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## Authenticity principle in conservation of De Javasche Bank of Surabaya: Materials, substance and form

Timoticin Kwanda<sup>a,\*</sup>

<sup>a</sup>*Department of Architecture, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya 60115, Indonesia*

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### Abstract

This paper aims to discuss the application of the notion of authenticity principle in the conservation work of De Javasche Bank building in Surabaya in term of form, materials and substance. This heritage building was built in 1910, and it has been unoccupied and dilapidated for decades, subsequently in 2010, the owner, Bank Indonesia began the conservation work of the building. Data regarding form, materials and substance of the building were collected from field observation during the conservation work from 2011 to 2012, and collected from the Conservation Plan prepared in 2009. Based on the data, the principle of tangible authenticity is tested based upon scientific method to test material authenticity, and through a good knowledge of the typology of objects such as form of the building and elements of the building, materials and substance of the roof and floor tiles, plasters and paints, and the ornaments. The results show that to achieve the principle of authenticity in the conservation work, action taken should follow the ascending degrees of intervention dealing with preservation of the existing state and the original form, material and substance; consolidation of the fabric; restoration of the original building form; rehabilitation of all decay building elements; reproduction of the broken materials with replica such as floor tiles; reconstruction the missing section such as the original name of De Javasche Bank, and adaptation, as new elements such as new lighting systems, air condition, sound system were added to meet the adaptive reuse of the building as multi-purpose hall. In addition, to achieve the principle of authenticity in the conservation work, action taken should follow the principles namely the principle of minimum intervention preserving the original form, material and substance; recognizable as a new when introduce new materials and techniques; and the principle of reversible when in the future if all of the new elements will be detached they will not displace the original elements.

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*Keywords:* Authenticity; conservation; De Javasche Bank; Surabaya

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## 1. Introduction

The authenticity principle in conservation has long been developed since the eighteenth century, and two conservation theories emerged: the aesthetics and scientific theory. The aesthetic theory is a conservation approach to preserve and restore the aesthetic integrity of any object based upon soft science, in which scientific theory relies on the hard, material science to preserve or restore the true nature of objects. These two theories seek to preserve and recover the integrity and authenticity of an object. In the Burra Charter (1999), authenticity principle throughout the charter is strongly towards retaining fabric “in its existing state”, hence authenticity is perceived to be residing in the original fabric that means “all the physical material of the place including components, fixtures, contents, and object [1]. Based on the notion of authenticity, this paper aims to discuss the application of the notion of authenticity principle in the conservation of De Javasche Bank building in Surabaya in term of form and design, materials and substance. The original building of De Javasche Bank was built in 1910 to replace the first building built in 1829, and design by N.V. Architecten-ingenieursbureau Hulswit en Fermont te Weltevreden en Ed. Cuypers te Amsterdam. The building has been listed by the city government as one of the 167 heritage buildings in Surabaya since 1996, subsequently De Javasche Bank building has to be conserved for future adaptive use.

### 1.1. The conservation plan and conservation works

According to Burra Charter article 27 and Principles of English Heritage article 26, process of conservation begins with understanding and assessing of cultural significance of a place before decision of proposed changes is made. Hence, before the conservation works started in 2011, in 2009, Bank Indonesia assigned a team, comprise of conservation expert, architect, architectural historian, and civil engineers from the Research Institute of Petra Christian University to prepare the conservation plan. In doing so, the team proceeds with three stages, such as documentation, conservation plan, and conservation drawings. In many charters, inspection, recording and documentation are required before any intervention. Documentation was done to document the existing condition of the building of every element of building namely the condition of its roof along with roof tiles and gutters, its walls along with pilasters, windows and doors and its condition of plasters, its floors along with ceramic tiles, and its ceiling. Based upon this documentation and compared with the archives such as the original drawings and photos, a conservation plan was proposed. In the conservation plan, the principle of minimum intervention was applied, as most of the good condition of the structure and the elements of buildings were preserved, and some missing parts of the building such as plasters, ornaments were restored, Based on this conservation plan a conservation drawing was prepared as a basis for implementing the conservation works. The drawings includes not only elements of buildings to be preserved, restored, reconstructed, and demolished, but also new elements such as structural reinforcement, electrical, mechanical and plumbing works namely new lighting systems, air condition, sound system, fire protection systems that have to be added to meet the adaptive reuse of the building as multi-purpose hall for conference, exhibition, and music performance for the public use.

