during her stay in the country. Finally, chapter 5 discusses the characteristics of Perriand’s “equipment”, comparing them with Le Corbusier’s. By examining Perriand’s descriptions of “equipment”, it is found that Le Corbusier’s architectural ideas and her experience in Japan were deeply reflected in the “equipment” notion. However, in the formation of Perriand’s notion, contradictory subjects – industrial techniques and crafts, standards and diversity, and walls and para-walls – coexisted, so the influences of Japan and Le Corbusier cannot be separated. It is concluded that the formation of “equipment” was a process where Le Corbusier, Japan and Perriand herself interacted mutually.

## ARTICLE HISTORY

Received 3 January 2019  
Accepted 30 September 2019

## KEYWORDS

Charlotte Perriand;  
equipment; wall; Le  
Corbusier; Japan

## 1. Introduction

This paper aims to clarify the formation process of the notion of “equipment”,<sup>1</sup> which is one of the key notions of French creator Charlotte Perriand (1903–1999), using her articles.



It is well-known that Perriand worked with Le Corbusier (1887–1965), one of the most representative modern architects, in Paris from 1927 to 1937. After that she commenced her own activities, but still occasionally collaborated with Le Corbusier. As a partner of Le Corbusier, she took charge of furniture, lighting, sanitary facilities and interior design projects. In an age when social positions for women were hard to come by, she practiced a new profession in a modern era (Sert 1956; Martin and Sparke 2003). Through such activities, she bore various professional titles: “interior decorator”, “furniture designer” and “modern artist”.

The articles that Perriand wrote are fewer in number than Le Corbusier’s, but this does not mean that she did not write. She wrote on various themes, but above all, “equipment”, as a methodology concerning ordinary living spaces, was the fundamental theme of her creations. As she stated herself, the notion of “equipment” arose

from research by Le Corbusier (Sendai 2017). That is, Perriand’s “equipment” was a direct product of her collaboration with Le Corbusier on the installation of “furniture” – storage cabinets, desks and chairs made from steel tubes – for the interior space of the Salon d’Automne in Paris in 1929 (Corbusier et Jeanneret 1934). It was a question of pre-modernistic “interior decoration” or “decorative art”. Nevertheless, it is not clear whether Perriand accepted Le Corbusier’s notion of “equipment” completely, or conversely, if Le Corbusier gave her rough ideas some shape. One might hypothesise that Perriand’s notion of “equipment” was not always the same as Le Corbusier’s. Accordingly, the aim of this paper is to clarify her own formation process for “equipment” based on her discourses.

The titles of Perriand’s articles show that 1940 was a turning point (Table 1). In 1937, she quit the Atelier Le Corbusier, and in 1940 she stayed in Japan for the first time. In fact, her articles from the 1940s strongly suggest that her stay in Japan was important.

Therefore, in chapter 2, this paper analyses Perriand’s notion of “equipment” during her Atelier Le Corbusier period.<sup>2</sup> Next, chapters 3 treats her

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<sup>1</sup>The notion of “equipment” in the European historic context is not only concerned with furniture or sanitary facilities, but also with all kinds of device with which an interior space can be “equipped” (Troy 1991): wallpaper, tapestries, curtains, chandeliers, etc., as so-called “decorative art”.

<sup>2</sup>The articles by Perriand might be under latent influences of some collaborators who were her close friends: Pierre Jeanneret (the head collaborator of Le Corbusier), Jean Prouvé (French modern engineer), etc. However, since they were not mentioned in her articles, their theoretical influence on her is only presumed, and the analysis of this paper does not cover them.

