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Componential Analysis of Equivalents in Multimodal Translation: A Study of English and Persian Descriptions of Historical Objects in Iranian Museum Captions

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Abstract

Translating the descriptions of museum objects, as a sort of multimodal translation, is now widely used in Iran. English as an international language is the target language of this type of translation which introduces historical and ancient objects to tourists. Although there are many experts of museum affairs in Iran, the significant task of translation in museums lacks language competence on the part of the native translators. In addition, this

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type of translation requires congruity among all museums, for in many cases the names of the same objects are translated differently in different museums. This research was thus aimed at examining the accuracy of English translations of the Persian texts written for historical objects, and suggesting a unified method for this type of translation. The necessary data were initially gathered through photographing 524 historical and ancient objects from 7 main museums in Iran. Then, the information related to the names, raw materials and types of decoration of objects, in both languages (Persian and English), were selected and their meaning components were analysed. The semantic features of both Persian and English terms and their relevant synonyms were then compared and contrasted. Finally, the English terms with the highest degree of correspondence in terms of meaning were specified as the most pertinent equivalents. The findings of the study will be offered to museums as a consistent list of Persian and English equivalents of different names, kinds of materials and types of decoration of objects. This, it is hoped, will remove inconsistency in the translations of museum items at the national level.

Keywords: multimodal translation, componential analysis, semantic feature, museum, accuracy, equivalent

1. Introduction

Many of the historical relics of ancient civilization -- now found in museums worldwide -- are the result of archaeological excavations in Iran. Even now, there are a myriad of undiscovered goods and objects under the remains of historical and ancient places waiting to be found, introduced and seen. Since thousands of tourists visit Iran every year and museums are among places most frequently visited by them, the way culture and art are introduced to them is of paramount importance. While objects and goods are the manifestations of a nation's attitude to life, one of the best instances of a nation's culture and art are those of the objects and equipments

its people made and used every day.

Iran as an ancient country with a long history has always been the habitat of some civilized and creative people. Iranians, since ancient times, have made their required tools by using the best raw materials and manipulating the greatest decorative arts in their time. They have also designed, made, decorated and named their objects according to their own customs and rites and their specific culture. Thus, there are many objects which hardly have an exact correspondence in other languages, especially European languages. English as an international language and a means of introducing the majority of historical and ancient places and museum objects to the world plays the same role as the English translation of Persian texts in Iran. So, the English text of captions of historical places and objects is of paramount importance in forming tourists' conceptions of our culture and art.

When an object is excavated, after the recognition of its antiquity, material, type of decoration and other features, it should be put in a museum and introduced by its features to the public. As the transference of information in museums is done across different semiotic modes and as there is no one source of information in realizing the meaning of a message, museums are considered multimodal areas in which not only the linguistic aspects, but also many other modes such as signs, messages and images transfer and characterize the meaning (Insulander 2007). Since translation is the means of all this activity, the term, 'multimodal translation' is definitely appropriate in this area of investigation.

Although some of English equivalents of the Persian names and descriptions in Iran's museum captions are accurate and to the point, there are a good number of inaccurate ones as well, which necessitate revision. So, the present study aims at finding whether the chosen equivalents are accurate and, if not, what words are the most accurate equivalents and why. The rationale behind the study is to capture the true meaning of the objects and to enable the world

to truly recognize the implicit value in certain ancient objects and practices.

Since different museums in Iran translate the names and description of their objects on their own (without any general agreement on the English equivalents of common objects in other museums) and sometimes by some inexpert translators, the findings of this study will be put at the disposal of all the museums as an accurate list of English equivalents for different names, kinds of materials and types of decoration of objects.

2. Background of the Study

Kress & van Leeuwen (2001: 20) describe multimodality as 'the use of several semiotic modes in the design of a semiotic product or event, together with the particular way in which these modes are combined'. Multimodal texts are 'texts whose meanings are realized through more than one semiotic code' (Kress & van Leeuwen 1996: 183). Palumbo (2009: 77) defines multimodality as a term which refers to 'the transmission of meaning through the composite deployment of different semiotic resources, or 'modes''. He explains that almost no text is absolutely mono-modal, because some extra-linguistic visual elements such as drawings, photographs and graphs are present in most texts. Palumbo notes that meaning in multimodal texts is always the output of the interaction between the verbal and the visual.

Kress and van Leeuwen point out that since multimodality is in relation to the social semiotic theory, the central concepts of this perspective also derive from semiotics. It is worth mentioning that semiotics is based on the assumption that language and the cultural world can be read as signs. In semiotics, sign is defined as 'a unit in which a form has been combined with a meaning or, put differently, a form has been chosen to be the carrier of meaning'. In a social

semiotic approach, a sign is thus never arbitrary, but motivated by the interest of the sign-maker (Kress & van Leeuwen 1996/2006: 4-8).

Insulander (2007) in her article explores the museum as a multimodal and social semiotic approach. She mentions that this approach implies a view of communication as a social process of sign-making, where the meaning of a message is realized across several resources or modes of communication (127). She describes that in museums it is not just the linguistic aspects of the exhibition that transfers meaning (128). In a museum, as a multimodal context, many signs, messages, images and other modes characterize an exhibition.

Snell-Hornby (2006: 85) describes four different classes of text that all depend on elements other than the verbal. The first is 'multimedial text' which is conveyed by technical and/or electronic media involving both sight and sound. The second is 'multimodal text' which involves different modes of verbal and nonverbal expressions. The third is 'multisemiotic text' which uses different graphic sign systems, verbal and non verbal. The fourth is 'audiomedial text' which is written to be spoken and received by recipients through human voice.

Remael (2001: 17) states that there is not just one source and one target text in multimodal translation; instead, various source texts impose themselves or are consciously imposed by the sign maker on the translation process. Snell-Hornby (2006: 53) talks about three characteristics of multimodal translation. First, the source text's function typically remains unchanged in the process of translation. Second, the target text is not immediately recognizable as a translation and third, the source text functions as a raw material to serve a particular purpose.

Newmark (1988:114) points out that the basic process of translation is the comparison between a source language (SL) word and a target language (TL) word with similar meanings but with no obvious one-to-one equivalents, by demonstrating their common and

differing sense components. Besides, in order to choose the most accurate equivalent, a translator needs to think very carefully through the contrastive components in the vocabulary of source and receptor languages (Larson 1984: 86). But, it must be taken into account that a total match between the lexicons of two languages is impossible. Since languages group semantic components together differently, there is no literal and one-to-one equivalent for lexical items. In the systems of two languages, there are some concepts which occur in one language but are unknown in the second language. Even when the same concepts do occur, the way in which they are expressed in the two languages is often very different. So, a translator is to make many adjustments to choose the most accurate equivalent (153-154).

According to Larson (1984: 95), languages decide on their vocabulary depending on the culture, geographical location, and the worldview of their people. There are many words across different languages which share the same central and contrastive components of meaning and yet not be equivalent. Larson (1984: 89) notes that "even though the same THINGS, EVENTS, and ATTRIBUTES may exist in the referential world, the systems of reference do not match one-to-one across languages". Newmark (1988: 115) states that if translation is considered as an ordered rearrangement of sense components that are common to two language communities, then componential analysis is the technique which identifies these components.

As Larson (1984: 96) notes, a translator is not only dealing with concepts in a system of one language, but also concepts in systems of two languages. Since each language describes a particular area of reality or experience differently, a translator wants to be as accurate as possible. So, s/he must examine each word carefully in the systems of two languages to find the word or phrase which most accurately equates with the lexical item used in the source language text. Accuracy in translation is defined as "the extent to which a TT

reflects the ST in terms of content". Accuracy is actually the correctness of a translation which is achieved by a 'good' or 'right' translation (Palumbo 2009: 6). It is to be noted that according to Newmark (1988) "the only purpose of componential analysis in translation is to achieve the greatest possible accuracy" (17).

Componential analysis is described as the analysis of the basic components of meaning of a given word. It is a kind of analysis that deals with the lexical meaning which is based on sense and sense components (Palumbo 2009: 22). In componential analysis, CA for short (Saeed 2003: 260), the meaning of each word is dependent upon the components it possesses and the way they are organized. The essential assumption of CA is the fact that the meaning of a word is a combination of its elements of meaning which are binary and marked as present or absent (+ or -) (Bell 1991: 87-88). James (1980: 93-94) points out that + is to mark the lexeme by having the relevant component and – is to mark the lack of the relevant component. Besides, 0 is used to signify that the lexeme does not apply distinctively one way or other.

In componential analysis, it is essential to have words in sets which share and differ in some features of meaning (Larson 1984: 80). The shared features are called central or generic components that unite any semantic set and are shared by all words. The nuanced features are called contrastive components which distinguish a word from all other words of the set (84). The relationship between the central component and the contrastive component is always one of delimitation; the contrastive components narrow down the meaning of the central component (87).