### 1.2. Methodology

The primary data regarding form, materials and substance of the building were collected from the field observation during the conservation work from 2011 to 2012, and the secondary data were collected from the Conservation Plan prepared in 2009 by the consultant, the Research Institute of Petra Christian University. To determine the authenticity principle for form, materials and substance of the building, there are two ways namely by scientific method to test material authenticity as stated in the Athens Charter in 1931 and the Venice Charter in 1964, and to determine date or appropriate pigment or materials composition. However, it is costly and time-consuming process, and the second way is through a good knowledge of the typology of objects such as the types of materials, fixings, tools that used by the craftsmen or the relevant period/material culture [2].

## 2. The principle of authenticity

### 2.1. The tangible authenticity

In the early emergence of the principle of authenticity in architectural conservation, the concept as defined according to the European perspective is associated with physical or tangible qualities. For many decades, this principle of authenticity has been widely influenced the conservation practice throughout Europe and even the international sphere as chronologically stated in many recognized charters and international documents, such as:

- The Athens Charter for example, was the first document to set out the scientific principles for the preservation and restoration of historic monuments, however states no words on authenticity yet the closest meaning that comes to authenticity is stated in Article VII ‘... steps should be taken to reinstate any original fragments that may be recovered’. Thus, it states the physical qualities as ‘original fragments’ [3].
- The second document, the Venice Charter represents a revision of the Athens Charter, is the first stating the concept of authenticity in the preamble ‘... to hand them on in the full richness of their authenticity’ [4]. Again, the means of achieving this authenticity is realised solely through the retention of the original material as stated in Article 9, ‘Its aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents’ [4].
- The third one, the UNESCO Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas (1976) refers only once to the word of authenticity that also associates with the physical fabric: ‘... should be actively protected against damage of all kinds, particularly that resulting from unsuitable use, unnecessary additions and misguided or insensitive changes such as will impair their authenticity’ [5].
- The fourth document, the first UNESCO World Heritage Operational Guidelines for the Implementation of the World Heritage Convention in Article 7 and 9 sets six (6) criteria for cultural properties to be included in the World Heritage List and ‘in addition the property should meet the test of authenticity in design, materials, workmanship and setting; ...’ [6]. Design together with other aspects, such as materials, workmanship and setting are certainly the visual of physical qualities.
- The fifth one, the word of authenticity appears also once in *The ICOMOS Charter for the Conservation of Historic Towns and Urban Areas* 1987 that associates with physical qualities. In Article 2, it states that ‘Any threat to these qualities would compromise the authenticity of the historic town or urban area’ [7]. These qualities refer to historic character and all the elements of the expression, such as urban patterns, the formal appearance of the buildings (scale, size, style, construction, materials, colour and decoration), the surrounding setting, and the functions of the area.
- The last one, the Burra Charter 1988 and 1999 (revision) has no mentioned on authenticity, however throughout the Charter the emphasis is strongly towards retaining fabric ‘in its existing state’, hence authenticity is perceived to be residing in the original fabric [1]. Fabric means ‘all the physical material of the place including components, fixtures, contents, and object’.

Thus, authenticity principle is defined as revealing ‘the aesthetic and historic value’ or the ‘true nature’ of a monument based on ‘original material and authentic documents’ [8, 9]. In this case, conservation is interventions taken to reveal the ‘true nature’ of objects or historic buildings or revealing the object’s truth that were unfortunately hidden or covered up by some obscuring factors. Removing a darkened varnish from a wooden statue or cleaning dirt and decay away from a building is thought to reveal the true or authentic appearance of the original state as intended by its creator.

Over the last decades, applying and interpreting the principle of authenticity has been a complicated issue, the notion of tangible authenticity has a limitation due to the natural decay that needs alteration of original materials, hence ‘no work of art ever remains as it was created’ [10]. Many buildings have been cleaned, altered and repaired, often during the working lifetime, then it is far from completely original. As no buildings exists just for a single moment, and has evolved through its creation and use, and every point within a building’s working life could be described as its true nature. Thus, every building contains numerous truths, making it impossible to define any one point as the true nature as opposed to any other. In other words, the original contexts and aims of work of architecture cannot be fully claimed to be authentic. The historical timeline of cultural heritage extends from the creation phase to

the present time, and therefore the notion of authenticity relates to the original state and how it has aged and changed over time [11]. Hence, authenticity principle will be a relative value in which decision is depended on different interpretations whether based on the original state of a building after the first moment of completion, or after a major restoration or reconstruction in the past, or when its significance is first recognized.

