

DATA MINING AND CONTENT ANALYSIS OF THE JURY CITATIONS OF THE PRITZKER ARCHITECTURE PRIZE (1977–2017)

Mohammadjavad MAHDAVINEJAD, Seyed Amir HOSSEINI*

Tarbiat Modares University, I.R. Iran

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Abstract. Although the Pritzker Architecture Prize is prestigious and highly influential, it has not been the subject of any coherent studies to date. This research investigates the network of sponsors, the jury members influential on the nomination process, as well as the discourses dominant during each year of the prize. In the first section, we examine the network of sponsors using the bibliography method. In the second section, we study the contents of the annual jury citations using the content analysis method. The second section shows that each announcement contains four parts and various sub-parts. We compare the results of both sections to draw a content map of the various years of the prize. Finally, we attempted to evaluate the relationship between the jury members and their cooperation network with the discourses formed over time.

Keywords: Pritzker, data mining, content analysis, bibliography bibliometric maps, architecture.

Introduction

Modern architecture has always been closely interacting with the media not only when architectural buildings are represented and introduced in the media but also when architects have used new tools and media to design and create architectural products.

Therefore, more attention should be paid to the relationship between architecture and the media. Architects such as Le Corbusier and Adolf Loos have employed various media to express their ideas in the form of texts or technical drawings. In his comparative study, of the use of drawing in the early 16th century and the use of computers today, Luce demonstrates how the widespread use of drawings in architecture allows architects to explore new ideas independently from the construction process. Luce 2009 somehow sterilized the drawing and of these two new mediums of the architectural theory. These two mediums have also provided the main context for the critique of art and architecture. Critics are beginning to review and criticize architecture and introduce and re-publish theories and ideas related to the content and the physical form in the form of text and image. This leads to the formation of numerous discourses about architecture as an art. Since then, and especially in the 20th and 21st centuries, the relationship between architecture and media has been mutual and challenging. Critics, architects, theorists, and even journalists such as Huxtable have profoundly influ-

enced architecture. In the meantime, architectural prizes may be more important. Although a panel of jury members criticizes architecture and then produces texts in the form of statements that are themselves part of the theory and critique of architecture. Another important reason for the importance of prizes is that they often have a positive and coherent approach to architecture and they have specified missions for themselves (and indeed for architects and architecture). Depending on the nature of each of these prizes, they have a great deal of influence. And their approach and their view and the criteria for good architecture effectively affect the future of architecture.

Today, there are various Architectural prizes. Some are global (e.g. Pritzker, AIA, RIBA, WAF ...), some are regional (e.g. Aga Khan, 2A, etc.) and even some are national (e.g. Interior Design prizes and Memar prizes). Some are awarded to architects considering all their works (e.g. Pritzker), and some are awarded considering a single work (e.g. International Architecture Awards), and some are even awarded to the client (e.g. the Dedalo Minosse International Prize for commissioning a building). Some prizes such as Women in Architecture and VELUX (Students) have their own audience. Some follow certain approaches or applications e.g. Daylight and Building Component Award (Daylighting), Richard Morris Hunt Prize (Preservation Architecture) Emporis Skyscraper Award

*Corresponding author. E-mail: sydamirhosseini@gmail.com

(Skyscrapers). The RIBA President's Medals Award, 1836, is the oldest prize that is currently being awarded (Wikipedia, 2019).

Of these, all the Pritzker prizes will be reviewed due to the depth of the works and relatively more positive approaches to architecture.

The Pritzker Prize is awarded annually "to honor a living architect or architects whose built work demonstrates a combination of those qualities of talent, vision, and commitment, which has produced consistent and significant contributions to humanity and the built environment through the art of architecture." The award was established in 1979 by Jay and Cindy Pritzker and is sponsored by the Hyatt Foundation. It is regarded as one of the most prestigious awards in architecture and is often referred to as "architecture's Nobel." The prize is claimed to be "awarded irrespective of nationality, race, creed, or ideology." Jury members often include 5 to 9 experts from different fields of architecture, business, education, publishing, and culture. The prize claims to employ "Vitruvius' fundamental principles of architecture" for the nomination process.

The study seeks to investigate the Pritzker Architecture Prizes as one of the most influential prizes in the world. In this research, we specifically seek to answer the following questions:

- How have the members of the jury members been selected and how has jury selection evolved during various periods?
- What semantic units do the contents of the statements include and what discourses can be identified in the statements published over the years?
- What is the relationship between jury selection and the content of the jury citations, and can some discourses be attributed to some specific juries?

1. Literature review

Despite the significance of the Pritzker Prize and its role in inspiring young architects, it has not been the subject of a coherent and detailed study to date. Nevertheless, numerous articles have been published in various general and specialized journals about the prize. The authors of such articles usually intend to report on the laureates and review their works.

Gender and racial discrimination have been among recent controversial issues surrounding the prize. For example, in 2013, a global campaign was launched by two female Harvard students to award the 1991 prize to Scott Brown instead of his colleague Robert Venturi (Pogrebin, 2013). Although Venturi himself later joined the campaign, the jury finally announced that it could not interfere in the 1991 nomination (Carolina, 2013). Except for Zaha Hadid, who became the first woman to receive the prize in 2004, no female architect has been nominated for the prize. The decision by the jury members not to nominate Wang Shu's wife Lu Wenyu has also been criticized. In addition, the majority of laureates have been from North America, Europe, and Japan, an issue some media

outlets have evoked to question the impartiality of the jury members. In addition, most laureates are in middle age and younger architects are rarely nominated for the prize (Marik, 2016).

Sorkin has reviewed award winners according to country, region, and age at the time of winning the award. As for the age of the winners, by 2005 almost all winners were over 50. He studies the winners during three 10-year periods and shows how the dominant role of the U.S. during the first period has been played by Europe and Asia during the second period. In the third 10-year period, the majority of winners are from Europe. Sorkin 2005 discusses the number of times a particular person is selected as a jury member as well as his or her specialties and concludes:

"The constellation of jurors is generally of similar configurations from year to year, with, practitioners in the minority. Architects are balanced by approximately equal numbers of tastemakers-critics, editors, and curators-and juries always contain at least one avatar of big money in the form of a recognized patron. Women stand a better chance of serving on the jury, although only in the tastemakers category, and there is a significant bulge Latin males that defies ready explanations. The jury tends to be not only structurally comparable from year to year, but to be comprised of the same members, suggesting a single standard of taste. In the 10-year period from 1996 to 2005, for example, Ada Louise Huxtable was present for 10 consecutive years, [...]. Of the total of 14 jurors to serve during this period, seven were Americans." (Sorkin, 2005).

In another study, Heynen conducts a discourse analysis on the statements of the Pritzker Prize until 2012 and shows how a network of patriarchal concepts has prevented women from being nominated for the prize. He ultimately proposes three main concepts, to which the majority of keywords and concepts are related. These concepts are as follows:

"First, the traditional role model for architects has been gendered male, especially when that role model is manifested through the concept of "genius." Second, the words used to describe the performance of the avant-garde in architecture – cutting edge, innovative, daring, original – are more in line with "masculine" than with "feminine" features. Third, the idea of authorship, crucial for the self-conception of the profession, benefits men more than women." (Heynen, 2012).

2. Research methodology

This research consists of two sections. The first section investigates whether there is a meaningful connection between the selection of jury members and the nomination of architects with a particular approach. Common approaches to bibliography and knowledge map have been employed for this purpose. Bibliography, which is a type of data mining, is used to study bibliographic networks, such as article references, the relationship between the authors of various articles in a particular field or the use of common keywords among authors of various articles, to study the bibliographic network around a topic.

Recent bibliographic studies focus on three types of references, namely citation, co-citation, bibliographic coupling, keyword co-occurrence, and co-authorship (Van Eck & Waltman, 2014). Distance-based, chart-based, and timeline-based approaches are the most popular visualization techniques in bibliography. Other types of information visualization techniques include radial visualization, self-organizing networks, and multicriteria mapping (Van Eck & Waltman, 2014).