As the purpose of the present study is to find the most accurate English equivalents of the Persian words and phrases of the descriptions of historical objects in museums, it is done within the framework of componential analysis. Thus, the most accurate English equivalents are those with the highest correspondence in central and the lowest correspondence in contrastive components as

compared with their counterpart Persian texts.

3. Method

This study aimed to analyse the English equivalents of Persian names, materials and decorations of historical objects used in captions in Iranian museums. The method of data analysis was componential analysis (CA) in which the meaning of a word is separated into smaller units called semantic features. In the application of CA in translation, semantic features of SL words were compared and contrasted with their TL equivalents. As a consequence, the most accurate and correct equivalents, in which the highest correspondence between semantic features of SL and TL words exist, were determined. The results of the matches and mismatches between semantic features of SL and TL words were then illustrated by +, - and 0 signs in a set of tables. Then, the number of signs for each word was indicated in another set of tables. At last, based on all the findings, the most accurate equivalents were identified and suggested.

The analysis of the data in this study started from the cross checking of all Persian and English words (used in captions, related to the names, materials and decorations of historical objects) in monolingual (Persian to Persian or English to English) dictionaries and encyclopaedias. According to Newmark (1988: 115-117), as monolingual dictionaries are trustworthy evidences of any language, CA attempts to go far beyond bilingual dictionaries and put its basis on monolingual dictionaries. The employed monolingual Persian dictionaries were 'Loghatnameh Dehkhoda' (2010), 'Moin Dictionary' (2009), and 'Amid Dictionary' (1981). The monolingual English dictionaries were 'Oxford Talking Dictionary' (1998), 'Encarta Dictionary' (2006), 'Merriam-Webster Online Dictionary' (2010), 'Cambridge Advanced Learner's Dictionary- 2nd edition' (2010) and

'Longman Dictionary of Contemporary English' (2000).

Finally, the acquired meanings of each word (Persian and English) were unified and then separated into smaller components called 'semantic features'. Semantic features of the Persian words and their suggested English equivalents were then compared and contrasted with each other. The results of the matches and mismatches between semantic features of Persian and English words were illustrated by +, - and 0 signs in a set of tables. It is to be noted that the researchers considered some conditions for each semantic feature to be marked +, - or 0. The conditions are elaborated below:

Conditions for taking the sign + are twofold. First, it is clearly stated in the definitions of a lexeme, in different dictionaries, that it has a specific feature. And second, it is logically comprehensible from the definitions of a lexeme, in different dictionaries, that it has a specific feature. For instance, in the definitions of the word 'pitcher', it is mentioned that it has a spout or lip. So, it can be deduced that 'pitcher' is used for pouring liquids.

Conditions for taking the sign – are also twofold. First, it is clearly stated in the definitions of a lexeme, in different dictionaries, that it has not a specific feature. And second, it is logically comprehensible from the definitions of a lexeme, in different dictionaries, that it has not a specific feature. For instance, in the analysis of the word 'شیشه' (/shisheh/) in Persian and its suggested English equivalents in museums, the ingredients of 'شیشه' (/shisheh/) , in its definitions, are introduced as 'a combination of sand with other oxides such as lime or soda'. While, the ingredients of 'ceramic', one of the suggested equivalents, are explained as 'a mixture of clay and chemicals'. So, it is logically comprehensible that 'ceramic' lacks the specific raw materials of 'شیشه' (/shisheh/) in Persian.

Conditions for taking the sign 0 are threefold. First, it is clearly stated in the definitions of a lexeme, in different dictionaries, that it may or may not have a specific feature. For instance, in the definitions of 'bottle', it is clearly mentioned that it can be with or

without handle. This kind of 0 sign is shown as 0 (A) in the tables. Second, there is a feature which is not mentioned in the definitions of a lexeme but, it does not necessarily mean that the lexeme lacks it. For instance, the word 'تنگ' (/tong/) in Persian is defined as a 'cylindrical vessel'. However, this feature is not mentioned in the definitions of bottle, one of the suggested English equivalents of 'تنگ' (/tong/). Therefore, it cannot be deduced that 'bottle' lacks the 'cylindrical' feature of 'تنگ' (/tong/) in Persian. This kind of 0 sign is shown as 0 (B) in the tables. And third, there is a semantic feature of a Persian lexeme which is partially carried on to its suggested English equivalent. In other words, when a specific feature of an English lexeme is not completely the same as that feature in its Persian equivalent lexeme, it is marked by 0 (C) in the table. For instance, the materials from which bottle is usually made are introduced as 'leather, plastic and glass' but, 'تنگ' (/tong/) in Persian is usually made of earthenware or glass. So, 'glass' is common in the definitions of 'تنگ' (/tong/) in Persian and bottle in English but, materials such as leather and plastic for 'تنگ' (/tong/) in Persian and earthenware for bottle in English are not mentioned in their definitions. Therefore, the feature of material for bottle in English is considered incomplete and marked by 0 (C) sign.

4. Data Analysis, Results and Discussion

In the present section, a number of equivalents for the name of objects, materials and decorations are selected and analysed through componential analysis method, and the results are shown in a set of tables. In this section, any description presented for Persian or English words is the result of the unification of different definitions of the word gained from different dictionaries. So, the references of the descriptions of words (Persian or English) are not stated. Nevertheless, all of the words (Persian and English) and their

definitions, suggested by the examined dictionaries, are listed at the end of the paper, in the appendix section.

4.1. ‘تنگ’ (/tong/)

The componential analysis of the Persian word ‘تنگ’ (/tong/) and its suggested English equivalents is illustrated in Table 1. below:

Table 1. Componential Analysis of ‘تنگ’ (/tong/)

‘تنگ’ (/tong/)	Vase Shaped	Cylindrical	Handled	With a Wide Base	With a Narrow Neck	Short Necked	Earthenware or Glass	With a Spout or Lip
Carafe	0 (B)	+	+	+	+	0 (B)	0 (C)	0 (B)
Pitcher	+	+	+	+	+	0 (B)	0 (C)	+
Ewer	+	+	0 (B)	+	+	0 (B)	0 (B)	+
Jug	+	+	+	+	+	0 (B)	+	+
Bottle	0 (B)	0 (B)	0 (A)	0 (B)	+	0 (B)	0 (C)	0 (B)

The features of ‘vase shaped’, ‘short necked’ and ‘with a spout or lip’ are not mentioned in the definitions of the word ‘carafe’. But, it does not mean that ‘carafe’ lacks these features. So, all are marked by 0 (B) in Table 1. Besides, in the definitions of the word ‘carafe’ in different dictionaries, the material from which ‘carafe’ is usually made is introduced as ‘glass’. As ‘تنگ’ (/tong/) is made of ‘earthenware or ‘glass’’, ‘carafe’ has an incomplete feature, in comparison to that of ‘تنگ’ (/tong/) in Persian, in the case of material. Therefore, it is marked by 0 (C) in Table 1. The other features of ‘cylindrical’, ‘handled’, ‘with a wide base’ and ‘with a narrow neck’ are present in the definitions of the word ‘carafe’ and so marked by + in Table 1.

In the definitions of the word ‘pitcher’, the feature ‘short necked’ is not mentioned. But, it does not mean that ‘pitcher’ lacks this

feature. So, it is marked by 0 (B) in Table 1. In the case of material, as the word 'pitcher' is introduced, in dictionaries, to be made of earthenware and 'تنگ' (/tong/) as made of 'earthenware or glass', 'pitcher' has also an incomplete feature, in comparison to that of 'تنگ' (/tong/) in Persian. Therefore, it is marked by 0 (C) in Table 1. The other features of 'vase shaped', 'cylindrical', 'handled', 'with a wide base', 'with a narrow neck' and 'with a spout or lip' are present in the definitions of the word 'pitcher' and so marked by + in Table 1.

In the case of the word 'ewer', the features of 'handled', 'short necked' and 'earthenware or glass' are not mentioned in its definitions in different dictionaries. But, it does not mean that 'ewer' lacks these features. So, all are marked by 0 (B) in Table 1. As the other features of 'vase shaped', 'cylindrical', 'with a wide base', 'with a narrow neck' and 'with a spout or lip' are present in the definitions of the word 'ewer', they are all marked by + in Table 1. For the word 'jug', the feature of 'short necked' is not mentioned in the definitions of this object in different dictionaries. So, it is marked by 0 (B) in Table 1. Since all other features of 'تنگ' (/tong/) in Persian are distinct features of 'jug' as well, they are all marked by + in Table 1.

In the definitions of the word 'bottle' in different dictionaries, there is no indication of 'vase shaped', 'cylindrical', 'with a wide base', 'short necked' and 'with a spout or lip' features. Since it does not mean that 'bottle' lacks any of them, they are all marked by 0 (B) in Table 1. In some dictionaries the word 'bottle' is introduced as 'with or without handle'. So, the feature of 'handled' for 'bottle' is marked by 0 (A) in Table 1. In addition, the materials from which 'bottle' is usually made are pointed out as 'leather, glass or plastic'. Therefore, as 'تنگ' (/tong/) is made of 'earthenware or glass', the material feature of 'bottle' is considered incomplete and marked by 0 (C).