## 2.2. The intangible authenticity

In Asia, the principle of authenticity as defined according to the European concept cannot be applied. In Japan and China, the method of dismantling and assembling for wooden buildings is periodically used, introducing new elements for preserving its original form yet gradually loss of its original materials such as in the case of the Golden Pavilion in Kyoto [12] and the *Dabei* Temple in Beijing [13]. In India, the concept of *jeernodharanam* or regeneration of what decays is the traditional ways of building and maintaining architectural heritage that still exists today [14, 15]. These buildings and many others have been continuously restored, reconstructed, enlarged, and rebuilt throughout its history, and thus have lost its authenticity, and even renewable for every twenty years such as the wooden sacred *Ise Jingu* shrine in Japan [12, 16, 17]. This tradition of materials replacement of perishable structure is common and acceptable because the significance of the place resides mainly in its continued spiritual meaning and symbolic value related to daily use rather than pre-eminence of the material itself [17, 18]. In short, the spiritual message behind the material form of the above architectures is the main focus of conservation that prolongs the life of the intangible heritage. Later on, intangible aspects in the principle of authenticity have been embraced as discussed in the Nara Document 1994 [19], the San Antonio Declaration 1996 [20], the Burra Charter 1999 [1], and the World Heritage Operational Guidelines 2005 [21]. Thus, the authenticity principle in conservation deals with tangible and intangible aspects.

The study, however, is only structured around a theoretical framework grounded on tangible authenticity, as the object is not a perishable structure that dismantling and assembling method is used, and the significance of the building resides mainly in the pre-eminence of the material itself. For the tangible aspect, the principle of authenticity deals with the physical element of the buildings that are the original form, materials, and substances of any buildings elements such as mass form and elevations, structure, roof and floor tiles, plaster, wooden window and door frames.

## 2.3. Conservation

Conservation can be defined as managing change in which actions taken is to prevent decay and retain or sustain cultural significance or values, whereas: managing change is about making the optimum conservation decision of proposed changes in case of form, materials, construction techniques, and usage of a building, based on careful assessment of the relative importance of each value [22]. In this sense, conservation has to be a conscious behavior of actions that apply scientific method as opposed to arbitrary intervention [8, 9]. Actions taken may include a combination of one or more of the ascending degrees of intervention: (a) prevention of deterioration or maintenance, preferred as the best intervention representing the minimum intervention principle, (b) preservation of the existing state, (c) consolidation of the fabric, (d) restoration, (e) rehabilitation, (f) reproduction, (g) reconstruction, and (h) adaptation. The total eight degrees of intervention comprises five degrees of intervention in Burra Charter article 1.5-1.9 and article 14, and the three different interventions such as consolidation, rehabilitation and reproduction that added by Feilden (2003: 8-9). The degrees of intervention also reflects the historical development of conservation theory from the orthodox point of view beginning with preservation as championed by the SPAB manifesto that opposed the restoration movement advocated by Viollet-le-Duc, and the reconstruction period as response to the First and Second World War, to the contemporary conservation theory which allows adaptation for the continuous use or existence of cultural heritage.

In short, to achieve the principle of authenticity in the conservation work, actions taken should follow the above ascending degrees of intervention and some principles, such as ‘minimum intervention’ as stated in the Society for the Preservation of Ancient Buildings (SPAB) manifesto in 1877, the principle of ‘recognizable as a new’ when introduce new materials and techniques as stated in the Athens Charter in 1931, and the principle of ‘reversible’ when in the future if all of the new elements will be detached they will reverse to the original elements of the building.