This research regards jury citations as articles and jury members as authors to reveal the relationship among the authors of various articles by drawing a co-authorship map of the jury citations. To do so, we have employed the distance-based strategy.

Various academic and business applications have been developed to facilitate the construction of bibliographic networks. CitNetExplorer, CiteSpace, Gephi, HistCite, Pa-jek, and Sci2 are among popular tools in this field.

Here, we have employed the commercial-academic software VOSviewer. This software is used for constructing and visualizing citation, co-citation, bibliographic coupling, and keyword co-occurrence maps. Such maps are presented in a distance-based format. Waltman and Van Eck (2013) have reviewed the visualization and clustering techniques as well as other mathematical algorithms employed by the software (Waltman & Van Eck 2013).

The second section of the paper presents another data mining study of the content of the jury citations. More specifically, this section employs the content analysis research method, which can quantify non-quantitative and often textual information. The method can be applied to information in a variety of formats such as interviews, transcripts, videos, and recorded audio files. Researchers employing content analysis use coded units. These keywords and codes vary depending on data types. For example, the number of positive or negative words used by a parent to describe their child’s behavior can count as a coded unit (Zarghami, Bagheri, Haghdoost, & Nasim, 2008; Ghaedi & Golshani, 2016).

Theorists and formulators of the content analysis method offer a large variety of operational methods. Nevertheless, they all recommend a coherent and systematic examination of texts before codifying them. Once the text is codified, the researcher attempts to identify patterns and as well as the relationship among such patterns (Tabrizi, 2014). The content analysis process can be summarized in the following Figure (Figure 1).

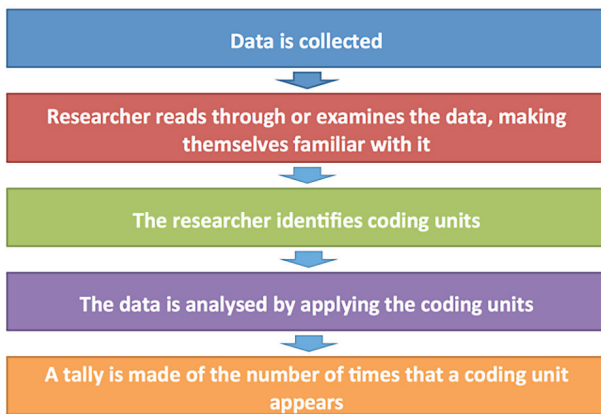
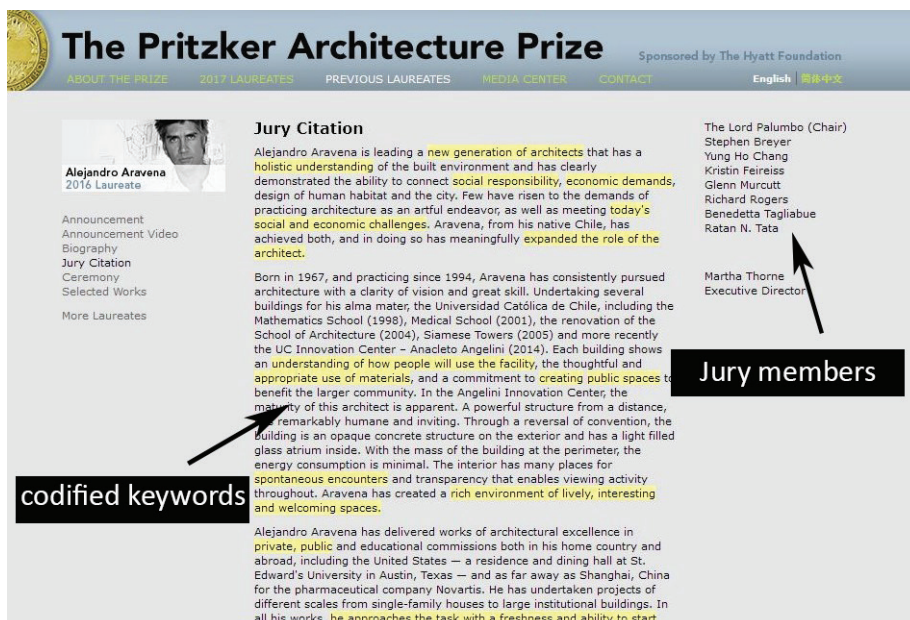


Figure 1. Summarized processes of the content analysis method (Willard, 2018)

3. Data source

Data collected from Pritzker architecture award (note 1) and then coding with Diigo (plugin on firefox browser) (note 2) (Figure 2).



Figures 2. A sample of codified jury citation on Pritzker Award website

3.1. Draw

To draw the tables of section 1, the list of jury members for each year was extracted from the website and then placed on a vertical axis without repetition. The horizontal axis represents the award years. Thus, table cells are marked with the presence of each jury member per year.

In the second part of the research (the content analysis of citations), after encoding, the keywords of the statements were first categorized and general themes were identified. Then, the frequency of the repetitions of words in each report-year was counted and recorded in the tables by placing the years and winners on the horizontal axis and these keywords on the vertical axis.

3.2. Clustering logic

Eventually, all the tables were arranged and sorted. Once keywords with a homogeneous or dispersed distribution over the years were eliminated, the other keywords in the vertical direction were arranged in such a way that clustering would be meaningful. Then, the total number of tags in any rows that were visually observed to be clustered was measured and re-evaluated numerically. By superposition, the results of this section (4.2) and section 1 of the research (4.1), the ratio between the discourses and clusters of jury members was examined. The clustering algorithm in the conclusion section can be expressed as follows:

1. Eliminating keywords with a meaningless distribution. (Either dispersed over the years or in the form of homogeneous distribution and high repetition over the years)
2. Sorting the remaining keywords in the vertical axis so that the keywords (rows) with a meaningful and similar distribution over a particular period (the horizontal axis) are adjacent. (In some cases, such as experimentation, we had to repeat one row because it was not geometrically possible to superposition the clusters).
3. Visual Clustering
4. Eliminating keywords (rows) repeated in less than half of the architects-years (horizontal axis) of a particular cluster.
5. Eliminating architects-years (columns) present in less than half of the criteria (rows associated with that cluster).

Finally, the authors have attempted to draw conclusions by comparing the network of jury members from the first section and the codified tables from the second section.

4. Research findings

4.1. The findings of the first section: jury selection

4.1.1. New jury members, duration of service and jury selection

As the website claims: "The independent jury of experts ranges from five to nine members. Jury members serve for multiple years to assure a balance between past and

new members and are entrusted with selecting the laureate each year. "The authors have examined this claim and presented the results in the Figure below (Figure 3). As can be seen in the Figure, the claim is somewhat true. The selection of the new and old jury members is always appropriate. Nevertheless, we can reach an alternative conclusion by examining the ratio of the new jury members making an announcement to the total number of jury members. For example, this ratio is 10% higher in the years 1980, 1985, 1987, 1991, 1994, 2003, 2004, 2005, 2009, 2012, 2014 and 2017. That is, in these years, the number of new jury members is higher than those who were present in previous years. If we assign a number equal to the sum of years being a member, we will see that the ratio of the new jury members to the total score of the other jury members in the years etc. is among the top 10%. This number can indicate the influence of new jury members. In addition, the total annual score of jury members can be an indicator new or old jury selection. Meaning that lower totals indicate newer jury selection while higher totals indicate the presence of older jury members. As we see, the ten top percent in this year's indicator are the years etc. If we compare this index to the total number of jury members each year, we will see that in the middle of 1988–2002 (regardless of the change that occurred in 1991), or more precisely, from 1992 to 2002, jury selection has been more stable while from 2003 to 2015, jury selection has been constantly changing.

