

# Façades and Functions

## *Sigurd Frosterus as a Critic of Architecture*

Kimmo Sarje

Alongside his work as a practising architect, Sigurd Frosterus (1876–1956) was one of Finland's leading architectural critics during the first decades of the 20th century. In his early life, Frosterus was a strict rationalist who wanted to develop architecture towards scientific ideals instead of historical, archaeological, or mythological approaches. According to him, an architect had to analyse his tasks of construction in order to be able to logically justify his solutions, and he must take advantage of the possibilities of the latest technology. The particular challenge of his time was reinforced concrete. Frosterus considered that the buildings of a modern metropolis should be constructivist in expressing their purpose and technology honestly. The impulses of two famous European architects – Otto Wagner and Henry van de Velde – had a life-long influence on his work. Urban architecture with long street perspectives and houses with austere façades and unified eaves lines was the stylistic ideal that he shared with the Austrian architect Wagner. An open and enlightened urban experience was Frosterus's future vision, not National Romantic capriciousness or intimacy drawing from the Middle Ages. According to Frosterus, the Belgian van de Velde was the master interior architect of the epoch, the interior of the Nietzsche Archives in Weimar being an excellent example of his work. However, already in the 1910s Frosterus's rationalism developed towards a broader understanding of the functions of the façades of business edifices. In his brilliant analyses of the business palaces by the Finnish architects Armas Lindgren and Lars Sonck, he considered the symbolic and artistic values of the façades to be even more important than technological honesty. Moreover, references to the history of architecture had a crucial role in the 1920s and 1930s when he wrote about his main work – the Stockmann department store in the centre of Helsinki.

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Sigurd Frosterus (1876–1956) is known in the history of Finnish and Nordic architecture as one of the leading rationalists of the early 20th century. He was an internationalist and a patriot, who studied and worked in Henry van de Velde's office in Weimar in 1903–1904, and he successfully introduced contemporary continental discourse into Finland and Scandinavia. Together with his colleague Gustaf Strengell (1878–1939), he questioned the hegemony of National Romanticism in Finnish architecture with their sharp critique of Eliel Saarinen's competition entry for the new Helsinki Railway Station in 1904.<sup>1</sup> The culmination of the polemic was the elegant manifesto of the two young critics, *Arkitektur: en stridskrift våra motståndare tillägnad af Gustaf Strengell och Sigurd Frosterus* (*Architecture: a challenge to our opponents by Gustaf Strengell and Sigurd Frosterus*).<sup>2</sup>

In the history of Finnish architecture this chapter is fairly well known,

but Frosterus's role as a critic of architecture was more complex than just that of a logical rationalist – not to mention his distinguished career as architect, art critic, and theorist. Frosterus was a prolific writer, who published with various periodicals and newspapers as his forum. From 1908 to 1911, he was also editor-in-chief of *Arkitekten*, the professional journal of the Association of Finnish Architects. Frosterus's critique of architecture was a crucial part of his modernist program of art and his 20th-century worldview. He was deeply involved in contemporary architecture, painting, technology, literature, and philosophy.

My critical edition of Frosterus's texts on architecture with a thorough introduction has recently been published in Finnish. Frosterus himself never published a collection of his essays and articles on architecture either in Swedish, his mother tongue, or in Finnish. The book, *Arkkitehtuuri: Kirjoituksia 1901–1953* (Architecture: Writings 1901–1953), opens up to a new perspective on Frosterus's oeuvre. The excellent Finnish translation is by Rauno Ekholm, who has previously translated Frosterus's essays and articles on painting and technology into Finnish.<sup>3</sup> Bauhaus Universität Weimar's decision in 2010 to publish a representative collection of Frosterus's essays in German will make his work accessible to European readers.