### 3. Materials, substance and form

#### 3.1. The original building form

The original building that built in 1910 has been altered through time, in between the original and the existing condition some of the elements of the building has been changed, namely the entrance that moved from the left to the center, the two left and right domer windows changed from square to round shape, and the addition of new building at the left side, see Fig. 1. Applying and interpreting the concept of authenticity to the building, some interventions were applied, such as:

- all the original elements were preserved and restored to the original state, such as one original domer window was preserved and the two domer windows were restored to the original forms (square) and materials (wooden frames), see Fig. 1 and 2.
- the entrance was restored only closed to the original form (the wooden canopy) as the staircase remained to the existing condition. The location of the entrance was remained at the center for some reasons, if it were moved to the original state, minimum intervention principle could not be held as four interventions have to be done to move and close the existing gate with a new window and to destroy the existing window and construct the new entrance at the original location, see Fig.1.
- to preserve the original form, the addition of new building such as at the left side was demolished to reveal that close to the original form, see Fig. 1.
- to reconstruct the missing elements, such as the name of De Javasche Bank, the name was revealed at the original location and reconstruct with the original form, see Fig. 2.

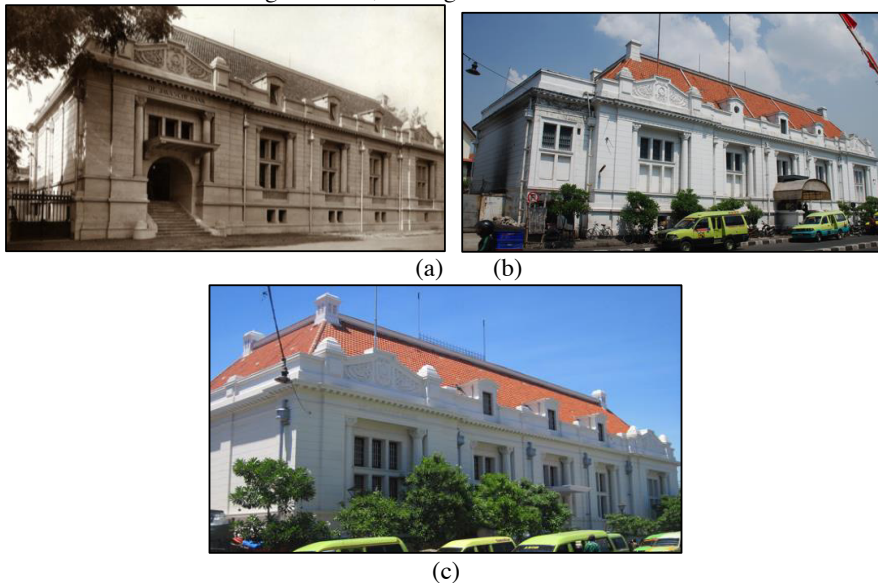


Fig. 1. (a) the original state in 1910. Source: Bank Indonesia; (b) the existing state in 2009; (c) the accomplished conservation work in 2011. †

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† Unless stated otherwise, the author produces all the figures used.



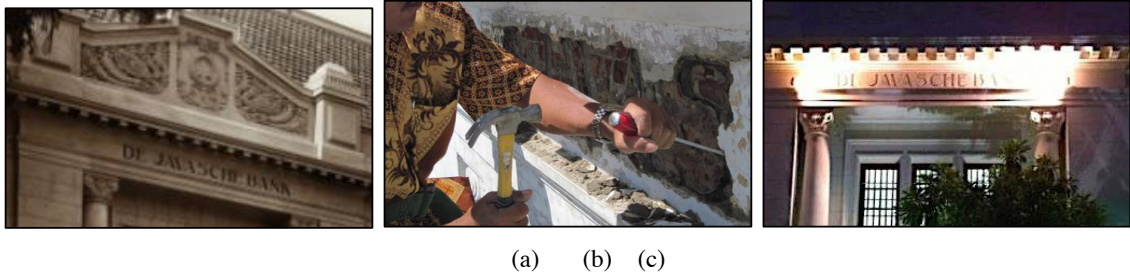


Fig. 2. (a) name of De Javasche Bank in1910. Source: Bank Indonesia; (b) to reveal the original name; (c) the name was restored in the conservation work in 2011.

3.2. The original structural reinforcement

For a historic building such as De Javasche Bank, the structure of the building has to be stable to function for an adaptive reuse and for a long term. Hence, the structure of the building has to be reinforced for its beam and slabs at the first and the second floor based on the structural analysis report. In order to keep the original form of the structure, fiber-wrap system was used to reinforce the beams and plate of the first floor, and due to limited funding and its uses only for mechanical, electrical and plumbing systems, the second floor was not reinforced, see Fig. 3.