**Table 1.** Bibliography of articles by Charlotte Perriand.<sup>6</sup>

Period	Article	Reference to Le Corbusier	Reference to Japan
1929–1936	Charlotte Perriand, “Wood or Metal”, <i>The Studio</i> , no 433, April 1929, pp. 278–279.	*	
	Charlotte Perriand, « Cuisine par Le Corbusier, Pierre Jeanneret et Charlotte Perriand », <i>Art et Industrie</i> , March 1930, p.21	[only figures]	
	Charlotte Perriand, « L’habitation familiale, son développement économique et social », <i>L’Architecture d’Aujourd’hui</i> , January 1935, pp. 25–32	*	
	Charlotte Perriand, « La ménagère et son foyer. Conseils pratiques sur l’équipement du logis », <i>Vendredi</i> , le 1er mai (s.p.), le 22 mai (p.8), 1936	[only figures]	*
1941–1949	Charlotte Perriand, tr. Jyunzo Sakakura, “About the Japanese folk-crafts”, <i>Monthly Mingei</i> , Vol.3, No.3, 1941.4., pp. 26–33	*	*
	Charlotte Perriand, Jyunzo Sakakura, Selection, Tradition, Creation: Contact with Japanese Arts, Koyama Shoten, 1941	*	*
	“Interview to Mrs. Perriand about the Crafts in Tohoku”, <i>Crafts News</i> , Vol.10, no.1, 1941, pp.16–21	*	*
	“Interview to Mrs. Perriand about Her Exhibition”, <i>Crafts News</i> , Vol.10, no.5, 1941, pp.187–193	*	*
	“Interview to Mrs. Perriand about Her Exhibition”, <i>Crafts News</i> , Vol.10, no.6, 1941, pp.254–256	*	*
	Charlotte Perriand, « Contact avec l’art japonais », conférence à l’université en Indochine, publiée par le Secrétariat des relations intellectuelles avec les pays voisins de l’Indochine, no. 1, January 8 1942, s.p.	*	*
	Charlotte Perriand, « Actualité, équipement », <i>Techniques et Architecture</i> , no. 7–8, 1946, pp.370–373		
	Charlotte Perriand, « Influences sur l’état industriel japonais », <i>Bulletin de la grande masse</i> , 1st trimestre 1949, pp.28–30		*
	Charlotte Perriand, « Le spectacle au Japon », <i>L’Architecture d’Aujourd’hui</i> , no 23, May 1949, pp. 80–88		*
1950–1957	Charlotte Perriand, « Pour un intérieur moderne », <i>France d’outremer: le monde colonial</i> , no. 248, May 1950, pp.159–160	*	
	Charlotte Perriand, « L’art d’habiter », <i>Techniques et Architecture</i> , no. 9–10, August 1950	[only figures]	*
	Charlotte Perriand, « Formes utiles et équipement », catalogue de la Triennale de Milan, 1951, s.p.	*	
	Charlotte Perriand, « Le problème du rangement », <i>L’Architecture d’Aujourd’hui</i> , no. 56, September–October 1954, pp. 50–55	*	
	<i>Proposition d’une synthèse des arts, Paris 1955, Le Corbusier, Fernand Léger, Charlotte Perriand</i> , catalogue d’exposition, Tokyo, 1955	*	*
	Charlotte Perriand, « Crisi del gesto in Giappone », <i>Casabella continuità</i> , no. 210, 1956, pp. 54–66	*	*
	Charlotte Perriand, « Foreword and commentary for a retrospective devoted to the work of Charlotte Perriand », <i>Aujourd’hui, art et architecture</i> , no.7, March 1956	*	
	(José Luis Sert, Charlotte Perriand, <i>Aujourd’hui, art et architecture</i> , no.7, March 1956, pp.58–81)		*
	Charlotte Perriand, « Une tradition vivante », <i>L’Architecture d’Aujourd’hui</i> , numéro spécial sur le Japon, no 65, March 1956, pp. 14–19		*
	Charlotte Perriand, «Le Japon dont on parle et ses contradictions», <i>Combat</i> , March 16–17, 1957, s.p.	*	*
	Charlotte Perriand, « Salon des arts ménagers, la maison japonaise », <i>Aujourd’hui, art et architecture</i> , no. 12, April 1957, pp. 90–93.	*	*
	Charlotte Perriand, « Aufgaben der raumgestaltung », <i>Werk</i> , no.5, May 1957, pp. 171–174.	*	
1965–	Charlotte Perriand, « Le Corbusier », <i>Aujourd’hui:Art et architecture</i> , no. 51, November 1965, pp. 110–111.		
	Charlotte Perriand, « Les alpes françaises leur développement », <i>L’Architecture d’Aujourd’hui</i> , no. 126, June–July 1956, pp. 15–17.		
	Charlotte Perriand, « Prendre conscience de nos responsabilités », <i>Aménagement et Nature</i> , no 3, septembre 1966, pp. 10–11.	*	
		[only figures]	

understanding of Japan and chapter 4 analyses the transformation of her “equipment” concept after her experience in the country. Finally, chapter 5 discusses the particularity of her notion of “equipment”, comparing it with Le Corbusier’s.<sup>3</sup>

Previous research on Perriand’s creations has mainly discussed the formal characteristics of the furniture she produced while working with Le Corbusier (Rüegg 2012; Cinqualbre and Migayrou 2015).<sup>4</sup> However, her activities outside of the conventional professions of architect or furniture designer make research on her particular creations difficult.<sup>5</sup> In this context, this paper focuses on her creation of space through an analysis of “equipment”.

## 2. Innovation in furniture design: desks, chairs and cabinets (1929–1936)

During her 10 years at the Atelier Le Corbusier, Perriand became known in the modern architectural movement thanks to “Interior Equipment in a House”, exhibited at the Salon d’Automne in Paris in 1929; her activity with the artist group Union des Artistes Moderne (UAM); and her participation in the fourth Congrès International d’Architecture Moderne (CIAM). In this period, she wrote four relatively short articles which were published in magazines or newspapers. In them, she discussed ordinary living spaces. Some articles presented photographs of her collaborative works with

<sup>3</sup>This list excludes her autobiography, Perriand (1998), which is a memoir of her later years and is not a direct reflection of her notion in each period. This paper treats it as a supplemental document.