The ten lower left items and the ten top right items represent jury members who served for the shortest and longest periods, respectively. It seems that from 1985 to 1993 and from 1994 to 2002 (a period of stability in jury selection) and from 2003 to 2007, at the end of the same period, jury members have served for shorter periods. In addition, in the later years of the 2014–2017 chart, we can see a shorter duration of service, which is considered as an outlier. In the top right chart, we see ten jury members with the longest duration of service. As you can see, at least six jury members with a duration of service between 9–25 years are in the middle of the chart.

As you can see, the top left chart shows the first appearance of the jury members. By dividing the number of new jury members by the total number of jury members results in the right chart (Figure 4 left). The top right chart shows the 10-year period during which the ratio of new jury members to the total jury members has been greater than the rest of the years. Two other indicators have been used for verification (Figure 4 right).

A comparison of the three methods mentioned above results in the following chart, which shows that

In the top left chart, a number is assigned to each jury member. For example, the number 4 has been assigned to Cesar Pelli who appeared 4 times from 1979 to 1982. The number 1 for the first appearance in 1979, the number 2 for the second appearance in 1980 etc. The top left chart is based on the ratio of the number of new jury members to

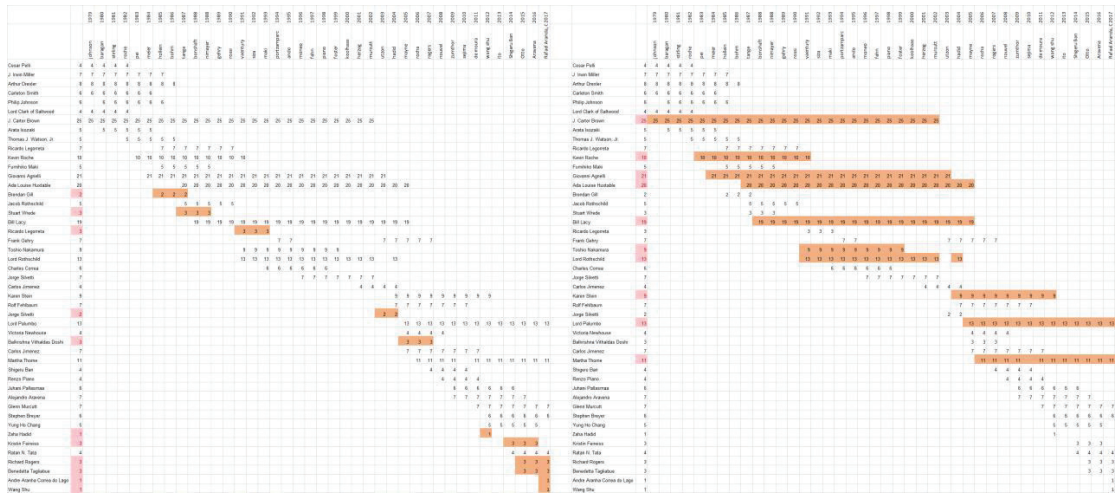


Figure 3. The shortest and longest periods individuals served as jury members

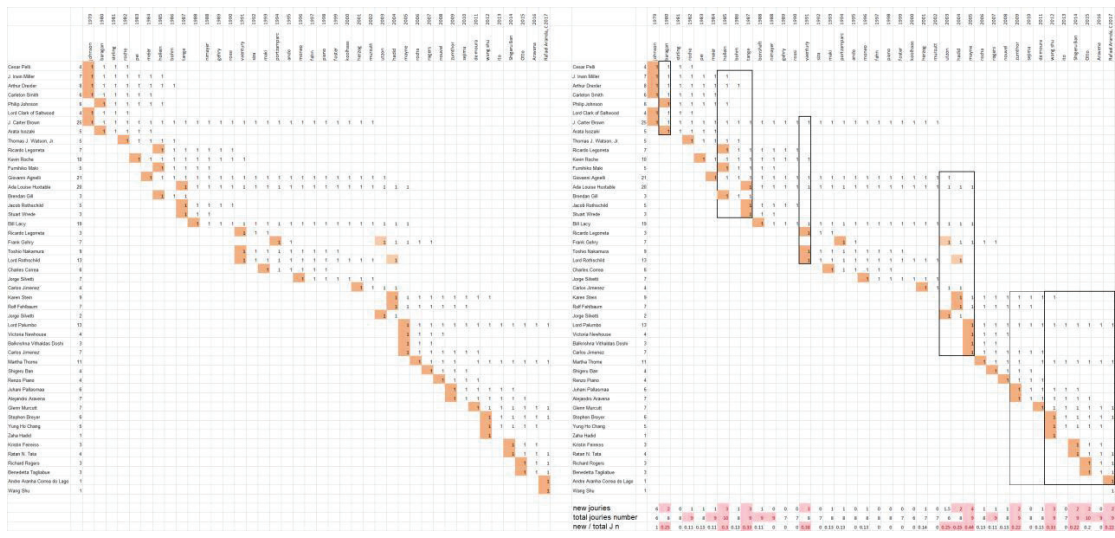


Figure 4. Left, first appearance of the jury members, right: The ten years with the highest proportion of new jury members to the total number of jury members. First appearance of jury members, or number of new jury members per year

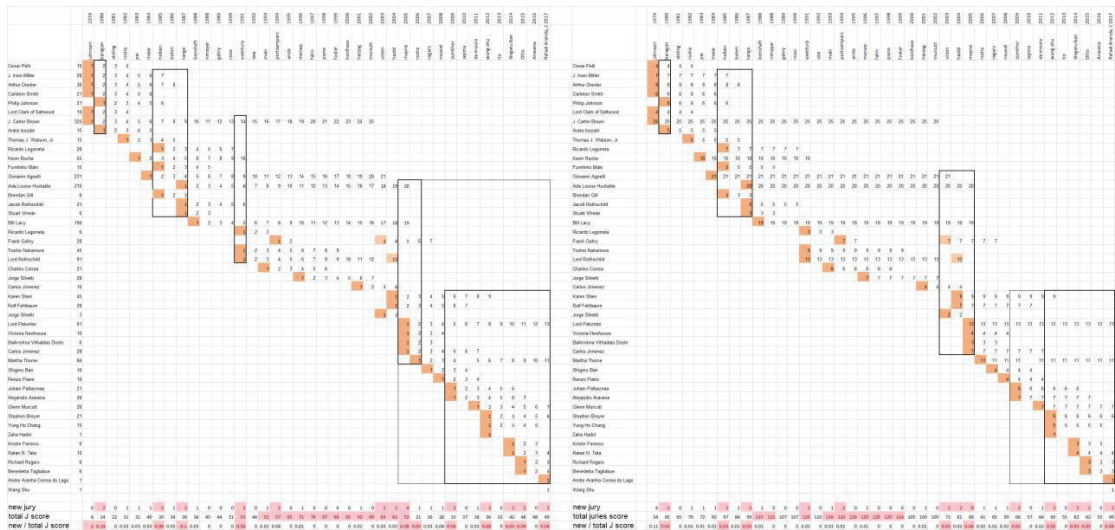


Figure 5. Left and right, ten periods with the highest weighted score of new jury members compared to all jury members with two different indexes

4.2. The findings of the second section: analysis of the contents of the jury citations

As we explained in the section on research methods, the contents of the jury citations were first studied and then encoded in a reciprocating process. The codes were then categorized and factorized. As you can see in the table below (Table 1), the contents of the jury citations can generally be divided into four major parts:

Table 1. Analysis of the contents of the jury citations

Architect's characteristics	personal
	roles
Work's features	Values
	Aspects
	History
	Site
	Types
	Design process
Architecture as	
Our age	

Part of each jury citations describes the characteristics of the laureates. These descriptions from a unique personality traits such as "a quite humble man", as in the case of Kevin Roche, the 1982 recipient of the prize, to more general characteristics such as the talented and visionary. In addition, jury citations also mention the roles such as teacher, researcher, theorist, intellectual leader, inspirational etc. that architects have been praised for or noted.