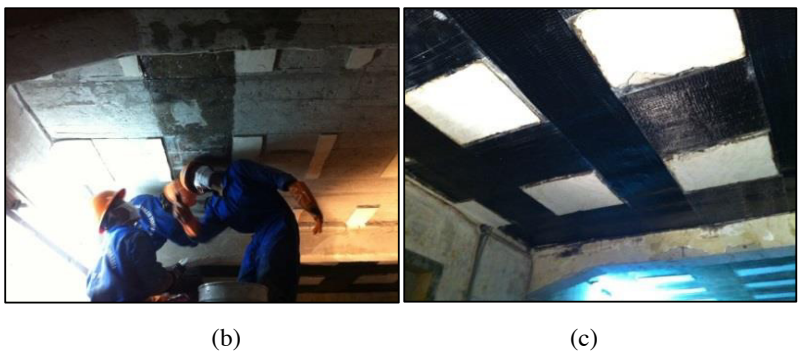
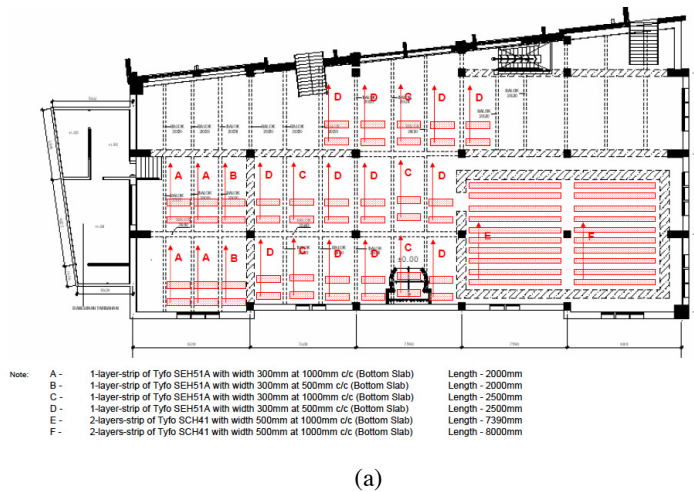


Fig. 3. (a) bottom slab strengthening; (b) beam strengthening; (c) installing fiberwrap on the slab.



### 3.3. The original roof and floor materials

For roof and floor tiles, method to test material authenticity was through a good knowledge of the typology of the objects such as the types of materials, and the relevant period/material culture. Based on the survey, most of the condition of the roof tiles was in good shape, but some of them were broken. In term of material and substance, the original roof tile is made of clay that produced by the local factory in Surabaya recognized from its product brand Karangpilang Soerabaia, see Fig. 4. Replacing the roof tiles with the original ones, the typology of objects such as the types of materials similar roof tiles were taken from the addition of new buildings that have been demolished.

For the floor tiles, a good knowledge of the typology of the objects based on the similar tiles used by the Javasche Bank in Jakarta that designed by the same architect firm, the floor tiles are definitely original tiles. For some broken floor tiles, some original samples were taken and sent to a factory in Yogyakarta, one of a few factory that still produce the similar tiles, and afterward the replica tiles were produced with similar form, colour, and substance, and marked with a small hole in order to be recognisable as a new tile to meet the principle of recognisable, see Fig. 5.

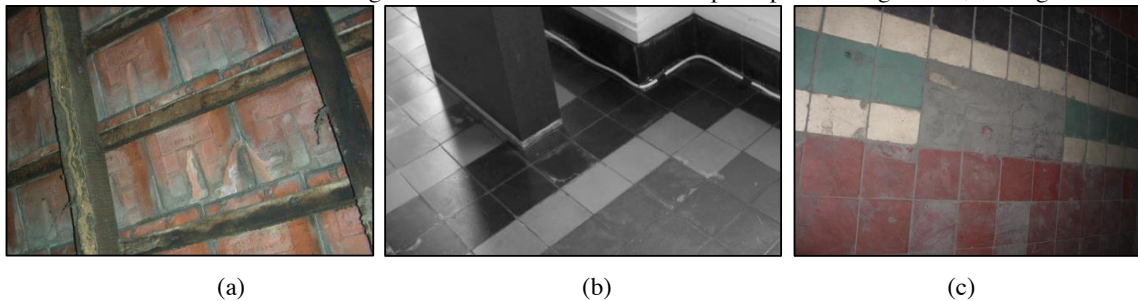


Fig. 4. (a) the original roof tiles; (b) the original floor tiles in Javasche Bank Jakarta; (c) the similar original floor tiles in Javasche Bank Surabaya.