4.2. ‘شیشه’ (/shisheh/)

The componential analysis of the Persian word ‘شیشه’ (/shisheh/) and its suggested English equivalents is illustrated in Table 2 below:

Table 2. Componential Analysis of ‘شیشه’ (/shisheh/)

‘شیشه’ (/shisheh/)	Made by Melting Sand in Combination with Other Oxides Such as Lime or Soda	Transparent	Lustrous	Hard and Brittle
Frit	_	0 (B)	0 (B)	_
Glass	+	+	+	+
Ceramic	_	_	_	+

The word ‘frit’ is defined in different dictionaries as ‘the basic melted materials from which glass, pottery glazes or enamels are made at the beginning of the manufacturing process’. It is also described as ‘a calcined mixture of silica and fluxes’. So, its ingredients are completely different from those of ‘شیشه’ (/shisheh/) in Persian. Therefore, the first feature is marked by – for ‘frit’. As ‘frit’ is a melted liquid, it is obviously not ‘hard and brittle’. So, this feature is marked by – in Table 2. The other two features of ‘transparent’ and ‘lustrous’ are not mentioned in the definitions of the word ‘frit’ and they are marked by 0 (B) in Table 2.

The word ‘glass’ has all of the semantic features of ‘شیشه’ (/shisheh/) in Persian. So, all of the features are marked by + for the word ‘glass’ in Table 2. The ingredients of ‘ceramic’ are defined as ‘a mixture of clay and chemicals’ which are different from those of ‘شیشه’ (/shisheh/). So, the first feature is marked by – for the word ‘ceramic’. As ‘ceramic’ is made of clay, as the basic material, it is

obviously not transparent or lustrous. Therefore, the other two features are also marked by – in Table 2. But, it is clearly stated in the definitions of 'ceramic' that it is 'hard and brittle'. So, the last feature is marked by + in Table 2.

4.3. 'کاسه' (/kaaseh/)

The componential analysis of the Persian word 'کاسه' (/kaaseh/) and its suggested English equivalents is illustrated in Table 3 below:

Table 3. Componential Analysis of 'کاسه' (/kaaseh/)

'کاسه' (/kaaseh/)	Hemispherical and Round in Shape	To Hold/Carry Liquids or Food	To Eat Liquids or Food from	Made of Metal, Wood, Ceramic or China
Bowl	+	+	0 (B)	0 (B)
Vessel	0 (B)	0 (C)	0 (C)	0 (C)
Jar	0 (C)	0 (C)	0 (B)	0 (C)

A 'bowl' is an object 'hemispherical and round in shape' which is used 'to carry or hold liquids or food', the same as 'کاسه' (/kaaseh/) in Persian. So, the first two features are marked by + in Table 3. But, as 'کاسه' (/kaaseh/) in Persian is 'made of wood, ceramic or china' and it is used 'to eat liquids or food from', and these two feature are not mentioned in the definitions of the word 'bowl' in different dictionaries, they are marked by 0 (B) in Table 3. In different dictionaries, the word 'vessel' is defined as 'a hollow container' and there is no indication of rather it is round or hemispherical. In addition, being hollow does not necessarily mean being hemispherical. So, the first feature is marked by 0 (B) in Table 3. Besides, the word 'vessel' is defined as 'a container for liquids' and there is no point to 'food' in its definitions. Therefore,

the second and third features are not completely carried on in semantic features of the word 'vessel' and are marked by 0 (C) in Table 3. In the case of the material, as 'vessel' is defined to be made of gold or silver, it is also incomplete in this feature and marked by 0 (C) in Table 3.

As the word 'jar' is defined as a cylindrical vessel it is not hemispherical but it is round in shape. So, the first feature is not completely carried on in the semantic features of the word 'jar' and is marked by 0 (C) in Table 3. The word 'jar' is described as 'a container for holding water, oil, wine, etc.' and there is no indication of food in its definitions. Therefore, the second feature is incomplete in 'jar' and marked by 0 (C) in Table 3. In addition, it is not introduced as a vessel from which something is eaten. So, the third feature is marked by 0 (B) in Table 3. The materials from which 'jar' is usually made is described as 'glass, earthenware and stoneware' which is not exactly the same as those of 'کاسه' (/kaaseh/) in Persian. So, it is also marked by 0 (C) in Table 3.

4.4. 'قلمدان' (/ghalamdaan/)

The componential analysis of the Persian word 'قلمدان' (/ghalamdaan/) and its suggested English equivalents is illustrated in the Table 4 below:

Table 4. The Componential Analysis of 'قلمدان' (/ghalamdaan/)

'قلمدان' (/ghalamdaan/)	A Small and Long Box	Of Wood or Paper	Used for Holding Writing Equipment
Pen box	+	+	+
Pen case	_	_	_

The phrase 'pen box' which is suggested by a museum is not a normal collocation in English, but it is used by Fehervari (1976, p.

plate 25) in *'Islamic metalwork of the English to the fifteenth century in the Keir collection'* in the introduction of an object exactly the same as what is called 'قلمدان' (/ghalamdaan/) in Persian. So, all of the features of 'قلمدان' (/ghalamdaan/) are marked by + in Table 4. The phrase 'pen case' is not found anywhere in dictionaries or museum encyclopedias as an accepted combination in English or something referring to what is called 'قلمدان' (/ghalamdaan/) in Persian. So, all of the features of 'قلمدان' (/ghalamdaan/) are marked by – in Table 4.

4.5. 'لعاب' (/laab/)

The componential analysis of the Persian word 'لعاب' (/laab/) and its suggested English equivalents is illustrated in Table 5 below:

Table 5. Componential Analysis of 'لعاب' (/laab/)

'لعاب' (/laab/)	A Mixture of Oxides Such as Silica and Alumina	Applied to the Surface of Ceramic Wares, Tiles, etc.	To Form a Lustrous and Ornamental Coating	Fired in a Kiln to Fix the Coloration
Glaze	+	+	+	+
Luster	0 (B)	+	0 (C)	0 (C)

The word 'glaze' has all of the semantic features of 'لعاب' (/laab/) in Persian. In addition, Mirhadi (2006: 330) and Masood (1997: 216) introduce the word 'glaze' as 'لعاب' (/laab/) in Persian. So, it is marked by + in all cases. 'Luster' is actually a special kind of glaze which is an iridescent metallic decorative surface applied to an already-fired glaze. It is said that the precious metals such as gold, silver and platinum are used in 'luster'. It is worth mentioning that Mirhadi (2006: 441) suggests the word 'جلا' (/jala/) as the Persian translation of the word 'luster' in English. As there is no mentioning

of ‘mixture of oxides such as silica and alumina’ in definitions of the word ‘luster’, the first feature is marked by 0 (B) in Table 5. The word ‘luster’ shares the second feature and gets a + sign in this case. As the third feature of the word ‘glaze’ lacks the ‘metallic appearance’ of ‘luster’, this feature is incomplete for ‘luster’ and so marked by 0 (C) in Table 5. As mentioned before, ‘luster’ is applied to an already fired glaze and since this is not mentioned in the forth semantic feature, it is marked by 0 (C) in Table 5.

4. 6. ‘طلاکوب’ (/talakub/)

The componential analysis of the Persian word ‘طلاکوب’ (/talaakoob/) and its suggested English equivalents is illustrated in Table 6 below:

Table 6. Componential Analysis of ‘طلاکوب’ (/talaakoob/)

‘طلاکوب’ (/talaakoob/)	A Thing that is Decorated by Gold	The Gold is Filled into Some Cavities on the Surface
Gilded	+	_
inlaid in gold	+	+

The word ‘gilded’ and the phrase ‘inlaid in silver’ are suggested as English equivalents respectively for ‘طلاکوب’ (/talaakoob/) and ‘نقره کوب’ (/noghrekoob/) in Persian. As the processes of ‘نقره کوبی’ (/noghrekoobi/) and ‘طلاکوبی’ (/talaakoobi/) are the same, the English equivalents of these two Persian words should be the same with a nuance in gold or silver. Gilding refers to the process of applying a thin layer of gold leaf wholly or partially to the surface of something. Moreover, in the book *British Museum Guide* (1976: 117-118), the vessels on which some designs are colored by gold are called ‘gilt’. Mirhadi (2006: 326) and Masood (1997: 214) define the process of ‘gilding’ as applying a thin layer of gold leaf wholly

or partially to the surface of something. Nevertheless, 'طلاکوبی' (/talaakoobi/) in Persian is filling of some spaces on the surface of an object by small pieces of gold. So, the first feature of 'طلاکوب' (/talaakoob/) is carried on in gild's semantic features and it is marked by + in Table 6. But, as the second feature is not applied in gilding in English, it is marked by – in the same Table.