The second part of jury citations deals with the characteristics of each architect's work. We have divided the contents of this part into the following categories.

- Values
- Local - international
- Past - contemporary - history
- Site - environment
- Types
- Imagination poetic
- Sensational attributes
- Architectures aspects
- Design process
- Client people user
- Life/inhabit

In general, this section includes comments on humanistic aesthetic values such as original, unique, and personal language, or refer to the relation of the work to the region or the its internationality, as well as how the work relates to the past and the future. Another common subject addressed in such analysis is how the work relates to the context, surroundings, the social and cultural context, landscape etc. While reviewing or describing the work, the scope of the work in terms of their use (museums, residential, memorials, state centers, etc.) or their scale (small to large), are often discussed. A review of the jury citations reveals that the jurors have tended to nominate

architects with a wide range of works. References to sensory, or sometimes supernatural qualities, also constitutes parts of the jury citations in this section. The jury citations point to various aspects of architecture such as space, materials, technology, etc. We have arranged such aspects in two larger categories, namely design dimensions and design process. In the parts on design process, the jury citations discuss whether the design is individual or collective, as well as how the architect relates to users, legislators and the employer etc. the needs of the users in the design process etc.

In the third part of the jury citations, the jurors express their definition of architecture. This section either constitutes a distinct part of the jury citations (such as the jury citations of the years etc.), or is implicitly included when discussing the work (is an artistic gesture) or the artist himself/herself (is an artist).

Some jury citations contain a fourth part that often reports or comments on the circumstances of the historical period. For example, the 1982 announcement points out that the arts and architecture has been influenced by fashion, the fashionable is becoming unfashionable and vice versa. The announcement admires Kevin Roche's approach to addressing the issue. In the case of Frank Gehry, the announcement points out that his work embodies the new culture and world and proceeds to describe the circumstances of the new age (1989).

4.2.1 Architect

4.2.1.1. Architect's rules

Roles such as teacher, theorist, critic, leader, pioneer etc. are discussed in this section. The roles can be divided into 6 general categories (Table 2):

Table 2. Architect's rules

1	critic	4	Profounder
	Historian		Lectures
	Theoretician		Teacher
	Philosopher		With students
	Writher		University
	Author		Researcher
2	Urban designer	5	Inventor
	Urban thinker		Innovator
3	Builder	6	Prophet
	Artist		Leader
	Engineer		pioneer
	Professional		Inspirer
	Master of ...		

However, the most frequent roles are: Theoretician, Writer, Teacher, and Artist. A review of the distribution of roles in various jury citations reveals that the emphasis has been on the intellectual work of theorizing etc. along with, professionalism in architecture. In recent years, roles such as being an inventor or a creative person are found

along with the definition of the architect as a designer and inventor of materials and structures. The emphasis on profession appears to be more pronounced from 1982 to 1999 in the opening and middle jury citations. While in 1987, or more cautiously, since 1990, emphasis on intellectual work and theorizing has been given greater consideration, which coincides with the emergence of postmodernism and the emphasis on theory (Figure 10):

4.2.1.2. Works attributes

4.2.1.2.1. Values, attributes, and characteristics

Values repeatedly emphasized in jury citations are listed in the table below and displayed in table 3. The following general conclusions can be reached: Originality, uniqueness, freshness, etc. and similar qualities have been repeatedly present since 1989. Qualities such as iconic, figurative, sculptural etc. have been considered from 2001–2009.

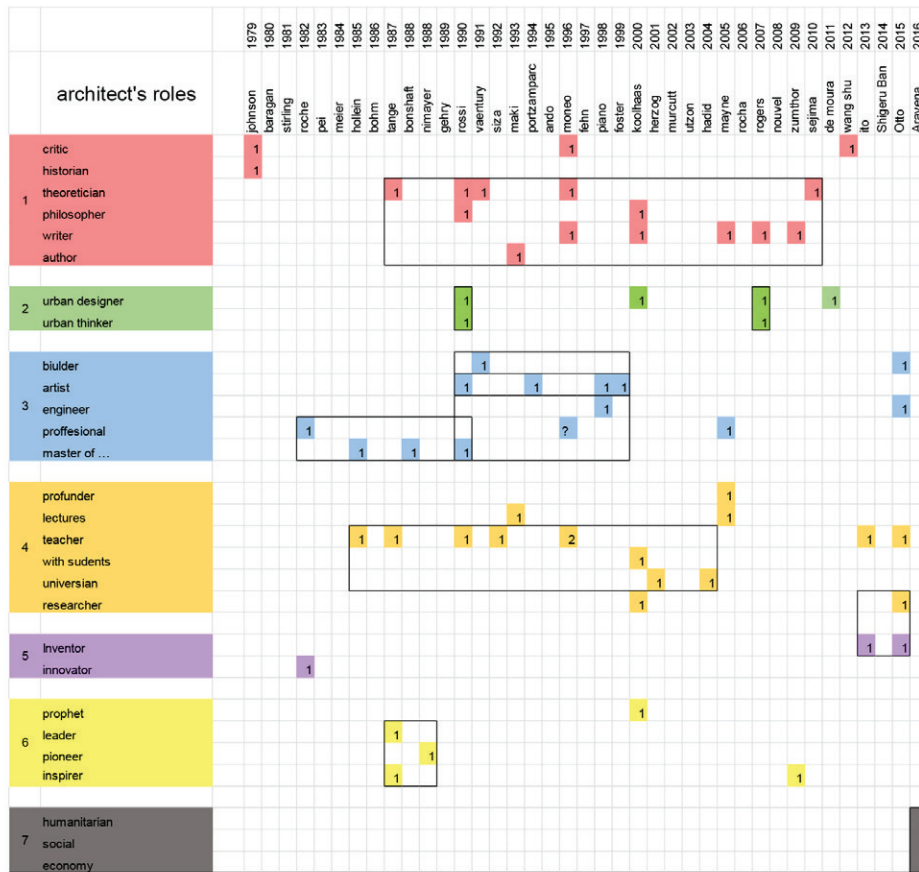


Figure 10. An architect's roles

Table 3. Values, attributes, and characteristics

	Keywords	Count		Keywords	Count		Keywords	Count	
1	Individual	3	5	iconic	4		flexibility	4	
	personal	3		Figurative	1		12	Sustainability	4
	Her approach, his signature	4		Sculptural	1		13	Optimization	3
2	Original	11	6	Bold shapes and colours	6		Beautiful	8	
	Singularity	4		monumental	2		15	Populist	1
	Unique	11		Balancing	4		16	clarity	
	Freshness	7		Combination, blend, ...	7				
3	Distinctive	1	7	A while not a ...	4				
	In its own way	2		Harmonious	5				
	Creative	6		Transparency	5				
	Creativity	6		Translucency	1				
4	Experimentalism	7	8	Opacity	2				
	New idea, new approach	11		Inspire spaces, ...	5				
	Search	1		Unpredictable forms, spaces ...	3				
	exploration	3	10	honesty	2				

Qualities such as balancing, harmonious, combination etc. as well as contemporary but contradictory qualities have been present from 2010 to 2015. Earlier, the presence of such qualities has been discontinuous. Qualities such as empiricism, being new, inquisitiveness etc. have been present during almost all periods. However, they have been more common from 1998 to 2001 and to some extent from 2008 to 2014 (Figure 11):

4.2.2. Architectural aspects

Jury citations point to various aspects of architecture and the architectural process. The following Figure explores how each announcement considers such aspects (Figure 12). Common themes include: form, space, function, material, structure and technology, light, concept, and ideas. While attention to form and material in the work of laureates has always been present in the jury