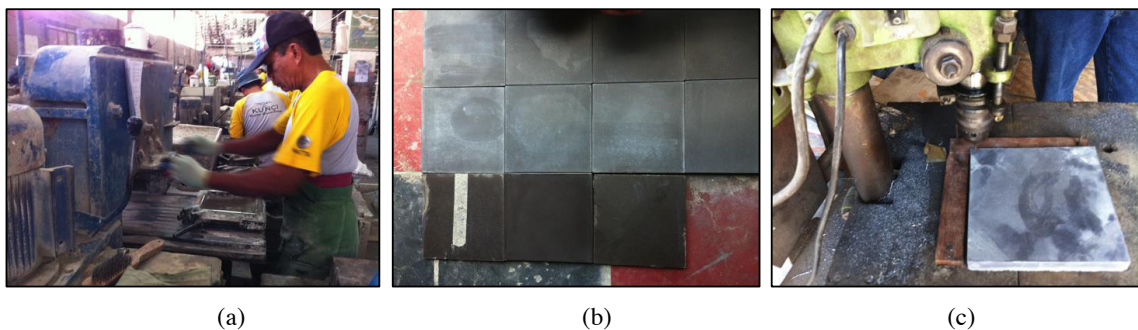


Fig. 5. (a) the reproduction of similar floor tiles; (b) comparing the original floor tiles with the replica; (c) a hole was made on the replica floor tiles

### 3.4. The original plaster, ornaments, and paints

Most of the exterior and interior plaster of the buildings was cracked that caused range from water damage to structural problems. Historically, plaster of old building is made of a lime-putty mixture or a combination of lime putty and gypsum. Repairing the plaster to the original material and substance, it is first identify the historic plaster so that it can be matched. Material samples of the plasters were taken and sent to a laboratory to be identified, namely Balai Besar Konservasi Peninggalan in Borubudur, Yogyakarta. The plaster was identified as lime based plasters, sand and red brick blended with limestone in 2:1:1 ratios, Fig. 6a. Based upon this lime plaster ratios, a sample of new plaster was created for evaluation before applying them to all surface of walls, Fig. 6b and 6c.

According to the old photos, there were ornaments on the column and wall, and based on the peeling of the existing paint layer by layer on a column, then the original ornament in term of form and color was revealed, subsequently the original ornament could be restored according to the original one, see Fig. 6. Similar to the lime based plaster, the original paint is lime based paint, and to seek for the original color the paint on the wall and columns were peeled layer by layer to the last layer as the original color of paint, see Fig. 8. In term of the substance, the breathable paint was used based on the knowledge of the typology of paint that used for historic buildings during the colonial period. The paints have micro-porous characteristics, letting walls breathe naturally, enables humidity contained in building structures to be quickly released unhindered into the environment, avoiding moisture build up on the walls, and contain no fungicides or chemicals.

**HASIL ANALISIS LABORATORIUM  
BALAI KONSERVASI PENINGGALAN BOROBUDUR**

Bulan analisis : April 2010  
 Jenis Sampel : Mortar/plester  
 Asal Sampel : Bangunan ex. Javasche Bank Surabaya  
 Jumlah Sampel : tiga (3)

**I. Pendahuluan**

Sampel yang diuji merupakan sampel plester. Parameter yang diuji untuk sampel plester meliputi analisis fisik dan kimia untuk mencari komposisi dari plester.