Inlaying in English refers to the process of decorating something with a substance of a different kind by inserting it into some cavities on the surface of the object in a decorative design. The point is that the substance of decoration is different from the material of the main object. So, inlaying is congruent with the process of 'طلاکوبی' (/talaakoobi/) and 'نقره کوبی' (/noghrekoobi/) in Persian in the case of the both features. Therefore, they are marked by + in Table 6. It is worth mentioning that 'inlaid in gold', which is suggested by a museum, refers to an inlaying process which is done on a golden object, while 'طلاکوبی ' (/talaakoobi/) is the decoration of an object - of a different substance- by small pieces of gold. In some books such as *British Museum Guide* (1976: 133), *Islamic Metalwork of the English to the Fifteenth Century* in the *Keir Collection* (1976: 57) and *Islamic Art* (1972: 214), the phrase 'inlaid with gold' is used for describing objects with such a decoration we call 'طلاکوب' (/talaakoob/) in Persian. The phrase 'inlaid with gold' refers to the decoration of an object, made of a material other than gold, by pieces of gold. So, the phrase 'inlaid with gold' is preferred to the 'inlaid in gold'.

4.7. 'کوزه' (/koozeh/)

The componential analysis of the Persian word 'کوزه' (/koozeh/) and its suggested English equivalents is illustrated in Table 7 below:

Table 7. Componential Analysis of 'کوزه' (/koozeh/)

'کوزه' (/koozeh/)	A Vessel with a Narrow and Long Neck	To Hold Liquids	With or without Handle	Earthenware
Jug	0 (B)	+	+	0 (C)
Bottle	+	+	+	0 (C)
Jar	0 (B)	+	+	0 (C)
Pot	_	0 (C)	0 (B)	0 (C)

In the definitions of the word 'jug', there is no indication of the 'neck' of the vessel. So, the first feature is marked by 0 (B) in Table 7. But, as it is clearly stated that 'jug' is to hold liquids, the second feature is marked by + in Table 7. Since the word 'jug' is defined as a handled vessel, the third feature is carried on it and so marked by + in Table 7. In the definitions of the word 'jug', the materials from which 'jug' is made are introduced as 'earthenware or glass'. Since 'کوزه' (/koozeh/) in Persian is defined as being made of earthenware, the last feature is marked by 0 (C) in Table 7. In the case of the word 'bottle', it is exactly the same as 'کوزه' (/koozeh/) in Persian in the case of the first three features. So, they are all marked by + in Table 7. In different dictionaries, the materials from which 'bottle' is usually made are introduced as leather, glass or plastic. However, since Fournier (2000) introduces an object made of earthenware as 'bottle', the last feature is a part of bottle's materials and marked by 0 (C) in Table 7. In addition, some books such as A*ncient Glass in the Freer Gallery of Arts* (1962: 13-24) and *Islamic Pottery: a comprehensive study based on the Barlow Collection* (1973: 168) introduce a vessel (a bottle) of the same shape as 'کوزه' (/koozeh/) in Persian.

In the definitions of the word 'jar', there is no indication of the 'neck' of the vessel. So, the first feature is marked by 0 (B) in Table 7. But, as it is clearly stated that 'jar' is to hold liquids, the second

feature is marked by + in Table 7. Since the word 'jar' is defined as a vessel with no handle or with two handles, the third feature is completely carried on it and so marked by + in Table 7. In the definitions of 'jar', the materials from which 'jar' is made are introduced as earthenware, stoneware or glass. Since 'کوزه' (/koozeh/) in Persian is defined as being made from earthenware, the last feature is marked by 0 (C) in Table 7. As 'pot' is a vessel with an open top, it has no neck. So, the first feature is marked by – in Table 7. In addition, the word 'pot' is defined as a container for both liquid and solid substances. Therefore, the second feature is marked by 0 (C) in Table 7. Since there is no indication of handle in the definitions of 'pot', the third feature is marked by 0 (B) in Table 7. In the definitions of 'pot', the materials from which 'pot' is made are introduced as earthenware, metal or glass. So, the last feature is marked by 0 (C) in Table 7.

4.8. 'خاتم کاری' (/khaatamkaari/)

The componential analysis of the Persian phrase 'خاتم کاری' (/khaatamkaari/) and its suggested English equivalents is illustrated in Table 8 below:

Table 8. Componential Analysis of 'خاتم کاری' (/khaatamkaari/)

'خاتم کاری' (/khaatamkaari/)	An Ornamentation Process	Decorating Objects by Small Pieces of Wood, Metal, Ivory or Bone	In a Design of Geometrical Patterns	The Small Pieces with Geometrical Patterns are First Matched Together and then to the Surface of an Object
Cachet	+	_	_	_
Inlaying	+	+	0 (B)	+

The word ‘cachet’ in English refers to a design or inscription on an envelope to commemorate a postal or philatelic event. As there is no relation between ‘خاتم کاری’ (/khaatamkaari/) in Persian and ‘cachet’ in English, all of the semantic features, except the first one, are marked by – in Table 8. The word ‘inlaying’ in English refers to an ornamentation process very similar to that of ‘خاتم کاری’ (/khaatamkaari/) in Persian. As there is no indication of ‘geometrical patterns’ in the definitions of ‘inlaying’ in English, the third feature is marked by 0 (B) in Table 8. Since the all other semantic features of ‘خاتم کاری’ (/khaatamkaari/) in Persian are in correspondence with those of ‘inlaying’ in English, they are all marked by + in Table 8. In addition, Ettinghausen (1972: 305) in *Islamic Art* uses the phrase ‘inlaid chair’ for a chair which is called ‘خاتم کاری شده’ (/khaatamkaari shode/) in Persian.

4.9. ‘پیه سوز’ (/pihsooz/)

The componential analysis of the Persian word ‘پیه سوز’ (/pihsooz/) and its suggested English equivalents is illustrated in Table 9 below:

Table 9. Componential Analysis of ‘پیه سوز’ (/pihsooz/)

‘پیه سوز’ (/pihsooz/)	A Lamp	Of Metal or Earthenware	In which Oil is Burnt	The Oil is Got from Animals or Plants	Usually with a Wick to Provide Illumination
Lamp	+	0 (B)	0 (C)	0 (B)	+
Oil lamp	+	0 (B)	+	+	+
Tallow lamp	+	0 (B)	+	0 (C)	+
Tallow burner	0 (B)	0 (B)	+	0 (C)	0 (B)

The word ‘lamp’ which is suggested by a museum as an equivalent for ‘پیه سوز’ (/pihsooz/) in Persian is congruent in the first and last features with those of the word ‘پیه سوز’ (/pihsooz/) in Persian. So, these features are marked by + in Table 9. As there is no indication of the material from which ‘lamp’ is made, in the definitions of ‘lamp’, the second feature is marked by 0 (B) in Table 9. As the word ‘lamp’ is defined as a vessel in which oil, gas or wax is burnt and in the definitions of the word ‘پیه سوز’ (/pihsooz/) in Persian there is no indication of gas being burnt in it, the third feature is considered in complete and so marked by 0 (C) in Table 9. Since the source of the fuel which is burnt in ‘lamp’ is not mentioned in the definitions of it, the forth feature is marked by 0 (B) in the table.

As ‘oil lamp’ is obviously a kind of lamp, the first feature is marked by + for it in Table 9. As there is no indication of the material from which ‘lamp’ and consequently ‘oil lamp’ are made, the second feature is marked by 0 (B) in Table 9. Since a kind of oil is, obviously, used in ‘oil lamp’, the third feature is marked by + in Table 9. As the word ‘oil’ in different dictionaries is defined as a combustible substance obtained from plant seeds or animal fats, the forth feature is marked by + in Table 9. In addition, a lamp has a wick to provide illumination. So, the last feature is marked by + in Table 9. It is worth mentioning that in the book *Islamic Metalwork of the English to the Fifteenth Century in the Keir Collection* (Fehervari: 1976, plate 36), the phrase ‘oil lamp’ is used for an object in the same shape and function of ‘پیه سوز’ (/pihsooz/) in Persian.

As ‘tallow lamp’ is a kind of lamp, the first feature is marked by + for it in Table 9. Since there is no indication of the material from which ‘lamp’ and consequently ‘tallow lamp’ is made, the second feature is marked by 0 (B) in Table 9. As ‘tallow’ is a kind of ‘oil’ the third feature is marked by + in Table 9, but as it is just taken from animal fat, the forth feature is considered incomplete and

marked by 0 (C) in Table 9. Moreover, since a lamp hast a wick to provide illumination, the last feature is marked by + in Table 9.

In the case of 'tallow burner', as the word 'burner' is not described as a 'lamp' but 'a part of a fuel-burning and heating device' and there is no indication of the material from which it is made, the first two features are marked by 0 (B) in Table 9. As 'tallow' is a kind of 'oil' the third feature is marked by + in Table 9., but as it is just taken from animal fat, the forth feature is considered incomplete and marked by 0 (C) in Table 9. In definitions of the word 'burner' there is no indication of 'wick'. So, the last feature is marked by 0 (B) in Table 9.