<sup>4</sup>Some recent studies adopt the sociological viewpoint of feminism (McLeod 1987; Colomina 1992; Martin and Sparke 2003; Dumont et al. 2005).

<sup>5</sup>A whole study on the creations of Perriand is in progress (Barsac 2014–2017).

<sup>6</sup>Complement of Barsac 2014–2017 by the author, except her autobiography: *Une vie de création* in 1998.

Le Corbusier, but unexpectedly, there were no direct comments on Le Corbusier.

“Wood or Metal” from 1929 was the first publication by Perriand. This article, written in English, was a poetic discourse on the superiority of metal to wood with predictable sentences and brief phrases, resembling Le Corbusier’s aphorisms in *Toward a New Architecture* from 1923.

“The power of resistance in metal itself;

Because it allows of mass production in the factory (lessens amount of labour required);

Because by means of the different methods of manufacture it opens out new vistas; new opportunities of design;

Because the protective coating against toxic agencies not only lower the cost of upkeep, but have a considerable AESTHETIC value.

METAL plays the same part in furniture as cement has done in architecture.

IT IS A REVOLUTION” (Perriand 1929).

In this first publication, Perriand pursued modern aesthetics via mass production, and presented the prototype of the “chaise lounge” and the comfortable easy chair “LC2”. However, she did not mention the use of plastic and metal for furniture that matches the human body’s lines and dimensions like Le Corbusier.<sup>7</sup> This was because the important matter for her was not the design of furniture; her main goal was “unity in architecture” (Perriand 1929, 279).

“The French word for furniture, “MEUBLE” comes from the Latin “mobilis”: meaning things that can be moved about.

The only things that come into this category are chairs and tables” (Perriand 1929, 278).

The thesis that “mobile” applied only to chairs and desks in buildings’ spaces might have been the guiding principle for Le Corbusier and Perriand during their collaboration on the redecoration of Villa La Roche in 1928 or the renovation of Villa Church in 1929. However, this was already a conclusion that Le Corbusier has arrived at without Perriand through the study of “equipment” at the “Esprit Nouveau” pavilion in 1925, instead of traditional “interior decoration”.<sup>8</sup>

On the other hand, at the “Esprit Nouveau” pavilion, Le Corbusier proposed the “cabinet” as the most important element of “equipment”, and defined three types:<sup>9</sup> incorporated into walls, put on walls

and independent of walls. On the other hand, Perriand’s next article, “Kitchen” in 1930, presented this notion of “cabinets” (Figure 1). This article was a short commentary on a design proposal, the “interior equipment of a house” from 1929, and she explained the separation between a kitchen and a dining room by placing “cabinets” to realize “free spaces” (Perriand 1930, 21). On the other hand, Le Corbusier himself took notice of the “incorporation into walls” of “standard cabinets”.<sup>10</sup>

These two articles were explanations of particular works, while the article “Family Housing”, written in 1935, was a theoretical consideration of “to live in”, by which Perriand would develop the future philosophy of spatial creation. In the case of Le Corbusier, his consideration of housing went back to primitive life as a testimony to the universal use of geometric proportions (Corbusier 1923, 53, 55). On the other hand, Perriand paid attention to the uniqueness or diversity of vernacular housing. She posed the idea of a “economic” “human plan” (Perriand 1935, 25) in the modern world, pointing to rural housing in the provinces of Macau, Scandinavia, Japan, Germany, France, etc. In this article she picked up the issue of modern city planning, which corresponded to the theme of CIAM (Corbusier 1943), but her basic interest was the interior composition of living spaces.

In that period, Perriand proposed a prototype for a “house of youth” at the universal exposition in Brussels in 1935. According to her, the theme of Brussels, “a space without restriction, like the equipment of lofts of today” (Perriand 1998, 76), and the traditional living space as farmhouse, both had the same “economic” rationality.

To create such a space, it was “cabinets” to which Perriand paid attention. Instead of the conventional big and heavy furniture, she described, using a dialogue style, the flexibility of “cabinets” in two articles titled “Housewife and Its Home” in 1936, as follows:

“– Attention! These cabinets can be mobile, be juxtaposed, be arranged by the best way you want, with sliding doors by wood, by glass ... These cabinets can be left empty, putting a various surface according to your liking.

– If I go along with your opinion, my former furniture will be unsuitable with this new set” (Perriand 1936).

Perriand’s domestic space – cleaning, washing, cooking, etc. – was composed of “cabinets” that

<sup>7</sup>cf., “Carrying out the construction by tube allows new forms which are more light, more economic, more efficient”. (Corbusier et Jeanneret 1934, 42). This furniture must be “objets-membres” [objects like limbs]. cf., Corbusier (1925, 76).

<sup>8</sup>cf., “The innumerable inventory of furniture inhabited by the tradition and fabricated by wood at Faubourg Saint-Antoine, is reduced to *cabinets* forming equipment of the apartment, to chairs and to desks”. (Corbusier et Jeanneret 1929, 100, 157).