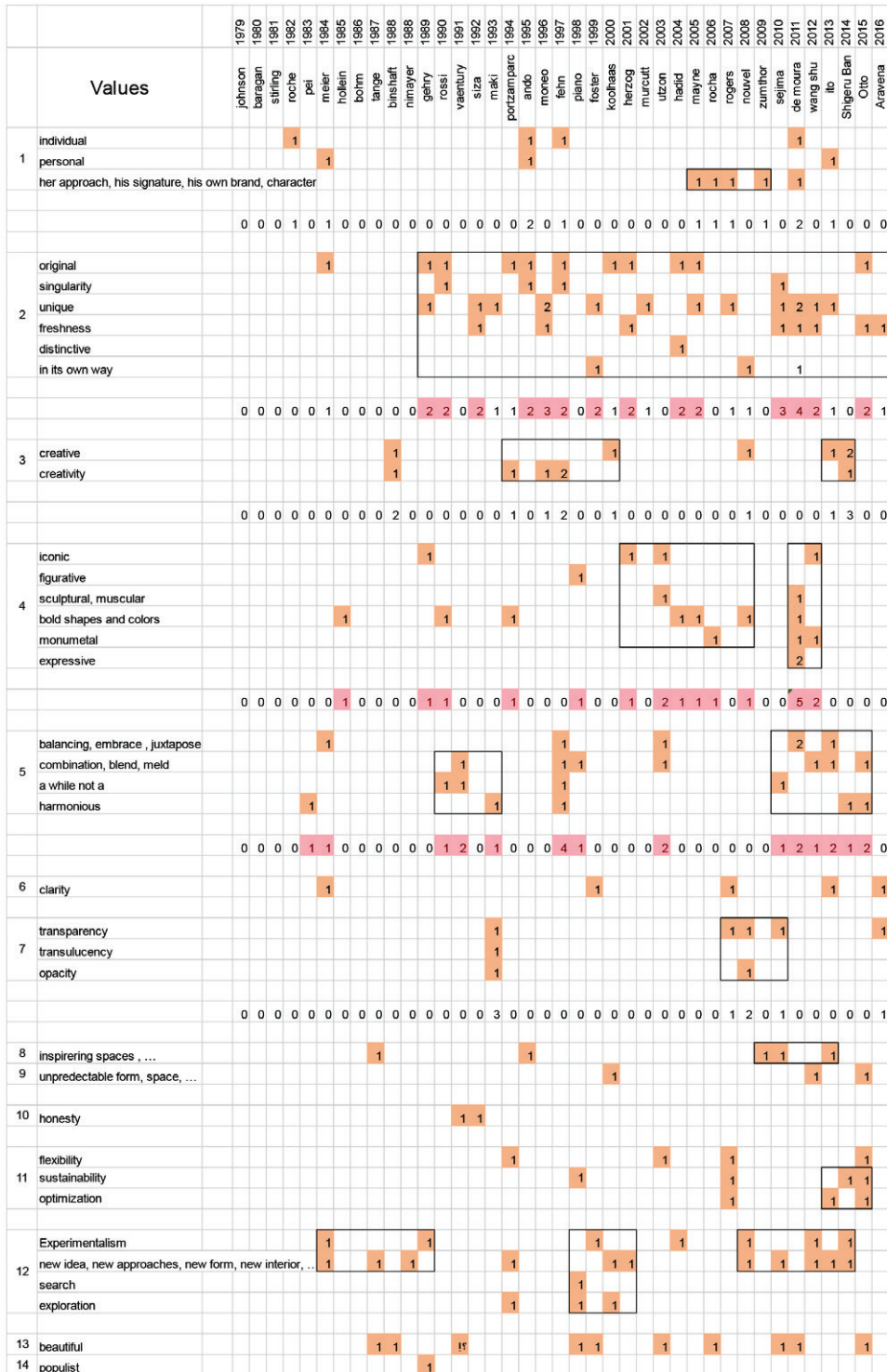


Figure 11. Values, attributes, and characteristics

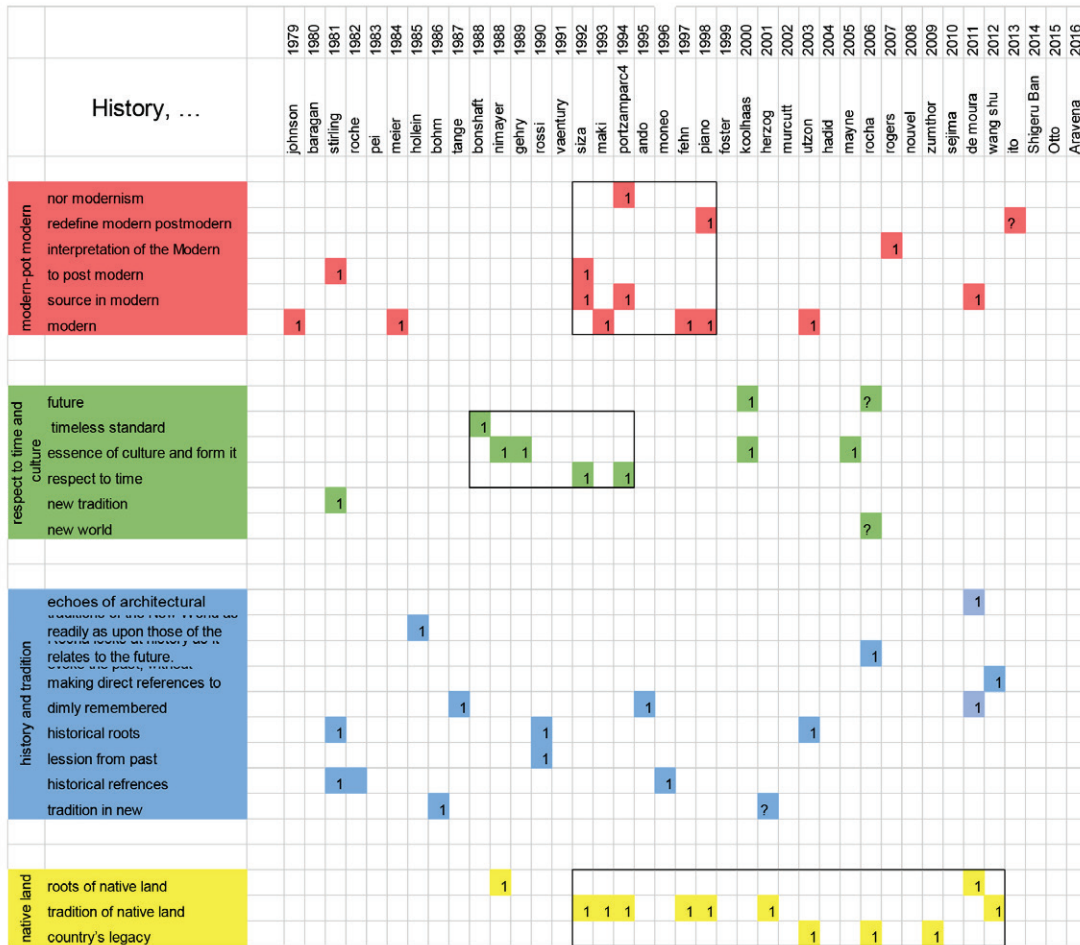


Figure 13. History, modern, context etc.