4.10. 'قندیل' (/ghandil/)

The componential analysis of the Persian word 'قندیل' (/ghandil/) and its suggested English equivalents is illustrated in the Table 10 below:

Table 10. Componential Analysis of 'قندیل' (/ghandil/)

'قندیل' (/ghandil/)	A Container	In which There is a Lamp	Usually Hung from the Roof
Lantern	+	+	0 (B)
Mosque Lamp	_	_	_

The word 'lantern' is the same as 'قندیل' (/ghandil/) in Persian in the first two semantic features. So, the first semantic features are marked by + in the table. In the definitions of the word 'lantern' in different dictionaries, there is no indication of 'hanging from the roof' as a main feature, but it is mentioned that lantern is portable. So, the last feature is marked by 0 (B) in Table 10. Moreover, Fehervari (1976: plate 33) introduces a picture of what is called 'قندیل' (/ghandil/) in Persian as a 'lantern' in English. The phrase

‘mosque lamp’ is not a normal and accepted collocation in English and not found in any dictionary. So, all of the semantic features are marked by – for it in Table 10.

5. Conclusion

Below are a set of tables that show the extent of correspondence and disparity between semantic features of Persian words and those of their suggested English equivalents. In addition, each table contains the names of the museums in which the object and English translation of its caption are shown. Following each table, the most accurate equivalent, i.e. the one with the highest number of the matching sign (+), is presented. Also, based on the obtained results, the calculated percentage of the accurate English equivalents of each case is presented at the end of each section. In order to arrive at a general conclusion of the present study, the average percentages of the accurate translations in museums, i.e. the extent of translation accuracy of museum objects, are provided in this section, and the museums with the highest number of accurate English equivalents are introduced.

5.1. ‘تنگ’ (/tong/)

Table 11 below illustrates the number of matches (+), mismatches (-) and partial matches (0) for the Persian word ‘تنگ’ (/tong/) and its suggested English equivalents.

Table 11. The Scores of Each Sign for the English Equivalents of the Persian Word ‘تنگ’ (/tong/)

Museum Names	Words	+	_	0
آرامگاه فردوسی	Carafe	4	0	4
آستان قدس رضوی و ایران باستان و آبگینه	Pitcher	6	0	2
آبگینه	Ewer	5	0	3
آبگینه	Jug	7	0	1
آبگینه	Bottle	1	0	7

According to Table 11, and based on the highest score of the word ‘jug’, ‘jug’ has the most in common with semantic features of ‘تنگ’ (/tong/) in Persian and can be the most accurate English equivalent of it. After ‘jug’, ‘pitcher’ has the most common with ‘تنگ’ (/tong/) in Persian. According to Fournier (2000), the word ‘jug’ in British English and the word ‘pitcher’ in American English refers to the same object, called ‘تنگ’ (/tong/) in Persian. Among the 7 cases of occurrence of the word ‘تنگ’ (/tong/) in museum captions, 3 cases included the accurate English translation. This means that 42.8 % of the translations were accurate.

5.2. ‘شیشه’ (/shisheh/)

Table 12 below illustrates the number of matches (+), mismatches (-) and partial matches (0) for the Persian word ‘شیشه’ (/shisheh/) and its suggested English equivalents.

Table 12. The Scores of Each Sign for the English Equivalents of the Persian Word 'شیشه' (/shisheh/)

Museum Names	Words	+	_	0
آرامگاه فردوسی	Frit	0	2	2
ایران باستان	Glass	4	0	0
ایران باستان	Ceramic	1	3	0

According to Table12, and based on the highest score of the word 'glass', the word 'glass' is the most accurate equivalent for the word 'شیشه' (/shisheh/) in Persian. Among the 3 cases of occurrence of the word 'شیشه' (/shisheh/) in museum captions, 1 case included the accurate English translation. This means that 33.3 % of the translations were accurate.

5.3. 'کاسه' (/kaaseh/)

Table 13 below illustrates the number of matches (+), mismatches (-) and partial matches (0) for the Persian word 'کاسه' (/kaaseh/) and its suggested English equivalents.

Table13. The Scores of Each Sign for the English Equivalents of the Persian Word 'کاسه' (/kaaseh/)

Museum Names	Words	+	_	0
آرامگاه فردوسی و ایران باستان و آستان قدس رضوی و کلیسای وانک	Bowl	2	0	2
ایران باستان و کلیسای وانک	Vessel	0	0	4
کلیسای وانک	Jar	0	0	4

According to Table13, and based on the highest score of the word ‘bowl’, ‘bowl’ is the most accurate English equivalent for the word ‘کاسه’ (/kaaseh/) in Persian. Among the 7 cases of occurrence of the word ‘کاسه’ (/kaaseh/) in museum captions, 3 cases included the accurate English translation. This means that 42.8 % of the translations were accurate.

5.4. ‘قلمدان’ (/ghalamdaan/)

Table 14 below illustrates the number of matches (+), mismatches (-) and partial matches (0) in the case of the Persian word ‘قلمدان’ (/ghalamdaan/) and its suggested English equivalents.

Table 14. The Scores of Each Sign for the English Equivalents of the Persian Word ‘قلمدان’ (/ghalamdaan/)

Museum Names	Words	+	–	0
چهارفصل	Pen box	3	0	0
آرامگاه فردوسی	Pen case	0	3	0

The phrase ‘pen box’ has the highest score in + sign and is actually totally congruent with semantic features of ‘قلمدان’ (/ghalamdaan/) in Persian. So, ‘pen box’ is suggested as the most accurate equivalent for ‘قلمدان’ (/ghalamdaan/) in Persian. Among the 2 cases of occurrence of the word ‘قلمدان’ (/ghalamdaan/) in museum captions, 1 case included the accurate English translation. This means that 50 % of the translations were accurate.

5.5. ‘لعاب’ (/laab/)

Table 15 below illustrates the number of matches (+), mismatches (-) and partial matches (0) for the Persian word ‘لعاب’ (/laab/) and its

suggested English equivalents.

Table15. The Scores of Each Sign for the English Equivalents of the Persian Word‘لعاب’ (/laab/)

Museum Names	Words	+	_	0
آرامگاه فردوسی و ایران باستان و آستان قدس رضوی	Glaze	4	0	0
آرامگاه فردوسی و آبگینه	Lustre	1	0	3

According to Table 15, and based on the highest score of the word ‘glaze’, the word ‘glaze’ is the most accurate English equivalent for ‘لعاب’ (/laab/) in Persian. Among the 5 cases of occurrence of the word ‘لعاب’ (/laab/) in museum captions, 3 cases included the accurate English translation. This means that 60 % of the translations were accurate.

5.6. ‘طلاکوب’ (/talaakoob/)

Table 16 below illustrates the number of matches (+), mismatches (-) and partial matches (0) for the Persian word ‘طلاکوب’ (/talaakoob/) and its suggested English equivalents.

Table16. The Scores of Each Sign for the English Equivalents of the Persian Word ‘طلاکوب’ (/talaakoob/)

Museum Names	Words	+	_	0
ایران باستان	Gilded	1	1	0
آستان قدس رضوی	Inlaid with gold	2	0	0

According to Table 16, and based on the highest score of the phrase ‘inlaid with gold’, the most accurate English equivalents for ‘طلاکوب’ (/talaakoob/) and ‘نقره کوب’ (/noghrekoob/) in Persian are ‘inlaid with gold’ and ‘inlaid with silver’, respectively. Among the 2 cases of occurrence of the word ‘طلاکوب’ (/talaakoob/) in museum captions, 1 case included the accurate English translation. This means that 50 % of the translations were accurate.

5.7. ‘کوزه’ (/koozeh/)

Table 17 below illustrates the number of matches (+), mismatches (-) and partial matches (0) for the Persian word ‘کوزه’ (/koozeh/) and its suggested English equivalents.

Table17. The Scores of Each Sign for the English Equivalents of the Persian Word ‘کوزه’ (/koozeh/)

Museum Names	Words	+	_	0
آستان قدس رضوی و آبگینه	Jug	2	0	2
چهار فصل	Bottle	3	0	1
کلیسای وانک و چهلستون	Jar	2	0	2
کلیسای وانک و آبگینه	Pot	0	1	3

According to Table 17, and based on the highest score of the word ‘bottle’, the most accurate English equivalent for the word ‘کوزه’ (/koozeh/) in Persian is the word ‘bottle’ in English. Among the 7 cases of occurrence of the word ‘کوزه’ (/koozeh/) in museum captions, 2 cases included the accurate English translation. This means that 28.5 % of the translations were accurate.

5.8. ‘خاتم کاری’ (/khaatamkaari/)

Table 18 below illustrates the number of matches (+), mismatches (-) and partial matches (0) in the case of the Persian word ‘خاتم کاری’ (/khaatamkaari/) and its suggested English equivalents.