<sup>9</sup>The equipment, it is, by the analysis of the problem, to class the diverse necessary elements for the domestic management. Replacing the innumerable furniture put on various forms, standard cabinets are incorporated into walls or leaned against walls, disposed on each space of the apartment where an ordinary precise function is carried out, equipped in the interior according to their exact purpose”. (Corbusier et Jeanneret 1929, 100).

<sup>10</sup>In contrast to Le Corbusier, Perriand’s sketch for the plan of the exhibition space at Salon d’Automne in 1929 did not include any immobile walls. cf., AFLC, F1-3-78.

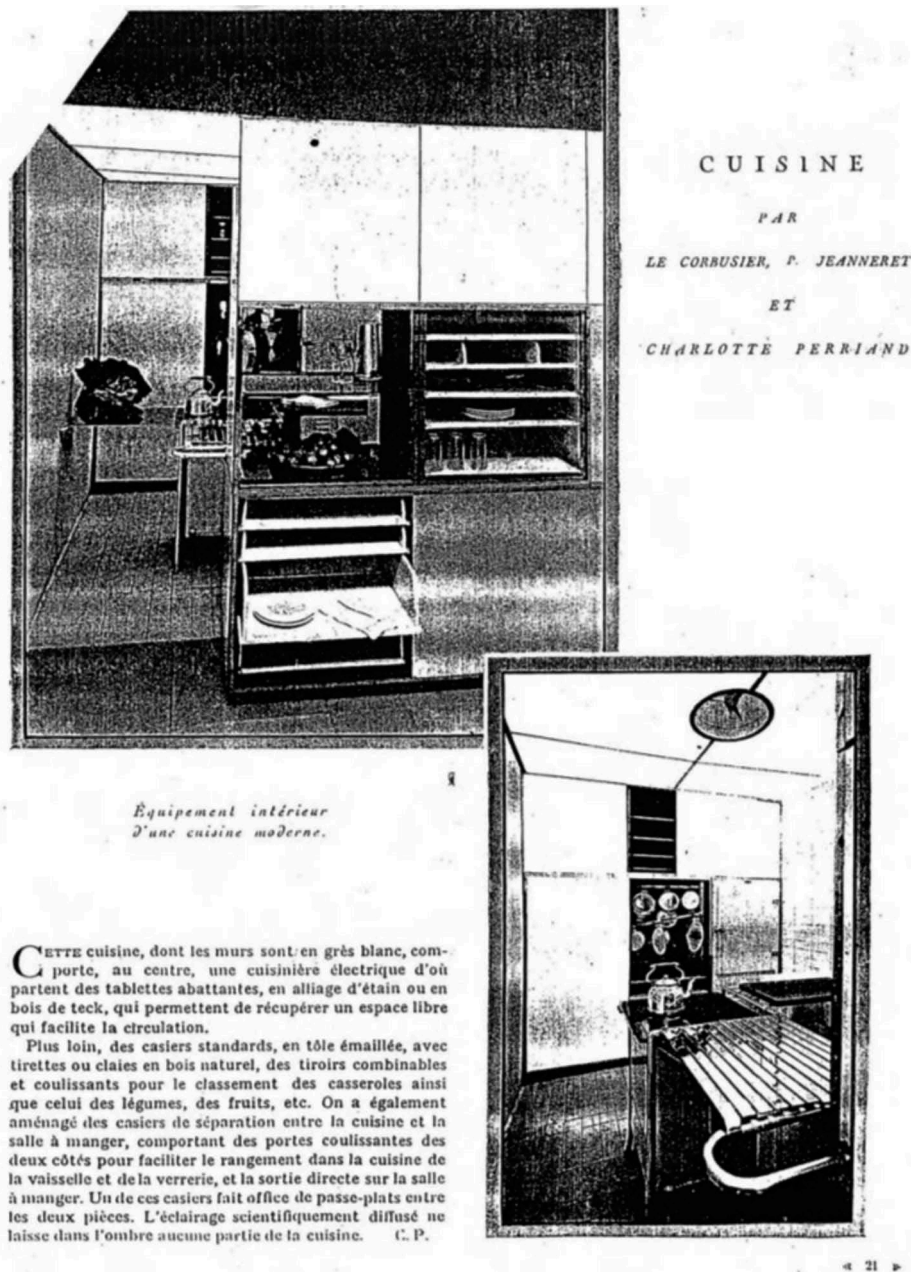


Figure 1. Interior equipment of a modern kitchen.<sup>11</sup>

<sup>11</sup>cf., Perriand, Charlotte. *op.cit.*

sensitively corresponded to personal will.<sup>12</sup> Such cabinets are not decorative at all. Rather, decorative cabinets are not compatible with free arrangement. However, she did not have Le Corbusier's deep attachment to the "incorporation into walls". She continued to pursue flexibility in living spaces to the end. This sensibility would be a main reason for "walls" or "type" fading out of her later notion of "equipment".