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016										
History, ...	johnson	baragan	stirling	roche	pei	meier	hollein	bohlin	tange	bonschaft	nimayer	gehry	rossi	vaentury	siza	maki	portzamparc4	ando	moneo	fehln	piano	foster	koolhaas	herzog	murcutt	utzon	hadid	mayne	rocha	rogers	nouvel	zumthor	sejima	de moura	wang shu	ito	Shigeru Ba	Otto	Aravena									
A modernism	1	1	1												2	1	2				1	2				1																						
B respect to time and culture			1								1	1	1			1	1						2					1																				
C history and tradition			2				1	1	1				2				1									1			1																			
D tradition and legacy of native land											1				1	1	1			1	1			1		1		1				1				1	1											

Figure 14. Summary of Figure 13

Table 4. Surrounding site context

Climate	Climate	City	City fabric
	Ecological		Urban life
	Land and weather		City structure
	Settlement		Urban context
surrounding	Gardens	Site	Site
	Other buildings		Location
	Neighbourhood		Site conditions
	Nearby ...		Setting
Place		environment	
landscape		nature	

The table only presents direct references while some jury citations explicitly reviewing and analysing discourses explicitly consider the artistic aspects. When reviewing the works of architects, one can notice their technological tendencies despite the fact that such tendencies have not been explicitly discussed in the announcement. However, we have concentrated on the literal and explicit use of terms.

To illustrate the themes of “architecture as profession” and “architecture as art”, which are permanent themes in the announcement, one can refer to the 1990 announcement on the nomination of Aldo Rossi. In this announcement, the jury members explain “architecture as profession” and invoke the time required to achieve mastery as an architect as a reason for this analogy. “Architecture is a profession with no shortcuts. To reach perfection, an architect should understand space etc. (1990). In addition, in the announcement in the following year about Robert Ventury, the jurors attempt to explain why they regard architecture as an art and profession. They write: “Architecture is a profession in which talent grows slowly.” The profession demands years of thoughtful observation as well as the test of principles, sense of space, etc. (1990).

We can detect more general patterns by analysing the contents of the jury citations. In summing up, we can achieve a bigger picture of the jury citations by comparing the results we have achieved. The following table resulted

from the superimposition of the clustering of the network of jury members (the results of section 1), and the analysis of the nine parts of the contents of the jury citations (section 2). Here, we have attempted to exclude items that did not have a meaningful distribution from the table below. For example, items that have been distributed equally throughout the years have been eliminated.

Considering the above tables, we can infer some of the common features among the network of jury members and the content of the jury citations. In the table below (Figure 19), the content clusters are introduced and the features of the indexes are extracted from the above chart (Figure 18).

5. Discussion

The research began with three main questions

- How have the members of the jury been selected and how has jury selection evolved during various periods?
- What semantic units do the contents of the statements contain and what discourses can be identified over the years?
- What is the relationship between jury selection and the content of the jury citations, and can particular discourses be attributed to particular jury panels?

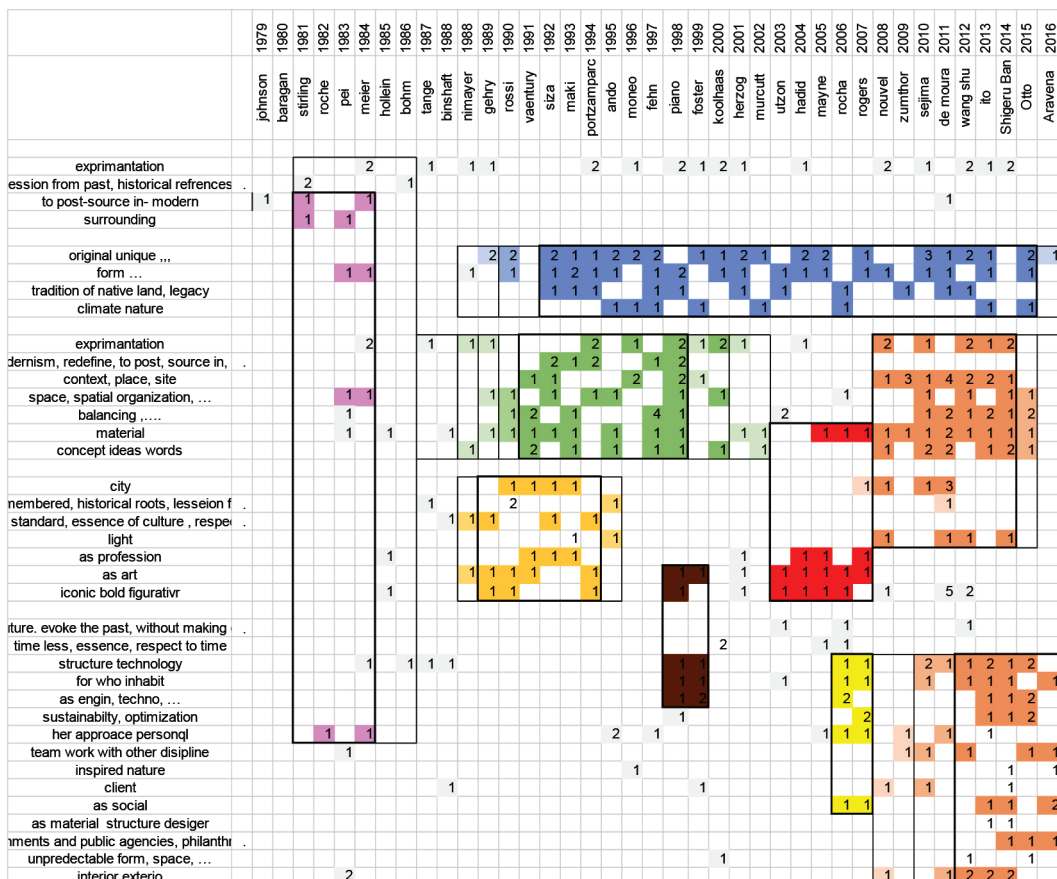


Figure 18. The Clustering of the results of analysing the contents of the jury citations

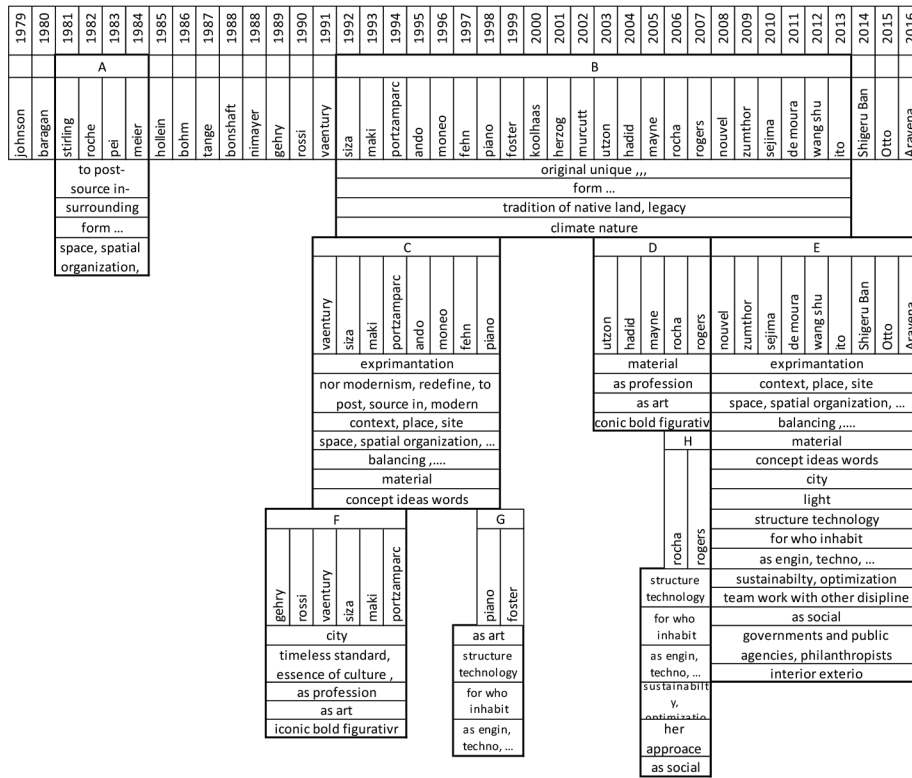


Figure 19. Content map of dominant discourses in jury citations during different periods of the prize