Table 18. The Scores of Each Sign for the English Equivalents of the Persian Phrase ‘خاتم کاری’ (/khaatamkaari/)

Museum Names	Words	+	–	0
آرامگاه فردوسی	Cachet	0	4	0
-	Inlaying	3	0	1

The word ‘cachet’ which is suggested by a museum is absolutely irrelevant to the meaning and process of ‘خاتم کاری’ (/khaatamkaari/) in Persian. The word ‘inlaying’ which is suggested by Ettinghausen (1972: 305) has more matches in semantic features with those of ‘خاتم کاری’ (/khaatamkaari/) in Persian. So, the word ‘inlaying’ and ‘inlaid’ are suggested respectively as acceptable equivalents of ‘‘ خاتم کاری’ (/khaatamkaari/)’ and ‘‘خاتم کاری شده’ (/khaatamkaari shode/)’ in Persian. The only one case of occurrence of the word ‘خاتم کاری’ (/khaatamkaari/) in museum captions was wrong in translation. This means that the English translation was not accurate.

5.9. ‘پیه سوز’ (/pihsooz/)

Table 19 below illustrates the number of matches (+), mismatches (-) and partial matches (0) in the case of the Persian word ‘پیه سوز’ (/pihsooz/) and its suggested English equivalents.

Table 19. The Scores of Each Sign for the English Equivalents of the Persian Word 'پیه سوز' (/pihsooz/)

Museum Names	Words	+	_	0
آرامگاه فردوسی	Lamp	2	0	3
ایران باستان و کلیسای وانک	Oil lamp	4	0	1
کلیسای وانک	Tallow lamp	3	0	2
آستان قدس رضوی	Tallow burner	1	0	4

According to Table 19, and based on the highest score of the phrase 'oil lamp', 'oil lamp' is the most accurate equivalent for 'پیه سوز' (/pihsooz/) in Persian. Among the 5 cases of occurrence of the word 'پیه سوز' (/pihsooz/) in museum captions, 2 cases included the accurate English translation. This means that 40 % of the translations were accurate.

5.10. 'قندیل' (/ghandil/)

Table 20 below illustrates the number of matches (+), mismatches (-) and partial matches (0) in the case of the Persian word 'قندیل' (/ghandil/) and its suggested English equivalents.

Table 20. The Scores of Each Sign for the English Equivalents of the Persian Word 'قندیل' (/ghandil/)

Museum Names	Words	+	_	0
آستان قدس رضوی	Lantern	2	0	1
آبگینه	Mosque lamp	0	3	0

As lantern has the most matches in semantic features with those of 'قندیل' (/ghandil/) in Persian and since it is also suggested by

Fehervari (1976: plate 33) as the English equivalent of what is called 'قندیل' (/ghandil/) in Persian, it is an appropriate English equivalent for 'قندیل' (/ghandil/) in Persian. Among the 2 cases of occurrence of the word 'قندیل' (/ghandil/) in museum captions, 1 case included the accurate English translation. This means that 50 % of the translations were accurate.

It is thus to be noted that on the basis of the above information, the English words 'jug', 'glass', 'bowl', 'pen-box', 'glaze', 'inlaid with gold', 'bottle', 'inlaid', 'oil lamp' and 'lantern' are respectively the most accurate English equivalents for the Persian words 'تنگ' (/tong/), 'شیشه'(/shisheh/), 'کاسه' (/kaaseh/), 'قلمدان' (/ghalaamdaan/), 'لعاب' (/laab/), 'طلاکوب' (/talaakoob/), 'کوزه' (/koozeh/), 'خاتم کاری شده' (/kataamkaari shode/), 'پیه سوز' (/pihsooz/) and 'قندیل' (/ghandil/). In other words, 39.74% of English translations are accurate. This means that 60.26% of the English translations are inaccurate. Since most of the English translations of the Persian texts used in museum captions of historical objects are semantically inaccurate, a major revision of them by museum translators is definitely indispensible.

A final word is that English, as an international language, is the language of introducing the majority of places and museum objects to tourists all over the world. In Iran, English is the most common second language in introducing historical and ancient places and museum objects to tourists. Thus, accurate translation of the names, materials and type of decorations of ancient and historical stuff from Persian into English and other languages is a challenging matter. This is why the findings of the present research are of paramount importance. These findings can be examined in other museums with other objects in other cities and countries. Also, in line with these findings, other pieces of research can be conducted, for instance, on the accuracy of English translation of the names of different colours used in Iranian and other nations' carpets exhibited in carpet museums around the world. Another topic for research can be the study of the tourists' perceptions of the English translations of the

captions for historical objects in museums in different countries.

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Appendices

1. Persian words and their definitions in three Persian monolingual dictionaries:

‘تنگ’ (/tong/)

فرهنگ دهخدا	کوزه ی سرتنگ گردن کوتاه را گویند. (برهان). کوزه ای است سفالین یا بلورین بیضی شکل که لوله و نایژه ی آن بر سرش قرار دارد و لوله اش آنجا که به کوزه متصل شود تنگ است و سر لوله فراخ و گشاد است . بلبله . صراحیه . (فرهنگ فارسی معین). کوزه ای که شکمش کلان و گردنش کوتاه و دهانش تنگ باشد. (غیاث اللغات) (آنندراج) (ناظم الاطباء). خواه از سفال بود و یا جز آن مانند تنگ آبخوری و تنگ بلور و تنگ روی . (ناظم الاطباء).
فرهنگ معین	کوزه ای از جنس سفال یا بلور که قسمت پایین آن بزرگ و بالای آن تنگ و باریک باشد.
فرهنگ عمید	کوزه ی آب یا شراب که از سفال یا بلور یا چیز دیگر درست کنند، کوزه ای که شکمش بزرگ و گردنش باریک و دهانه ی آن تنگ باشد.

‘شیشه’ (/shisheh/)

فرهنگ دهخدا	زجاج . آبگینه . زجاجه . (یادداشت مؤلف). جسمی صلب و غیرحاجب (حاکی) ماوراء و بیرنگ که آنرا از ذوب شن مخلوط با پتاس و سود حاصل می کنند و از آن ظروف و اوانی و عینک و جز آن می سازند و یکی از مواد گرانبهایی است که در تملک انسان می باشد و بدون آن علم کیمیا و علم فیزیک ناقص خواهند بود. از شیشه است که ذره بین و دوربین و جز آن ساخته می شود و اگرچه قدما معرفت به حال وی داشته اند ولی امروزه از آن بلور و ظروف بلوری بسیار بزرگ ترتیب می دهند و صلابت آن به درجه ای است که آهن و فولاد بر آن خط نمی اندازند و بیشتر آنرا با الماس می بُرند. هیچیک از ترشیها در آن اثر نمی نمایند و به صعوبت الکتریسته و حرارت را هدایت می کند و اشعهٔ آفتاب از آن عبور می کند بدون آنکه وی را محسوساً گرم کند. (ناظم الاطباء). جسمی است شفاف و حاکی ماوراء و شکننده ، و آن مخلوطی است از سیلیکاتهای قلیائی ، واین اجسام را در کوره ذوب کنند و در قالب ریزند. شیشه دارای شکلی هندسی نیست و درنتیجه می توان آنرا به شکل دلخواه درآورد. (فرهنگ فارسی معین).
فرهنگ معین	جسمی است شفاف و حاکی ماوراء و شکننده ، و آن مخلوطی است از سیلیکاتهای قلیائی ، واین اجسام را در کوره ذوب کنند و در قالب ریزند. شیشه دارای شکلی هندسی نیست و درنتیجه می توان آنرا به شکل دلخواه درآورد.
فرهنگ عمید	جسمی است شفاف و شکننده که از ذوب کردن شن و آهک و مواد دیگر در کوره های مخصوص به شکل ها و اندازه های مختلف ساخته می شود.

‘کاسه’ (/kaaseh/)

ظرفی باشد که چیزی در آن خورند. (برهان). ناجود و قدح و جام و ساغر و پیاله و دوری و طبقچهٔ بزرگ و یا کوچک مسین و یا چوبین و یا گلین و بادیه و قدح چینی بزرگ و کوچک و هرظرفی که در آن چیزی خورند. (ناظم الاطباء). ظرف مدور از فلز یا گل که دیواره اش بلند باشد و برای حمل غذا و آب استعمال میشود و قسم بزرگ آن را قدح هم گویند. این لفظ مأخوذ از کاس عربی است . (فرهنگ نظام). کاس . رجوع به کاس شود : و از آمل آلاتهای چوبین خیزد چون کفچه و شانه و شانه نیام و کاسه و طبق . (حدود العالم)	فرهنگ دهخدا
۱- پیاله ، ظرف . ۲ - کوس . ۳ - بیرونی ترین پوشش گل . ؛~ی داغ تر از آش کنایه از: واسطه ای که از صاحب حق بیشتر جوش می زند. ؛~ ای زیر نیم ~بودن کنایه از: نیرنگی در کار بودن . ؛ ~کوزهٔ کسی را به هم زدن کنایه از: شر و فساد و خرابی بار آوردن	فرهنگ معین
ظرف سفالی یا چینی تو گود که در آن غذا خورند.	فرهنگ عمید

‘قلمدان’ (/ghalamdaan/)