### **Otto Wagner and Henry van de Velde**

Frosterus entered the architectural scene by publishing an essay on Otto Wagner's principles of metropolitan architecture in 1901.<sup>4</sup> Wagner, the modernizer of Vienna in the late 19th century, called for a constructional and rationalist approach in architecture. Frosterus admired his aesthetic, which was constituted by rectilinearity, open views, and honestly applied materials in urban buildings and constructions, rather than anachronisms. Frosterus later wrote about Wagner's famous pupils, Joseph Maria Olbrich and Josef Hoffmann. While Frosterus appreciated their talent and command of architecture, Olbrich's decorative and theatrical expression made him suspicious, although he had sound confidence in Hoffmann's geometric and constructional work.<sup>5</sup>

Close companionship with Henry van de Velde, one of the leading rationalist art nouveau architects and theorists of the turn of the century, had a crucial impact on Frosterus's development as an architect, designer, and critic in his earlier years.<sup>6</sup> Van de Velde's circle in Weimar was a widely radiating centre of Continental European Modernism ranging from the fields of architecture and design to literature, theatre, and painting. Frosterus's privilege to work in this intellectual milieu strengthened the connections of the modern movement in Finland with European currents.<sup>7</sup>

Frosterus admired van de Velde as a genial and creative personality – an *Übermensch* – although the young Finnish architect was also of a critical and independent mind. He considered van de Velde, as an interior designer, to be the leading contemporary talent, with the Nietzsche Archive’s interior as a brilliant example. But as an architect, van de Velde, in Frosterus’s opinion, relied too deeply on intuition. A constructional starting point and an analysis of the architectural problem, the Wagnerian virtues, were crucial for Frosterus’s method. The differences of the approaches developed a creative and even conflicting tension between the architects, which nonetheless did not prevent the mutual confidence and friendship of these colleagues.<sup>8</sup> In his memoirs, van de Velde describes Frosterus as follows:

None of my assistants and pupils thus far had approached me with such straightforwardness, enthusiasm and obvious respect. His youthful manner, his tone of speech and his memorable gaze made the decision easy for me. The charm of his beautiful movements and his impeccable behaviour decided the rest. Frosterus spoke fluent German and French. He was learned in everything that concerned new currents in art; he was familiar with the various orientations of European art, above all in architecture and applied art; he had studied German, Belgian, English and French art magazines and taken a close look at reproductions of works. He had made a thorough study of my writings [...] It is with great pleasure that I recall my collaboration with Frosterus, an architect of considerable professional skill and excellent sensitivity. And I have not forgotten our many conversations around our worktable or on our walks in the palace park of Weimar and the Belvedere Park.<sup>9</sup>

According to Frosterus, van de Velde’s design of the interior of the Nietzsche Archives was a modern masterpiece:

The interior is integrated and logical throughout – no doubt the most beautiful one that he has produced so far, the most tranquil space evoking piety that our age has produced. Everything is toned in light colours, pale yet at the same time deep red velveteen – the colour of Alpine snow glowing in the sun – covers the walls and furniture, the wood is only as dark as required to produce the necessary distinction of value, and the ceiling is white [...] Here, too, as in all works by van de Velde, one primarily notes his strong and assured approach [...] With his inexhaustible and lively imagination refined and developed in *orderly* freedom – here one can feel and know that both soul and heart have collaborated – he (van de Velde KS) has sought to create a home where Nietzsche could have worked and felt comfortable. (The Nietzsche Archives in Weimar, 1904)<sup>10</sup>

Frosterus's training and experiences in Weimar must have given him the necessary intellectual and artistic confidence to launch a heated attack against the most successful Finnish architects of his generation, the office of Gesellius, Lindgren, Saarinen, in a polemic concerning the Helsinki Railway Station Competition in 1904. In this conflict, Frosterus defended rationalist principles without compromise and shared no understanding of Saarinen's National Romantic design. No doubt, this concerned Frosterus's position in the field of architecture: he wanted to challenge the heroes who were only few years older than him – and what must have added to his disappointment and anger was the jury's unfair appraisal of his own excellent and radical competition entry.