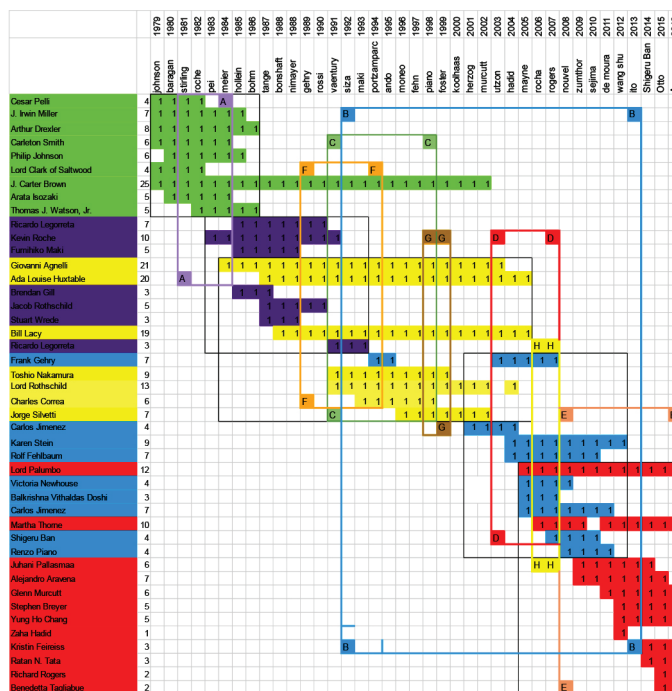


Figure 20. Super imposition of Content map (Figure 19) on jury clusters (figure 6)

As noted, the jury panel has been relatively stable over time: 1979–1984 The Green cluster, 1987–1998 the Purple cluster, 2002–1991 the Yellow cluster, 2005–2005 the Blue cluster (according to Figure 4 (right) and Figure 9 summarized in Figure 22).

The period from 2011 to 2016 is slightly different. On the one hand, it is deduced from Table 4 that during this period new jury members were regularly added to the previous members and some were eliminated, which makes it a transitional period. On the other hand, the clusters show that, at least since 2011, most jury members may have been from the red cluster. One of the limitations of this research is the beginning and end of the table. The recent years of the award until 2016 have no definite status. We have to wait to see whether jury members will be changed in the coming years or that we will see a period

of stability in the selection of the jury members and the discourse attribute to them, as in the years 1991–2002.

In his article, Sorkin also studied the amount of time members served on the jury panel, specialties, and the ratio of architects and other groups among the jury members. However, he has not considered the contents of jury citations and their relation to the jury members (Sorkin, 2005).

As we have seen, the contents of jury citations can be divided into 4 parts. Statements about personality traits and roles of architects/winners, the values and qualities of the work of the architect/winner, statements about the kind of phenomenon architecture is and the domains it contains. In some cases, there is an analysis of or response to some contemporary trends in art and architecture at the time of the award.

Heynen also examines some of the characteristics and values attributed to architects and their works until 2012. He extracts and categorizes keywords in the description of the architects and works by reviewing jury citations. He then explores the historical semantic roots of the words in the Renaissance period and shows that the discourse and the semantic system prevents women from being nominated for the prize (Heynen, 2012). This research does not intend to interpret or identify the origins of discourses. The authors intend to describe, and in particular, review the dispersion of discourses over time and their relation to the selection of jury members. In this research, we have attempted to completely extract, categorize and report keywords. Other categories, such as the jury members' views on history, tradition, context, nature, and the design process have been observed, in addition to Heynen's research. Therefore, while providing the necessary comprehensiveness, the research provides a decent context for analysis and interpretation by other researchers.

The other advantage of this research is distinguishing similar keywords and preventing them from being merged as much as possible. This means that although

	Green	Purple	Yellow	Blue	Red
A	9	1	1	0	0
B	1	1	7	7	8
C	1	2	7	1	0
D	0	0	4	7	2
E	0	0	0	6	12
F	1	3	6	0	0
G	1	0	7	0	0
H	0	0	0	7	2
Cesar Pelli	Ricardo Legorreta	Giovanni Agnelli	Frank Gehry	Lord Palumbo	
J. Irwin Miller	Kevin Roche	Ada Louise Hux	Carlos Jimenez	Martha Thorne	
Arthur Drexler	Fumihiko Maki	Bill Lacy	Karen Stein	Juhani Pallasma	
Carleton Smith	Brendan Gill	Toshio Nakamura	Rolf Fehlbaum	Alejandro Aravena	
Philip Johnson	Jacob Rothschild	Lord Rothschild	Victoria Newhouse	Glenn Murcutt	
Lord Clark of Salween	Stuart Wrede	Charles Correa	Balkrishna Vithaldas Thackeraya	Stephen Breyer	
J. Carter Brown	Ricardo Legorreta	Jorge Silvetti	Carlos Jimenez	Yung Ho Chang	
Arata Isozaki			Shigeru Ban	Zaha Hadid	
Thomas J. Watson			Renzo Piano	Kristin Feireiss	
				Ratan N. Tata	
				Richard Rogers	
				Benedetta Tagliarini	

Figure 21. Relationship between jury selection and the content of the jury citations (from Figure 20)

new juries	6	2	0	1	1	1	3	1	3	1	0	0	0	3	0	1	1	0	1	0	0	0	0	0	1	0	2	2	2	4	1	1	1	1	2	0	1	3	0	2	2	0	0		
total juries number	6	8	8	9	8	9	10	8	9	9	9	7	7	8	7	8	8	8	8	8	8	8	7	6	7	7	7	6	8	8	9	8	8	9	8	9	8	8	8	9	7	9	10	9	9
new / total J n	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
stable period according to figure 7	Johnson	baragan	stirling	roche	pei	meier	holllein	bohlin	tange	bonshafst	nimayer	gehry	rossi	vaentury	siza	maki	portzamparc	ando	moneo	fehln	piano	foster	koolhaas	herzog	murcutt	utzon	hadid	mayne	rocha	rogers	nouvel	zumthor	sejima	de moura	wang shu	ito	Shigeru Ban	Otto	Aravena						
figure 7 + figure 9	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016						
stable period according to figure 9	6	8	8	9	7	7	4	3	6	3	5	3	3	5	2	6	6	1	7	7	7	6	5	1	1	2	1	2	2	6	2	6	4	5	3	5	3	8	1	7	9	10	9		

Figure 22. Stable periods of jury selection according to figure 4 (top) and figure 9 (bottom)

more general themes have provided the basis for interpretation and for specifying the time periods, the keywords have been reported separately in the Tables, so that other groupings cannot be eliminated. For example, although there is little difference between “site”, “surrounding”, and “context”, differences are not eliminated, as there are significant differences between “site” and “surrounding”.

Another innovation of this research is the consideration of time and the investigation of the dispersion of the keywords and themes throughout time, which are absent in the two previous studies by Heynen (2012) and Sorkin (2005). With the logic described in Section, at least 6 distinct independent discourses can be identified.

To answer the third question of the research, we should consider Figure 21. This section is among the findings and the strengths of the present study. Although Sorkin explored jury selection over time, he did not examine the contents of the jury citations. Heynen has also avoided discussing jury members, as well as dispersion and discourses over time. Figure 21 shows that there is a more significant relationship between discourse A and the green jury cluster in the period 1979–1984, as compared to other clusters. (In the purple and yellow clusters, there is only one jury member in statements employing the majority of keywords associated with discourse A). Discourse B is associated with the yellow, blue, and red clusters. This is how the relationship between each cluster of jury members and discourses are determined. There are, of course, limits on this part of the research. For example, if the clusters are associated with fewer architects or discourses with more general or less relevant keywords, the validity of the relationships decreases. In some cases, a team of jury members has produced two or three discourses, which can be caused by exposure to two or three types of architect/architectures. (For example, discourses H, B, D, E)

Conclusions

Pritzker claims “to be annually awarded: to honor a living architect or architects whose built work demonstrates a combination of those qualities of talent, vision, and commitment, which has produced consistent and significant contributions to humanity and the built environment through the art of architecture.” It also claims to employ “Vitruvius’ fundamental principles of architecture” for the nomination process.