### 3. Synthesis of space with the standard (1941–1949)

Perriand resigned from the Atelier Le Corbusier in 1937, continuing to make her own furniture and

pursue interior design projects. From 1940 to 1941, she stayed in Japan at the request of the Japanese Ministry of Commerce and Industry, with the title of "adviser for exportation products by Japanese artisans".

Just after her arrival in Japan, she visited Kyoto and the Tohoku region, where she appreciated not only the authority buildings, but also the farmhouses at the same time. Also, she discovered traditional folk-crafts (from tableware to furniture) displayed in the interior spaces of houses and admired the beauty of their materials and techniques. This was when she discovered "harmony" in interior spaces, where all objects

<sup>11</sup>cf., Perriand, Charlotte. *op.cit.*

<sup>12</sup>The "incorporated cabinets" of Japanese farmhouses that Perriand cited were unified with the walls. cf., Perriand (1935, 29). However, they were able to move between frame construction structures.

were closely related to the inhabitant's life (Perriand 1941, 30).

For Perriand, simple "imitations" of European objects were unreasonable.<sup>13</sup> She explained spatial "harmony", quoting Le Corbusier's notion of the "synthesis of arts", as follows:

"In our part, both painting and sculpture have got out of the level of visible representation of what we see. You could see modern painters, Léger or Picasso, etc. Architects have completely broken the conventional style, as well. Please look at Le Corbusier. Even artisans keep in mind productions of furniture which suit a modern architecture, collaborating with architects" (Perriand 1941, 33).

The "synthesis of arts", which Le Corbusier advocated from the 1930s on<sup>14</sup>, was a notion of the coexistence of various artworks in space, rather than the stylistic unification of pictures, sculptures and buildings.<sup>15</sup> It is certain that Le Corbusier collaborated with Perriand in developing a design method for chairs, desks and cabinets, but "furniture" was outside of the notion of the "synthesis of arts" for him. On the other hand, for Perriand, furniture, folk-crafts and artworks were borderless within the notion of "synthesis": the difference between anonymous products for ordinary life and specific works by an artist was undefined.

The fruit of Perriand's eight months of activity in Japan was the exhibition "Selection, Tradition, Creation" in March 1941 (Figure 2). The theme of this exhibition was still the "synthesis of arts" that she had borrowed from Le Corbusier, but its display evidently related artworks with "furniture", including folk-crafts.<sup>16</sup>

Perriand stated the concept of the display as follows:

"The standard is absolutely necessary for such a new composition [of the exhibition space]. And Japanese really use it by tradition. The standard without whim, beyond an individual: the standard of the ceremony of tea and Japanese dishes, the definite relation between a garden and a building, the relation between an arranged flower, a hanging scroll, and an alcove to set them, etc. In 1929, Le Corbusier and Pierre Jeanneret took up a problem of interior equipment, deciding the useful forms of furniture, chair, desk, and cabinet for Europeans. They concluded 'all objects that

the man use have to be suitable to the human dimensions (Perriand and Sakakura 1941, 14)."

It was the "standard" of dimension for synthesising folk-crafts and Japanese space in this exhibition. This means that Perriand saw the same nature in the human body dimensions of "equipment" researched by Le Corbusier and the dimensions represented in Japanese buildings.<sup>17</sup>

She had already adopted the module system in the cabinets of the Salon d'Automne in 1929. At that time, she was advised to study proportions by Le Corbusier (Perriand 1998, 29). However, her main focus in those days was the creation of flexibility in a space. Hence, before her stay in Japan, she did not question the relationship between a piece of furniture and the whole of an architectural space in her articles. In other words, the discovery of the "standard" for the dimensions in Japanese architectural spaces might have enabled her to notice the importance of Le Corbusier's "standard".<sup>18</sup>

After the exhibition on Japan in 1941, Perriand volunteered to talk about her experiences in the country. At a lecture in Hanoi in 1942 titled "Contact with the Japanese Art", she discussed the issue of the "standard". In this lecture, the similarity of Le Corbusier's modern architecture and Japanese traditional buildings that Perriand pointed out did not just indicate the structural system of beam-column; she recognized the similarity of the adaptation of "Tatami" as "standard". However, at the same time, she pointed out the difference. It was a problem with the gesture of "sitting".

"The [Japanese] tables are lower, the chairs and the beds do not exist. A modern art very purified and developed by LE CORBUSIER et Pierre JEANNERET. We can discover their purist aspect in the traditional Japanese house" (Perriand 1942).

According to her, the "gesture" was a response to "a harmonious contact settled between the object and the man" (Perriand 1942, s.p.). The term "contact" was not a literary expression; it meant the physical tactile sense of the hand. For example, a tea master chooses a tea set that matches their hand in a tea ceremony. The sense of the hand can neither be formulated nor classified.

Ultimately, Perriand did not think that the "gesture" was limited by the "standard". In fact, in the article "The

<sup>13</sup>Before her experience in Japan, Perriand had already denied all kinds of imitation: "old style", "farmhouse style", and "modern style". cf., Perriand (1936).