### **The Politics of Criticism**

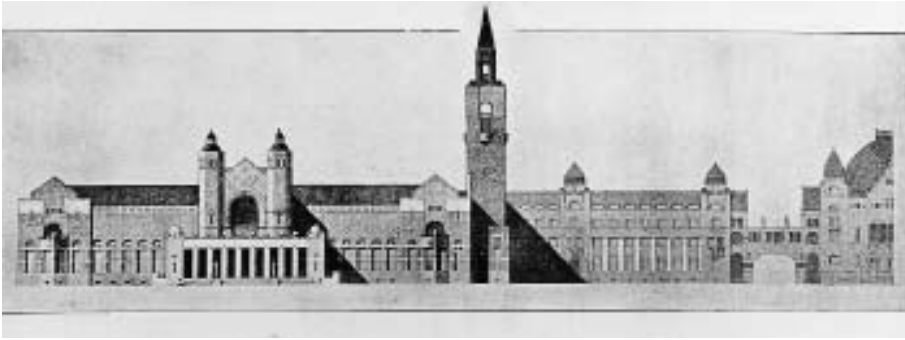
Interestingly, Frosterus was not quite consistent, or dogmatic, as a critic. When judging the new business palaces by Lars Sonck and Armas Lindgren, he did not see any principal problem in the fact that the design did not follow the modern norm of building from the inside to the outside so that the façades would express the organic functions of the houses. On the contrary, the exteriors were of strong artistic autonomy, and Frosterus analyzed them as works of art. He tried to justify his approach by emphasizing the symbolic role of the edifices for the companies that they served and that had made the commission. Frosterus, however, could not accept this kind of logic when he evaluated the new Pohjola Insurance Company building by the office of Gesellius, Lindgren, Saarinen. Evidently, for Frosterus, Saarinen was not only a successful colleague but also a challenging rival.

In Frosterus's opinion, the Pohjola Insurance Company building was an anachronism, which had nothing to do with modern business premises. Perhaps as a Swedish-speaking Finn, he did not accept a view of the edifice as a mythical manifesto of Finnish-speaking national capital ownership and entrepreneurship:

The first thing one notices in Finnish architecture is affected archaism in glaring contradiction with the whole notion of modernity. It has been justified with the excuse of being national, stemming from the conscious aim to underline the uniqueness and special features of the country [...] The country's architects still regard unworked, rough blocks of granite as important elements of the new style – and this at a time when stone can easily be worked by machine according to one's wishes. Moreover, it has still been felt necessary in the Pohjola Building to roughen naturally cleaved surfaces with hammers and



1. Henry van de Velde designed Nietzsche Archive's interior in Weimar 1903. (Sembach & Schulte 1992, 264)



2. **Eliel Saarinen:** Entry for the Helsinki Railway Station competition, *Bevingadt hjul på jordglob* (Winged Wheel on the Globe), 1904. (SRM)

3. **Sigurd Frosterus:** The entry *Eureka* in the Helsinki Railway Station Competition, 1904. (SRM)

4. **Eliel Saarinen:** The Helsinki Railway Station, built 1919. Photo: Nils Wasastjerna. (SRM 74/2)

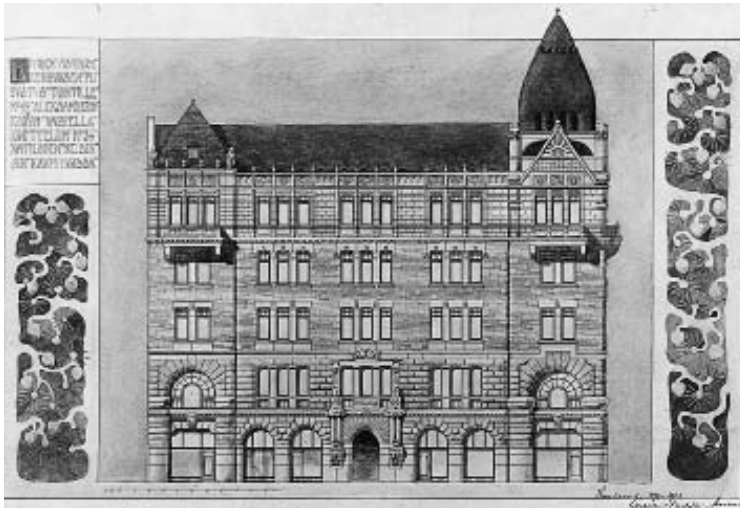
chisels. Cross-vaults, windows resembling the loop windows of castles, narrow entrances and heavy turrets – the pride of the restless 13th and 14th centuries – are regarded as suitable and typical for Finland's capital today, and on top of it all this is called modern architecture. (Our Architecture: A Lecture, 1905.)<sup>11</sup>