The jury selection has been transformed from 1985 to 1987, in 1991 and from 2003 to 2006 as new members entered the jury panel. Between 1988 and 2002, or between 1991 and 2002 to be more precise, jury members have been more or less the same. During this period, jury members have usually served for longer periods. However, in the periods with a higher number of new jury members, the jury members have served for relatively shorter periods.

The Pritzker statements make comments on architecture, the characteristics of a good architect, criteria for an acceptable architectural work, as well as an analysis of the

circumstances of the time, and proper response from the perspective of jury members to these circumstances. Architecture as art and architecture as a profession are two of the longstanding themes of these statements, besides which architecture as social responsibility (since 2012), structural design, and material design (since 2015) have also been considered and regarded as parts of architecture. In the Pritzker statement, architects/winners have been described as talent, genius, visionary, etc. individuals often performing the roles of teacher, inventor, artist, theoretician, and writer. Roles such inventor and innovator have been more recently attributed to winners. In general, practical work along with viewing architecture as an art and crafts, along with theoretical work, teaching, critique, and theorizing, constitute the ideal winner from the perspective of the jury members. The jury members have repeatedly considered the aspects of the form, space, material, and the concept of architecture. However, “space” and “structure” are less commonly observed from 1997 to 2010 and from 1998 to 2004 respectively. Thus, the claim of the award concerning the Vitruvian basis of architecture is confirmed to some extent.

In addition, keywords such as color, light, details, and concept have been considered outside the triple principles. Regarding the desirable features of architectural works from the perspective of jury members, four semantic groups can be identified. Values such as unique, original, etc. (From 1989 onwards), qualities such as iconic sculptural, figural, etc., which are related to the formal forms of architecture (2001–2009). Conditions such as harmony, balance, combine, etc. Sometimes even between opposite features (more in the 2010–2015 period) and ultimately empiricism, modernizations, the search for new forms and architectures in architecture often in all years (especially 1998–2001 and 2008–2014). The jury members are specifically speaking about history, tradition, fashion, modernism and the legacy of native land.

Jury citations admiring architects for following past traditions or heritage are common during all the periods of the prize. However, this attention to history has been transformed. For example, attention to architectural heritage was initially in the form of “tradition in new” and lessons learned from the past (even the competing approach that attempts to be creative is called “new tradition”). Then, from late 80’s and early 90’s, we see architects who implicitly refer to history in their works. From 1992 to date, attention is paid to the local traditions and architects who consider the architectural heritage of their native land while being pioneers in their fields. Architects who respond to the spirit of the times, form a new culture etc. are distributed during all this age.

Attention of architects and jury members to the surrounding environment has evolved from a primitive concept such as the immediate surroundings into attention to the city and the larger context of the building, and then into attention to climate, nature as the more general background of architecture. Inspiration from nature and its processes is a more advanced form of attention to nature

and naturalism. Sustainability and optimization are more recent concepts formed in relation to the consumption of materials, energy etc.

In most of the jury citations, the emphasis is placed on the architect as talented, artist, etc. and monuments are described using features such as “in his unique way ...” that all emphasize the individual design process.

But Jury citations published since 2009 tend to favor architects who have attempted to create their works in collaboration with other architects (2010, 2017), other professionals (1983, 2015, 2016), the industry, workers, manufacturers (2009, 2012), and ultimately lawmakers, local authorities, as well as people and users (2016).

Features such as innovation, invention, inspiration indicate the individuality and the illuminated nature of the design process. However, viewing architecture as a problem that can be explained and solved in the form of a program is a notion that has appeared from time to time.

Discourse A is distinguished from other discourses by the jury members in form, space, and space organization, as well as the relation of the building with its surroundings. Other features of this discourse are attention to modernism and postmodernism, and works rooted in modernism have been promoted by the discourse (Figure 19). Architects whose works are distinguished by these features are Stirling, Roche, Pei, and Meyer respectively. This discourse was dominant between 1981 and 1984, and it seems to correspond to the green cluster of Figure 21. Of course, as shown in the Figure 22, in the period from 1979 to 1984, jury members were stable.

Discourse B has been dominant during a relatively long period of time. Attention to values such as originality, uniqueness, etc. and attention to form is more than other courses in this period have been considered. Attention to the legacy of modern architecture and the views of architects on postmodernism has been eliminated from discourse while discourse B has promoted the discussion of local traditions and the heritage of the country of origin. In addition, the relationship between of the building to the surroundings that was honored in the previous discourse has grown here and relationship of the building to the climate and nature has been examined by the jury members (Figure 19). Jury members that are present in the yellow, blue and red clusters have contributed to the production of texts containing these keywords (Figure 21). Architects in the works of whom these features were highlighted won the 1992 to 2013 awards (Figure 22).

Discourse C praises architects who endorsed empiricism, as in discourse A where architects attempted to redefine modernism by creating works rooted in modernism. These architects have paid special attention to the context, the site of the project and the site. Space and space organization have also been considered, as in discourse A. What distinguishes this particular discourse from other discourses is the praise of empiricism, the search for new forms and spatial possibilities in architecture, the balance and the contrast between the structure of architecture (under the influ-

ence of postmodernism), attention to materials, attention to idea and concept, and in general, the semantic aspect of the works of architecture, which can be confirmed in relation to the historical period, the emergence of postmodernism, etc. (Figure 19). The winners of 1991–1998 are in this discourse, and the yellow cluster jury members are more related to it (Figure 21). Architects/winners who won the prize from 2003 to 2007 have been praised for being iconic as well as for their bold and figurative forms. The last two architects of this period, Rosa and Rogers, exhibit features of Discourses D, B, and E. (Figure 19).

The most expensive discourse (E) is, incidentally, in a period of time when jury members have served the shortest and more new jury members have been added to the panel. However, the architects/winners have been praised for the same qualities. The jury members who have shaped this discourse have been present in the blue and red clusters (Figure 21) Attention to light, city, technology, and structure, and sometimes even the design of structures and materials, attention to residents, sustainability and optimization, as well as attention to interior and exterior spaces are among the special features of this discourse. In addition, there are new definitions of architecture during this period. (Architecture as a social act and the emphasis on architectural engineering and technological aspects). The transformation of design from an individual activity to a collective one (not only among the members of the team but also among different engineers from other disciplines (especially in the case of Ito), and even among the government, local activists etc. (In the case of Aravanis)) Distinguishes the winners of this period and this discourse (Figure 19).

Discourse F praises architects who have paid attention to the city, as the context of the building, in addition to the formal and iconic aspects of the building and its bold and figurative characteristics. Attention to architecture as an art and as a profession is another feature of these architects that has led to the formation of a discourse by itself. One of the most unique and remarkable features of this period is the use of timeless standards, and the embodiment of the essence of the age, which distinguishes it from discourse C, which is linked to modernism and postmodernism (Figure 19).

The relationship among the discourses and the cluster of jury members can be examined by comparing Tables and Figures. However, as we have already stated, when the discourses last shorter or become semantically more generalized, the validity of the relationships between the clusters of jury members decreases.

Further studies can be conducted on other parts of the texts and content produced by the jury members and the winners of the prize. (E.g. sections such as the architect/winner’s speech or images of the works of the nominated architect) A study can be conducted on images published on the official website of the prize. The findings from the study of such images, published under the title selected work, can be compared with the findings of this study.

In addition, a study could also be conducted on other architectural prizes such as Aga Khan Award for Architecture and other international or regional prizes.

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Notes

1. Available in: <https://www.diigo.com>
2. All the information regarding the Pritzker Prize, such as jury members, jury citations and etc. Retrieved from <http://www.pritzkerprize.com/>