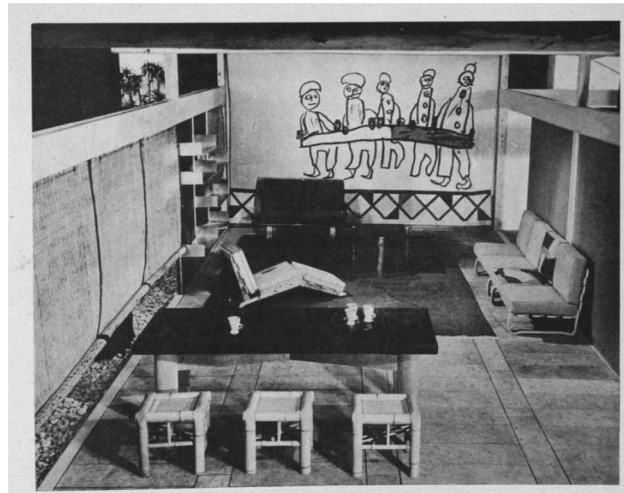
<sup>14</sup>cf., Corbusier (1937). The notion of a "synthesis of art" by Le Corbusier concerned the idea of collaboration by the UAM organized in 1929, in which he had become a member in 1931. The UAM, unlike Bauhaus, intended the division of works based on respect for the independent capacity of respective specialists.

<sup>15</sup>The situation of the plastic arts appeared inextricable: innumerable painters, sculptors, each was in his side. And the architects were indifferent to the plastic phenomena and to the spirit of times, or they don't find a way to set the useful contact. So, the idea has come to create 'Sites of Synthesis' for the purpose to let the painters and the sculptors get the tasks in architectural nature and architectural conditions". (Corbusier 1953, 67).

<sup>16</sup>The intention of Perriand would be more distinct in the next exhibition on Japan (1955), titled "A Proposition of a Synthesis of Arts". "... I have a little idea, an exposition at Takashimaya [a Japanese department store]: to demonstrate my researches on the art to live in, a 'synthesis of arts' associating with the equipment the plastic arts, that are realized as the painting and the ceramic sculptors by Fernand Léger and the paintings and the tapestries by Le Corbusier". (Perriand 1998, 260–261).

<sup>17</sup>However, at the sites of the local farmhouse investigation, Perriand was not able to grasp the dimension system in Japanese buildings very well. cf., Yanagi (2011, 322–323).

<sup>18</sup>In fact, in Japan, she was able to find the same types of "equipment" as standardised by Le Corbusier: "cabinet dependent" and "cabinet independent". cf., Perriand and Sakakura (1941, 14).



**Figure 2.** One section of the exhibition of “Selection, Tradition, Creation” in 1941 (Perriand 1946, 371).

Drama in Japan” written in 1949, although she explained the vital force hidden in the controlled “gestures” of Japanese Kabuki or Nô theatre, she did not refer to the formal type, which is often pointed out in Japanese traditional drama. Eventually, the thing which Perriand found in Japan was “diversity and variety of life” (Perriand 1949) revealed by the “standard” of Japanese interior spaces.

This was surely related to Le Corbusier’s “free plan”, which was not blocked by walls<sup>19</sup>, but at the same time it was in contrast to his notion; Le Corbusier searched for a constant and fundamental type through serious investigations into various human physical movements (Corbusier 1930, 113). Perriand searched for a variety of “gestures” through the “standard”.

#### 4. Equipment and walls (1950–1957)

Perriand’s articles after 1950 were direct discussions of the notion of “equipment” as a device of the diversity of living spaces via “contact”.

When Perriand wrote the article “For un Modern Interior” in 1950, she had already left Japan and was engaged in the interior design of a kitchen for the project of the Unité d’habitation in Marseille (1952) at the request of Le Corbusier. In this article, she directly discussed the notion of “equipment” itself for the first time:

“The equipment of the housing is composed by two parts: the furniture, and the domestic equipment (kitchen, laundry, bathroom, etc.)

The modern conception of the furniture holds to satisfy needs of which the most imperious is the arrangement of the multiple objects that each possess (underwear, clothes, dishes, books, etc.) by the precise method. It may be achieved by means of elements

incorporated in the architecture or not incorporated (free furniture) (Perriand 1950a).”

Perriand’s intention to secure the free space in a room and discover the possibilities of various gestures was always consistent. The method for dividing “equipment” into “incorporated” and “not incorporated” was an adaptation of the notion of “cabinets” from the exhibition of 1941.<sup>20</sup> This means that she had radically simplified the three types of method for the “cabinet” on the wall by Le Corbusier (Corbusier and Jeanneret 1929, 100) and focused on the “arrangement” concerning his research on the human body (Corbusier 1930, 113; Perriand 1950a).