The headquarters of the Suomi Insurance Company by Armas Lindgren and the Helsinki Stock Market Building by Lars Sonck were completed in 1911. Frosterus reviewed both of these opulent business palaces in a single article, in which he paid attention to the role of the monumental stone façades of the houses from a modernist point of view. The question was whether a stage effect could be acceptable and functional in a modern business building. This time his answer was positive. The stone elements of the new edifices were machine-tooled as opposed to the deliberately rough work of the façade of Pohjola Insurance Company building, which was built ten years earlier.

Frosterus writes about Lindgren's and Sonck's new monuments:

In both cases, the façades are of natural stone, granite, and sums of money, which are considerable in Finnish conditions, have been invested in them [...] Despite their differences, these buildings share a consistent tendency towards symmetry and style, in the strict sense of the term. And let us add: emphasis on the façade mainly at the cost of the proportions of lighting and other design. In our present age, building projects have differentiated to such a degree that such action need not signify a breach of the sound principles that are the basis of our modern architecture: building from the inside to the outside. For, if we analyse the conditions for business premises to be popular, we see two important factors that will mostly conflict. One is the impressive exterior that draws people's attention, i.e. the façade, the advertising value, while the other is the appropriateness of the interior, i.e. the suitability of the space for office use. Experience shows that a handsome façade on rows of, for instance, slightly less impressive offices is more attractive to both tenants and passers-by, and the respect that the public, semi-consciously, has for a company behind granite walls, will sometimes be more significant than the added comfort an exemplary business edifice can offer. (Two New Business Palaces, 1911)<sup>12</sup>

The fact that the design of the façade and the plan drawing were commissioned from two separate architects underlined the autonomy of the exterior of the Suomi Insurance Company building. Onni Tarjanne, who was also a renowned architect, was responsible for the floor plan. Frosterus was quite pleased with Lindgren's work and he saw in the proportions of the façades reminiscences of the Early Renaissance and the palaces of



5. Gesellius, Lindgren, Saarinen: Drawing for the façade of the Pohjola Building at Aleksanterinkatu 44 in the centre of Helsinki, 1899–1902. (SRM 63/705)

6. Armas Lindgren: Bird's-eye view of the south façade of the Suomi Insurance Company building facing Lönnrotinkatu street in Helsinki. Photo: Apollo. (SRM 63/156)



the plutocracy of Florence. “In the Suomi Insurance Company building, Lindgren has created his best work to date, enriching the city with a sight enduring far beyond momentary fashion,” Frosterus summarizes.<sup>13</sup>

### **The Façade as an *Objet d’Art***

One of the formalist masterpieces of Frosterus’s critiques was his analysis of the façade of Sonck’s Stock Market Building in Fabianinkatu, a street in the centre of Helsinki. The point of departure of the review was that the street was relatively narrow, and the edifice was most often seen from an oblique angle. That is why, Frosterus argued, Sonck emphasized many of the elements and constructions of the façade and withdrew it slightly to distinguish it from the other buildings of the block. “At the same time, Sonck consistently narrowed the supporting pillars between the windows, and it is only when viewed diagonally that they reveal to the eye the mass that one would have expected to find in them also when viewed directly,” the critic explains.<sup>14</sup>