**II. Data Analisis**

**A. Data analisis komposisi bahan**

No.	Jenis Sampel	Kode	Komposisi			Keterangan
			Pasir (%)	Debu (%)	Kapur (%)	
1	Plester	A	71	7	22	Terdapat butiran bata merah
2	Plester	B	60	18	22	
3	plester	C	63	16	21	

**B. Data analisis kimia sampel plester**

No.	Jenis Sampel	Kode	Parameter/Hasil dalam Persen (%)							
			Ca	Mg	Fe	Al	SO <sub>2</sub>	Cl	CO <sub>2</sub>	SiO <sub>2</sub>
1	Plester	A	5,878	8,427	3,574	4,144	12,296	0,175	9,273	35,19
2	Plester	B	12,826	10,21	1,743	2,266	6,916	0,245	19,391	25,57
3	Plester	C	13,093	10,494	0,156	3,777	6,455	0,21	16,923	41,67



(a)

(b)

(c)

Fig. 6. (a) a result of the laboratory tests of the original plaster mixture ratios; (b) a sample of new plaster with the original ratios; (c) the new plasters were applied



(a)

(b)

(c)

Fig. 7. (a) the original ornament on the columns. Source: Bank Indonesia; (b) the original ornaments was revealed; (c) the original ornaments was recovered.

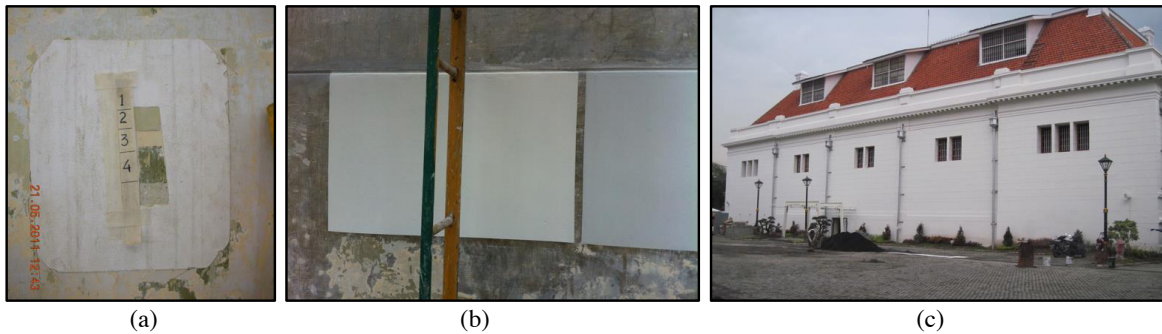


Fig. 8. (a) peeling a layer by a layer to know the original colour of the paint; (b) a sample of the new paint ; (c) the new paints were applied.

#### 4. Conclusion

This paper aims to discuss the application of the authenticity principle in the conservation of De Javasche Bank building in Surabaya in term of form, materials and substance. The notion of tangible authenticity is tested based upon scientific method to test material authenticity as stated in the Athens Charter in 1931 and the Venice Charter in 1964, and through a good knowledge of the typology of objects in the relevant period, such as form of the building and elements of the building, materials and substance of the roof and floor tiles, plasters and paints, and the ornaments.

The results show that to achieve the principle of authenticity in the conservation work, action taken should follow the ascending degrees of intervention dealing with (a) preservation of the existing state and the original form, material and substance, such as the original building form and elements of buildings namely the elevations, structure, roof and floor tiles, plaster, and paints, (b) consolidation of the fabric such as joining the original and the new wooden window frames, (c) restoration of the original building form by demolishing the new addition of buildings, (d) rehabilitation of all decay building elements, (e) reproduction of the broken materials with replica such as floor tiles, (f) reconstruction the missing section such as the original name of De Javasche Bank, and (g) adaptation, as new elements such as new lighting systems, air condition, sound system, fire protection systems that have to be added to meet the adaptive reuse of the building as multi-purpose hall. In addition, to achieve the principle of authenticity in the conservation work, action taken should follow some principles namely the principle of:

- Minimum intervention as stated in the Society for the Preservation of Ancient Buildings (SPAB) manifesto in 1877, to preserve the original form, material and substance, such as the original the original form of dormer windows. In adding these new elements, the notion of minimum intervention has to be applied as all the electrical cables and fire ducting system were only attached to the original element of the buildings.
- Recognizable as a new when introduce new materials and techniques as stated in the Athens Charter in 1931.
- Reversible when in the future if all of the new elements will be detached they will not displace the original elements or reverse to the original elements of the building.

Not all elements of the building, however, cannot be restored to the original form and materials, such as the original entrance, in this sense authenticity will be a relative value in which decision is depended on different interpretations whether based on the original state of a building after the first moment of completion, or after a major restoration or reconstruction in the past as in the case of the existing entrance of the building.

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