For such an “arrangement”, the Le Corbusier’s notion of “standard” was essential. However, Perriand pursued an aspect of the “equipment” that Le Corbusier failed to catch:

“Once the need for arrangement is satisfied, the envelope, the appearance, the outside is not more than an element of the atmosphere. We are far from the styles that draw beautiful facades of furniture, buffets, racks or cupboards. In this example, the most important, we have just set two factors: the essentially functional, constant one does not progress without the knowledge; the other of a psychological nature, fluctuating, depending on the inhabitant, influenced by the environment (the choice of a material or a color rather than another). One leading to the large series of perfect elements, impersonal, valid for all environments, under all the climates: the other leading to the craft, to the small-quantity production, composed either of new materials, either of traditional materials came from the even environment (Perriand 1950a).”

Function and constancy had to be standardized, as Le Corbusier had tried to do. However, the standardization itself that Le Corbusier planned was not

<sup>19</sup>cf., Perriand (1956). Perriand intuitively discovered the concept of the “free plan” by Le Corbusier and its similarity to the construction spaces in Japanese buildings on site. cf., Perriand and Sakakura (1941, 1).

<sup>20</sup>“Cabinet dependent” and “cabinet independent”. cf., Perriand and Sakakura (1941, 14). See also note 35.

Perriand's goal. She had already learned of the diversity of the "gesture" through the "standard" in Japan. She had turned her attention to the factors, "depending on the inhabitant" or "influenced by the environment", which Le Corbusier categorized in his research on "furniture".

This indefinable factor of "gestures" attached to "materials" was proposed by Perriand via a modified version of the "chaise lounge" made with bamboo for the exposition of 1941 in Japan. For her, whether modern artificial material or traditional natural material, the "material" might induce a possibility of a new human physical movement; that was a "gesture".<sup>21</sup>

In another article from 1950, "The Art to Live in" in a special issue of the French magazine *Technique et Architecture*, which was her most major article, Perriand considered eight subjects concerning the "equipment" of an ordinary life, accompanied by historic Western and Oriental examples, and she developed the logic of "equipment" to a greater extent than "For a Modern Interior" from 1950.

In the beginning of this article, Perriand introduced her main theme:

"... what is the crucial element of the domestic equipment? Respond without hesitation: the arrangement. Without an arrangement well planned, it is impossible to make a vacuum in the habitat. We conclude to utilitarian walls. Then come the household equipment, cooking and health. Our house is always empty; we can dream or we will refit on land, to the mode of the Orient, or on seats, to the mode of the West, and children play there" (Perriand 1950b, 33).

The "arrangement" itself was a theme which had already been brought up in "For a Modern Interior" in 1950. Meanwhile, this essay proposed a new notion. The flexibility of "gestures", namely the "vacuum",<sup>22</sup> must be made by "arrangement". In this condition, the final remains in an interior space were architectonic "utilitarian walls". Arguing over the "arrangement" was a consideration of the notion of the "wall" for Perriand.

In this article, Perriand approved of "incorporated equipment": "utilitarian walls" (Perriand 1950b, 58). However, it is not clear if it was immobilized in the structural wall of a building. If anything, according to the examples of the cabinets presented in this essay, the "incorporated equipment" attached to the wall was

a "para-wall" with the same dimensions as the building's structure (Figure 3).

On the other hand, Le Corbusier's explanation of the relation of the "equipment" and walls was not the same as Perriand's. Le Corbusier had already explained the display of "equipment" during a collaboration with Perriand for the Salon d'Automne of 1929, as follows:

"One will have the cabinets against the walls of its rooms or will set up new partitions to full height or mid-height with them [see Pavilion l'Ésprit Nouveau, 1925]; the other will construct its walls in incorporating the cabinets in the stonework" (Corbusier 1930, 115).

Le Corbusier did not deny "walls" at all.<sup>23</sup> It cannot be said that he was deeply attached to the "free plan" without "walls", as Perriand thought.<sup>24</sup> On the contrary, she researched more skilfully than Le Corbusier; the "free plan" that she found in Japanese housing allowed her to develop various "para-walls" that were movable to get a variety of "gestures". Therefore, she used the term "ambience", not "space", which was defined by walls.

## 5. Conclusion

By examining Perriand's discourses concerning the notion of "equipment", it can be seen that Le Corbusier's architectural ideas and her experience in Japan were deeply reflected in her notion.

We can say that Perriand's notion of "equipment" was quite similar to Le Corbusier's in some ways, but at the same time, it was in remarkable contrast to Le Corbusier's. Her notion was open to a variety of "gestures" in ordinary life, not focused on the fundamental movement of the body like Le Corbusier's, and it contained the tactile sensibility of materials used in crafts. Eventually, Perriand's "equipment" caused the redefinition of the architectonic notion of "walls".