Frosterus was so convinced of Sonck’s talent and artistic originality that all modernist orthodoxy seemed to be useless in analyzing his most personal work, which, however, always had a certain rhythm of masses and proportions. “Sonck has the rare ability to design a façade as if it were a separate piece, an *objet d’art*, a distinct entity, like an ornament, one might say. Because of this overall impression, which to some degree obscures the purpose of the building as such, he readily sacrifices practical considerations and to achieve the heavy, dependable and solid appearance typical of all his façades, he does not eschew radical intervention with lighting, should his arrangement of volume so require.”<sup>15</sup>

Frosterus’s review of the head office of the Kaleva Life Insurance Company in Helsinki designed by Armas Lindgren is also an excellent example of the critic’s analysis and appraisal of a highly qualified and complex edifice. Even today, Lindgren’s work from 1914 is one of the most luxurious and refined buildings in the city. A marked element of the red granite façade is its massive S-shaped stone balustrade, horizontally dividing the exterior at the corner of Mannerheimintie and Kaivokatu streets. In his contemporary review, Frosterus sharply argued for the role and function of the balustrade in the composition and site of the edifice:

The balustrade, which is purely decorative, has in turn two functions. On the one hand, to hide asymmetrical fenestration dictated by the floor plan of the large stairwells, and on the other hand, to balance the impressive crenellation that essentially gives this building its palatial appearance and emphasis. In



7. Lars Sonck: The Helsinki Stock Exchange Building in Fabianinkatu street, 1911. (SRM 67/81)

order to replace its lacking mass – in comparison with the crenellation – the balustrade curves backward in a marked S-shaped curve: a symbol of movement and strength that beautifully matches the otherwise strict rectilinearity followed in the construction and design of the building [...] And the seemingly useless balustrade gains its full aesthetic justification the more we follow the building along its markedly steep Kaivokatu street side and see the many problems caused by the change of elevation. The balustrade is so prominent that everything beneath it mainly gains the nature of a foundation and the symmetrical nature of the building is thus rescued from the restlessness with which the ground floor has to contend in places up to a distance of a hundred metres. (The Kaleva Company's Granite Palace, 1914)<sup>16</sup>

### **From Strict Rationalism to Sensitive Pluralism**

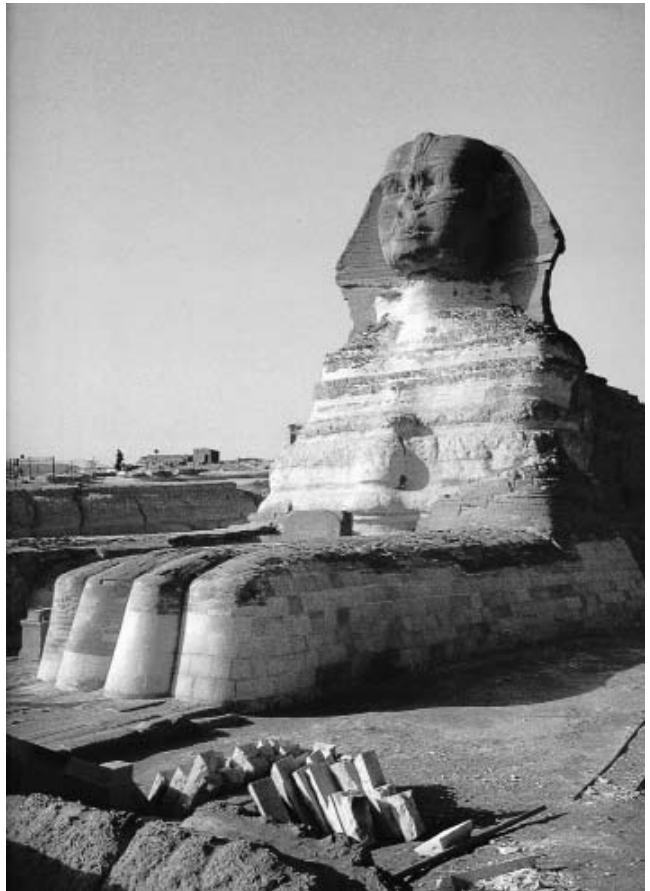
By the outbreak of the First World War, Frosterus's idea of modern architecture had become tolerant and unorthodox compared with his programmatic texts ten years earlier. While in the manifesto of 1904 he proclaimed narrowly defined rationalism and the priority of iron construction, the future of architecture was a complex of options to him. "The path between the crass materialism of Berlage's works, whose sober dispassion will certainly be admired in the future, and Horta's abstract, fussily forced play with lines is infinitely long, and between Wagner's austere dignity and Guimard's defiant nonchalance there lies an abyss. The future is still open to everyone; all roads lead to Rome – but none of them directly," Frosterus reflected on the situation of modern architecture in 1904. (Architecture: A Challenge, 1983, 74–75.)<sup>17</sup>