جای قلم . تپنگویی که در آن ابزارهای نبشتن مانند قلم و چاقو ومقراض و قطزن میگذارند. (ناظم الاطباء)	فرهنگ دهخدا
آلتی استوانه گونه مرکب از دو قطعه که روکش دیگری است. از مقوا یا کاغذ بهم فشرده ساخته می شود.	فرهنگ معین
قوطی کوچک دراز مقوایی یا چوبی که در قدیم قلم و قلم تراش و قیچی و قطزن و دوات در آن می گذاشتند.	فرهنگ عمید

‘لعاب’ (/laab/)

آنچه از خیسانیدن او در آب اجزای آن مخلوط به رطوبت شده چیزی لزج به هم رسد و چون برشته کنند الزاق او رفع شود. هر چیز که چون رطوبت بیند و لزوجتی در او پیدا شود، چون : خطمی و بهدانه . صاحب کشاف اصطلاحات الفنون آرد: لعابی به ضم لام نزد پزشکان دارویی است که از خواص آن ، آن است که چون تصفیه و از فضولات پاک شود اجزاء آن دارو از یکدیگر جدا و من حیث المجموع به لعابی لزج تبدیل گردد، مانند خطمی . کذا فی الموجز - انتهی.	فرهنگ دهخدا
۱- آب دهن ، هر آبی که اندکی غلیظ و چسبنده باشد. ۲ - روکش مخصوصی که روی سفال و کاشی و مانند آن می کشند.	فرهنگ معین
هر آبی که اندکی غلیظ و چسبنده باشد.	فرهنگ عمید

‘طلاکوب’ (/talaakoob/)

آنکه ورق های طلا و نقره را بسازد.	فرهنگ دهخدا
آنکه ورق های طلا و نقره را می سازد.	فرهنگ معین
کوبیدن ورق های نارک طلا بر چیزی	فرهنگ عمید

‘کوزه’ (/koozeh/)

ظرفی است گردن دراز که در آن آب نگهدارند. (آنندراج). صراحی سفالی آبخوری که گردن دراز تنگی دارد. (ناظم الاطباء). ظرفی است گلین و گردن دراز که درآن آب و مایعات دیگر ریزند. (فرهنگ فارسی معین). ظرف سفالین با سری تنگ و با دسته که در آن آب کنند. ظرفی سفالین چون خمی خرد و آب در آن کنند. کوز. جوه . سبو. سبوی . (یادداشت به خط مرحوم دهخدا)	فرهنگ دهخدا
ظرف دسته دار یا بی دستهٔ سفالین . ؛در ~گذاشتن و آبش را خوردن بیهودگی چیزی را آشکارا دیدن	فرهنگ معین
ظرف سفالی دسته دار یا بی دسته کوچکتر از خم برای آب یا چیز دیگر.	فرهنگ عمید

‘خاتم کاری’ (/khatamkari/)

نشاندن استخوان در چوب با نقش و نگار. خاتم سازی . رجوع به خاتم بندی و خاتم سازی شود : آسوریها در صنایع دیگر مانند صنعت زرگری وخاتم کاری ... ماهر بودند. (ایران باستان ج 1 ص.128)	فرهنگ دهخدا
۱ - انگشتری . ۲ - مهر، نگین . ج . خواتم . ۳ - آخری ، آخرین . ٤ - اشیایی مثل قاب عکس ، جای قلم و مانند آن که بر روی آن با عاج ، استخوان ، فلز و چوب زینت کاری و نقش و نگار شده باشد.	فرهنگ معین
نوعی از هنر های ظریف. ساختن و آراستن برخی از اشیاء به اشکال هندسی و طرح های گوناگون با قرار دادن قطعه های کوچک از استخوان و فلز و چوب در کنار هم که بیشتر به شکل مثلث بریده می شود.	فرهنگ عمید

‘پیه سوز’ (/pihsooz/)

پایهٔ چراغی از سفال یا از مس و امثال آن که پیه یا روغن کرچک یا بزرک در آن ریختندی با فتیله ای از پنبه . پایهٔ مسین و برآن چراغی سفالین و درآن چراغ روغن کرچک یا بزرک و پلیته ای که بشب می افروختند. ظرفی که در آن پیه سوزند. (آنندراج). استوانهٔ سفالین یا مسین یا زرین و یا سیمین و غیره که بصورت گل و غیره کردندی و چراغ را که باروغن کرچک و یا بزرک سوختی بالای آن نهادندی . بیسوس (معرب آن است). پی سوز. چراغدان . چراغ روغنی قدیم و شمعدان پیهی قدیم . (فرهنگ نظام). پیه دان.	فرهنگ دهخدا

فرهنگ معین	نوعی چراغ با ظرف سفالی یا فلزی که در آن پیه یا روغن کرچک را به جای نفت می ریختند و فتیله ای پنبه ای را برای روشن کردن در آن قرار می دادند.
فرهنگ عمید	چراغ فتیله دار که به جای نفت با پیه می سوزد. ظرف سفالی یا فلزی که در آن پیه یا روغن کرچک بریزند و فتیله ای پنبه ای در آن قرار دهند.

‘قندیل’ (/ghandil/)

فرهنگ دهخدا	چیزی است که در آن چراغ می افروزند و آن معرب کندیل است . (از آنندراج رساله ٔ معربات). چراغ و چروند. (ناظم الاطباء). المصباح للسراج . ج ، قناديل . (اقرب الموارد). چراغدان و فانوس . (ناظم الاطباء). || شمعدان . || کیه دان . پیه سوز. (ناظم الاطباء). || چیزی باشد میان تهی که تیرها در آن اندازند برای کمال محافظت تیر. (ناظم الاطباء) (آنندراج از غیاث).
فرهنگ معین	شمع و چراغ . ج . قنادیل
فرهنگ عمید	چراغ آویز، مشعل، که از سقف آویزان می کنند.

2. Suggested English equivalents and their English definitions in five English monolingual dictionaries:

‘carafe’

Oxford	A glass bottle for water or wine at a table, in a bed room, etc.
Encarta	**Container for serving drinks:** a container with a wide cylindrical base, a narrow neck, and a flared open top, usually made of glass and used to serve liquids, especially wine or water at table.
Webster	**1:** a bottle with a flaring (wide) lip used to hold beverages and especially wine **2:** a usually glass container used to hold and serve coffee.
Cambridge	A tall glass container with a wide round bottom for serving wine or water in a restaurant, or the amount contained in it.
Longman	A glass container with a wide neck, used for serving wine or water at meals.

‘pitcher’

Oxford	A large usu. earthenware vessel with a handle and usu. a lip, for holding and pouring out liquids; a jug; a jug-shaped or vase-shaped vessel.

Encarta	**Single-handled jug:** a container for liquids with a single handle and a lip or spout for pouring.
Webster	a container for holding and pouring liquids that usually has a lip or spout and a handle.
Cambridge	a large container with a wide round base, straight sides and a narrow opening at the top, used in the past for holding water or another liquid.
Longman	*American English* a container for holding and pouring a liquid, with a handle and a shaped part to help the liquid flow out. *British English* a large clay container with two handles, used in the past for holding and pouring a liquid.

'ewer'

Oxford	A jug with a wide mouth, *esp.* a water-jug of the kind formerly used in bedrooms.
Encarta	**Large jug with a wide spout:** a large jug or pitcher with a wide spout.
Webster	A vase-shaped pitcher or jug.
Cambridge	-
Longman	-

'jug'

Oxford	A deep vessel for holding liquids, usu. with a cylindrical, tapering, or swelling body, having a handle and often a spout or lip for pouring. Also *US*, a large jar with a narrow mouth.
Encarta	**pouring container:** a deep container for liquids that has a handle and has its rim shaped into a lip or spout for pouring *North America* **large container for liquids:** a large container for liquids, typically of earthenware or glass, with a handle and a narrow mouth usually closed with a cork
Webster	A large deep usually earthenware or glass container with a narrow mouth and a handle
Cambridge	UK a container for holding liquids which has a handle and a shaped opening at the top for pouring. US a large round container for liquids which has a flat base, a handle and a very narrow raised opening at the top for pouring.

Longman	*British English* a container with a wide curved opening at the top and a handle, used especially at meals for pouring liquids [= **pitcher** *American English*]

'bottle'

Oxford	A narrow-necked vessel, orig. of leather, now usu. of glass or plastic, for storing liquids.
Encarta	**Container for liquids:** a container for liquids, usually made of glass or plastic, with a narrow neck and no handle.
Webster	A rigid or semi-rigid container typically of glass or plastic having a comparatively narrow neck or mouth and usually no handle.
Cambridge	A container for liquids, usually made of glass or plastic, with a narrow neck.
Longman	A container with a narrow top for keeping liquids in, usually made of plastic or glass.