However, this was also the discovery of "Japaneseness" that Le Corbusier's notion itself contained (a "free plan", for example).<sup>25</sup> As this paper has noted, in the formation of Perriand's "equipment" notion, contradictory subjects – industrial techniques and crafts, standard and diversity, and walls and para-walls – coexisted. Therefore, the influences of Japan

<sup>21</sup>Perriand's explanation of the exhibition "Selection, Tradition, Creation" from 1941 is as follows: "Other furniture was presented in this room, or independently on tatami mats. It is the view of a pair of pliers for sugar in bamboo, created by the Institute of Tokyo, which gave me the idea to transpose the chaise lounge by chrome steel in 1929 by using the flexibility of the manufactured bamboo in the place of the steel, thus pushing the technique to the maximum of its possibilities. The result was beautiful, a new plasticity was born by the change of materials, for a same use: the relaxation of the human body. There is no formula, the creation follows materials and their implementation which shape the new forms and preserve the attractiveness of their beauty in time and in space". (Perriand 1998, 167).

<sup>22</sup>It has been pointed out that the notion of the "vacuum" shows the ideological influence of *The Book of Tea* (1906) by Kakuzo-Okakura (Barsac 2008).

<sup>23</sup>In Le Corbusier's housing works, much "equipment" was incorporated into the walls, and the adaptation of "equipment" as independent partitions was rare: the two houses of Weissenhof at Stuttgart (1927), the student's room and the library Suisse Pavilion (1932), or the kitchen-bar of the Unité d'Habitation series (conceived by Perriand), etc.

<sup>24</sup>cf., "Le Corbusier and Pierre Jeanneret declare on the new architecture as follows: cf., Perriand and Sakakura (1941, 18). 'The structural wall does not exist anymore. There are only a framework and a floor'. Thus, they have relieved the composition of the plan in a building and the placement of the facade of conventional restraint freely'.

<sup>25</sup>This was different from the discovery of Japan's formal non-decorativeness by Bruno Taut. cf., Taut 1956, 19).



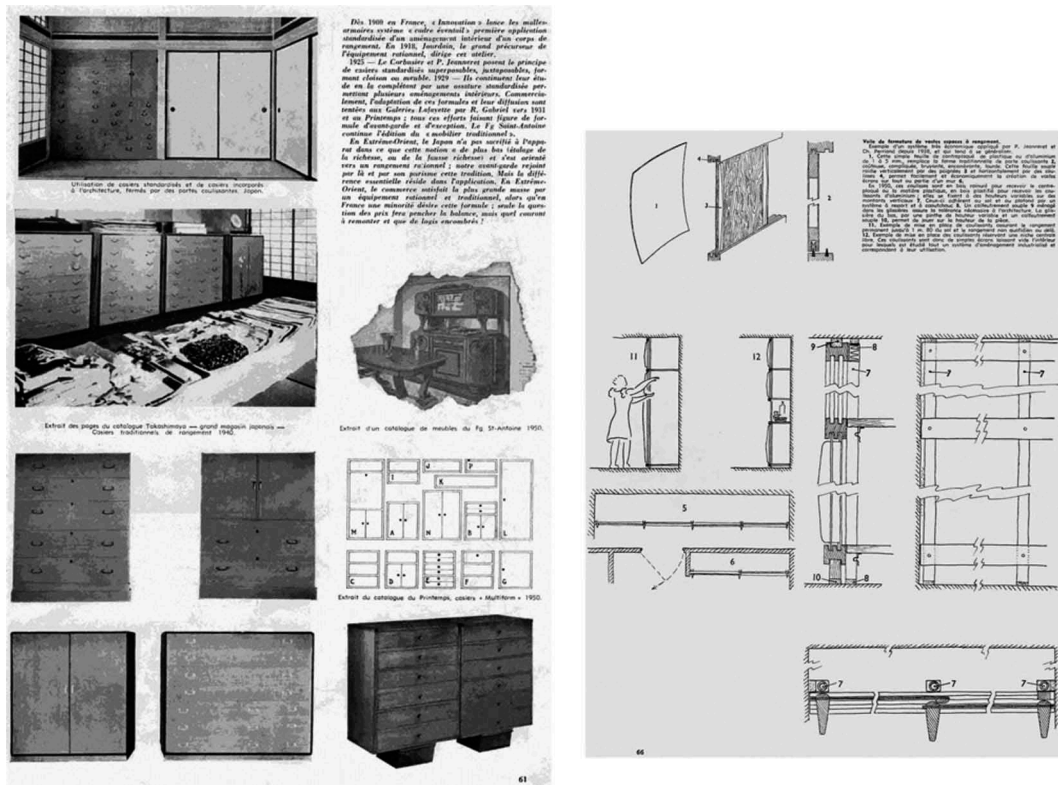


Figure 3. Veil of closure of space for arrangement in Japanese architecture (left) and in Perriand's proposition (right) (Perriand 1950b, 61, 66).

and Le Corbusier cannot be separated.<sup>26</sup> It can be concluded that the formation of Perriand's "equipment" concept was a process where Le Corbusier, Japan and Perriand herself mutually interacted.

**Disclosure statement**

No potential conflict of interest was reported by the author.

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<sup>26</sup>cf., Gossot et Barsac (2011, 277). This article emphasises Perriand's multiculturalism. Nevertheless, it discusses her vernacularism without Le Corbusier's influence.

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