In 1914, Frosterus was even less sure about the development and future of modern architecture than in his earlier years. What would be the roles of tradition and new technology in architecture? He published an article in which he defended Henry van de Velde's innovations and dynamic style in the new Théâtre des Champs-Élysées in Paris against the appropriation of credit by French architect August Perret.<sup>18</sup> But Frosterus also wrote an admiring study of John Francis Bentley's Westminster Cathedral in London. The essay was a re-evaluation of the meaning of tradition and history in contemporary architecture. In Westminster Cathedral, Bentley drew his main impulses from the Hagia Sofia of Istanbul, and his construction methods were based on traditional brickwork. Frosterus greatly appreciated Bentley's work and according to him, the architect created "an independent work, perhaps the greatest achievement of ecclesiastical art since the High Renaissance" (The Roman-Catholic Cathedral of Westminster, 1915).<sup>19</sup>



**8. Armas Lindgren:** The Kaivokatu street façade of the Kaleva Insurance Building from 1914. Photo: Eric Sundström. (SRM 63/578)

**9. Sigurd Frosterus:** The Stockmann Department Store in the centre of Helsinki was built in 1930. Photo: Nils Wasastjerna. (SRM 61/6)



10. Lars Sonck: North view of the granite-built Kallio Church from 1912. Photo: Eric Sundström. (SRM 21/129)

11. The limestone Sphinx of Giza, Egypt 2550–2500 BC. (Wildung 1997, 59)

Finally in 1917, Frosterus gave a profound lecture entitled “Iron and Brick,” in which he sought to analyze and evaluate the modern movement of the 20th century in architecture. He was inclined to consider the iron architecture of static constructions like the famous French department stores of Paul Sédille and Frantz Jourdain as passé forms, preferring instead the traditional brickwork of contemporary Swedish architecture, such as the work of Ragnar Östberg, Lars Israel Wahlman and Carl Westman.<sup>20</sup> This approach also gave direction to Frosterus’s main work, the Stockmann department store in Helsinki.

### **The Metaphysics of Helsinki**

As an architectural critic, Frosterus was also a philosopher of the metaphysics of modern Helsinki in the early 20th century – regardless of whether this was his intention or not. The subtext of the Helsinki Railway Station competition debate of 1904 appears to the educated *flâneur* like a palimpsest story behind the built station, which evidently in many respects is more reminiscent of Frosterus’s original entry than Saarinen’s project.<sup>21</sup> Also learned, if unexpected, associations and comparisons of Frosterus’s critiques or analyses of his colleagues’ or his own works have contributed new layers of meaning to urban visions of Helsinki, as shown by the above examples referring to Saarinen, Gesellius, Lindgren, and Sonck.

Kallio Church by Sonck is also a fascinating example. In his review of the church from 1911, Frosterus associated it, when seen from the north, with an ancient sphinx.<sup>22</sup> Well, always when I pass the grey granite church on a rocky hill of Helsinki I try to imagine a huge feline figure resting in the park watching the city in between the apartment buildings.