'frit'

Oxford	**1** A calcined mixture of silica and fluxes, which can be melted to make glass. **2** A vitreous composition from which soft porcelain, enamel, etc., are made.
Encarta	**Basic materials for glass:** the basic materials from which glass, pottery glazes, or enamels are made, when they are in a partially bonded state at the beginning of the manufacturing process.
Webster	**1** the calcined or partly fused materials of which glass is made. **2** any of various chemically complex glasses used ground especially to introduce soluble or unstable ingredients into glazes or enamels.
Cambridge	-
Longman	-

'glass'

Oxford	A substance, usu. transparent, lustrous, hard, and brittle, made by fusing soda or potash or both with other ingredients.
Encarta	**Transparent solid substance:** a hard, usually transparent substance that shatters easily. Source: sand melted in combination with other oxides such as lime or soda. Use: windows, bottles, lenses.
Webster	Any of various amorphous materials formed from a melt by cooling to rigidity without crystallization: as a usually transparent or translucent material consisting typically of a mixture of silicates.
Cambridge	A hard transparent material which is used to make windows, bottles and other objects.
Longman	A transparent solid substance used for making windows, bottles etc.

'ceramic'

Oxford	Of or relating to (the art of) pottery; designating or pertaining to hard brittle substances produced by the process of strong heating of clay etc.
Encarta	**Hard fired clay:** a hard brittle heat-resistant material made by firing a mixture of clay and chemicals at high temperature.
Webster	Of or relating to the manufacture of any product (as earthenware, porcelain, or brick) made essentially from a nonmetallic mineral (as clay) by firing at a high temperature; *also*: of' or relating to such a product.
Cambridge	The objects produced by shaping and heating clay, especially when considered as art.
Longman	The art of making pots, bowls, TILEs etc, by shaping pieces of clay and baking them until they are hard.

'bowl'

Oxford	A vessel, usu. hemispherical or nearly so, to hold liquids or food; a basin.
Encarta	**Round container:** an open container, usually round in shape and wider than it is deep, typically used for holding food and liquids.

Webster	A concave usually nearly hemispherical vessel; *specifically*: a drinking vessel (as for wine)
Cambridge	A round container that is open at the top and is deep enough to hold fruit, sugar, etc.
Longman	A wide round container that is open at the top, used to hold liquids, food, flowers etc.

'vessel'

Oxford	**1**. Dishes or utensils for domestic or table use; *spec.* these made of gold or silver, plate. Long *obs.* exc. *dial.* **2.** A hollow container or receptacle for a liquid etc., *esp.* a domestic or table utensil, as a cup, bottle, pot, bowl, or dish.
Encarta	**Receptacle:** a hollow receptacle, especially one that is used as a container for liquids.
Webster	A container (as a cask, bottle, kettle, cup, or bowl) for holding something.
Cambridge	A curved container which is used to hold liquid.
Longman	A container for holding liquids.

'jar'

Oxford	A usu. cylindrical container of glass, earthenware, or stoneware with no spout or handle (or with two handles). Orig., a large earthenware vessel for holding water, oil, wine, etc.
Encarta	**Storage container:** a cylindrical container, usually one that has a wide mouth and a lid but no spout, typically made of glass, plastic, or earthenware.
Webster	A wide mouthed container made typically of earthenware or glass.
Cambridge	A glass or clay container, with a wide opening at the top and sometimes a fitted lid, which is usually used for storing food.
Longman	A container made of clay, stone etc used especially in the past for keeping food or drink in

'glaze'

Oxford	The vitreous substance fixed by fusion to the surface of pottery etc. and forming an impervious decorative coating.
Encarta	**Cover pottery with finish like glass:** to put a clear or colored coating on a ceramic object and fire it in a kiln, in order to fix the coloration, make it watertight, or give it a shiny appearance.
Webster	A mixture mostly of oxides (as silica and alumina) applied to the surface of ceramic wares to form a moisture-impervious and often lustrous or ornamental coating
Cambridge	To make a surface shiny by putting a liquid substance onto it and leaving it or heating it until it dries.
Longman	A liquid that is used to cover plates, cups etc made of clay to give them a shiny surface.

'luster'

Oxford	An iridescent metallic decorative surface on ceramics; the glaze used to produce this; gen. any shining or reflective finish (as on a photograph etc.).
Encarta	Glaze on pottery: an opalescent metallic glaze on pottery, especially porcelain.
Webster	A glow of reflected light: sheen; specifically: the appearance of the surface of a mineral .dependent upon its reflecting qualities.
Cambridge	The brightness that a shiny surface has.
Longman	An attractive shiny appearance.

'gilded'

Oxford	That has been gilded; *spec.* overlaid wholly or partially with a thin coating of gold.
Encarta	**Covered with gilt:** covered with a thin layer of gold or a substance that looks like gold.
Webster	To overlay with or as if with a thin covering of gold.
Cambridge	To cover a surface with a thin layer of gold or a substance that looks like gold.
Longman	To cover something with a thin layer of gold or with something that looks like gold.

‘inlay’

Oxford	Fit (a thing) with a substance of a different kind embedded in its surface; diversify by the insertion of another material in a decorative design.
Encarta	**set something into surface:** to set pieces of material such as wood, ivory, or stone into previously cut slots in a surface to form a decorative pattern **decorate something with inlaid design:** to decorate something such as a piece of furniture by setting pieces of wood, stone, ivory, or other material into its surface
Webster	Set into a surface in a decorative design<tables with inlaid marble>. Decorated with a design or material set into a surface <a table with an inlaid top>.
Cambridge	A decorative pattern put into the surface of an object
Longman	An inlaid box, table, floor etc has little pieces of another material set into its surface for decoration.

‘pot’

Oxford	A deep rounded or cylindrical vessel, usu. made of earthenware, metal, or glass, and used for holding liquid or solid substances or for various other purposes.
Encarta	**container for cooking:** a container made of metal, pottery, or glass that is usually cylindrical and watertight with an open top and sometimes a lid, used especially for cooking or storage
Webster	A usually rounded metal or earthen container used chiefly for domestic purposes (as in cooking or for holding liquids or growing plants). **Clay object:** a dish or container made from clay, especially one of artistic or historical interest.
Cambridge	Any of various types of container, usually round, especially one used for cooking. UK any of different types of containers, with or without a lid, especially for storing food or liquids
Longman	A container used for cooking which is round, deep, and usually made of metal.

'cachet'

Oxford	**1** A seal for letters, documents, etc. Now *rare* or *obs.* **2** A characteristic or distinguishing mark; a characteristic feature or quality conferring prestige or distinction; high status.
Encarta	**1 quality that attracts admiration:** a quality of distinction and style that people admire and approve of **2 official mark:** an official seal or stamp on a letter or other document
Webster	a design or inscription on an envelope to commemorate a postal or philatelic event
Cambridge	a quality which marks someone or something as special and worth respect and admiration
Longman	if something has cachet, people think it is very good or specia

'lamp'

Oxford	A vessel in which oil is burnt at a wick to provide illumination. Now *gen.*, (a device, often consisting of a holder and shade, designed to hold or enclose) a source of artificial illumination, as a candle, a gas-jet, or (usu.) an electric bulb. Also, a device producing infrared, ultraviolet, or other radiation, esp. for therapeutic purposes.
Encarta	**Device producing light:** a device that burns oil, gas, or wax to produce light.
Webster	any of various devices for producing light or sometimes heat: as ***(1)*** **:** a vessel with a wick for burning an inflammable liquid (as oil) to produce light ***(2)*** **:** a glass bulb or tube that emits light produced by electricity (as an incandescent light bulb or fluorescent lamp)
Cambridge	a device for giving light, especially one that has a covering or is contained within something
Longman	an object that produces light by using electricity, oil, or gas

'tallow'

Oxford	A hard fatty substance which is usu. obtained by rendering the suet of sheep or cattle, contains stearin, palmitin, and olein, and is used for making candles and soap, dressing leather, etc.
Encarta	**Fatty substance:** a hard fatty substance extracted from the fat of sheep and cattle. Use: candles, soap.
Webster	the white nearly tasteless solid rendered fat of cattle and sheep used chiefly in soap, candles, and lubricant
Cambridge	fat from animals which is used for making soap and, especially in the past, candles
Longman	hard animal fat used to make candles

'burner'

Oxford	An appliance which provides a flame for heating, lighting, etc., usu. using gas or liquid fuel; the part of a lamp, cooker, etc., which is the site of and shapes the flame·
Encarta	**Part of stove or lamp:** the part of a fuel-burning stove, lamp, or heater that produces a flame when lit.
Webster	the part of a fuel-burning or heat-producing device (as a furnace or stove) where the flame or heat is produced
Cambridge	the white nearly tasteless solid rendered fat of cattle and sheep used chiefly in soap, candles, and lubricant
Longman	the part of an oven or heater that produces heat or a flame

'lantern'

Oxford	A lamp consisting of) a transparent case, usu. of glass, horn, paper, etc., containing and protecting a light.
Encarta	**Portable lamp:** a portable case with transparent or translucent sides that protects and holds a lamp.
Webster	a usually portable protective case for a light with transparent openings
Cambridge	a light inside a container which has a handle for holding it or hanging it up, or the container itself
Longman	a lamp that you can carry, consisting of a metal container with glass sides that surrounds a flame or light