Frosterus saw the monumental pillar constructions of the glass-roofed atrium of the Stockmann department store as reminiscent of ancient Egyptian architecture<sup>23</sup> – a bit of commercial determinism can be felt in this influential space. He related the pillar system of Stockmann’s long façade on Mannerheimintie street to the proportions of the monumental temples of Ancient Greece: “May it be said in passing that [...] the length and height of the façade, measured from the roof, are quite close to the dimensions of the great Temple G of Selinunte. Where the long side of the latter has 17 columns, and that of the so-called Basilica of Paestum, also Ancient Greek, has 18 columns, the department store will have 19 pillars when completed.” (The Glimmer of a Skyscraper, 1922)<sup>24</sup>

Frosterus’s dream was to erect a tower at the southern gable end of the department store. He tried to justify the plan by pointing out that,



**12. Sigurd Frosterus:** Detail of the structures of the atrium of the Stockmann Department Store. Photo: Eric Sundström. (SRM 61/1219)

**13.** View of the courtyard of the Hall of Columns of the Temple of Luxor. Photo: S. Giedion. (Giedion 1964, 393).



14. Sigurd Frosterus: The west façade of the Stockmann Department Store, 1930s. Photo: Nils Wasastjerna. (SRM 61/30)

15. The basilica of Paestum, mid-6th century BC. (Kayser 1958, Fig. 9)





16. Sigurd Frosterus: Perspective drawing for the skyscraper of the Stockmann Department Store, view from nearby Erottaja Hill, 1922. (Frosterus 1922, 86)

17. The central piazza of Siena sloping towards the town hall in a painting by G. Zocchi from 1739. (Palazzo Pubblico Di Siena 1983, Fig. 294)

seen from the nearby hill known as Erottaja, the department store was in a valley, thus requiring, for purposes of architectural compensation, a tower, a skyscraper. In this case the town hall of Siena, built of brick and its tower, the *Pallazzo Pubblico* and the *Torre al Mangia*, which lay at the bottom of the downward sloping square, the *Piazza del Campo*, served as art-historical references. Frosterus argued that the high bell tower of Siena corrected the geographical disadvantages of the site. That was why an analogical solution should also have been applied in Helsinki,<sup>25</sup> which never happened. Today not only the absence of the Stockmann skyscraper but also the beautiful brickwork of the façades of the department store give an invisible touch of Siena to the centre of the capital of Finland.

*English translations of the quotes and language checking by Jüri Kokkonen*

## Notes

1. Kimmo Sarje, "Gustaf Strengell and Nordic Modernism," *The Nordic Journal of Aesthetics*, no. 35, 2008.

2. Sigurd Frosterus and Gustaf Strengell, *Arkitektur en stridskrift våra motståndare tillägnad af Gustaf Strengell och Sigurd Frosterus* (Helsingfors: Euterpes Förlag, 1904); "Architecture: a challenge to our opponents by Gustaf Strengell and Sigurd Frosterus," *Abacus*, Yearbook 3, ed. Asko Salokorpi and Maija Kärkkäinen (Helsinki: Museum of Finnish Architecture, 1983).

3. Sigurd Frosterus, *Arkkitehtuuri: Kirjoituksia 1901–1953*, ed. Kimmo Sarje, trans. into Finnish by Rauno Ekholm (Helsinki: Kustannusosakeyhtiö Taide, 2010); *Väri ja valo: Kirjoituksia kuvataiteesta 1903–1950*, ed. Kimmo Sarje, trans. into Finnish by Rauno Ekholm (Helsinki: Kustannusosakeyhtiö Taide, 2000); *Modernin Janus-kasvot: Kirjoituksia 1902–1935*, ed. Kimmo Sarje, trans. into Finnish by Rauno Ekholm (Helsinki: Kustannusosakeyhtiö Taide, 2006).

4. Sigurd Frosterus, "Otto Wagner, en personlighet inom samtida arkitekturen," *Finsk Tidskrift*, senare halfåret, 1901.

5. Sigurd Frosterus, "Josef M. Olbrich. En arkitektonisk orientering," *Euterpe* 34, 1904.

6. Sigurd Frosterus, "Henry van de Velde. Tänkaren och teoretikern," *Euterpe* 7–8, 1905.

7. Kimmo Sarje, "Ein neuer Stiel für ein neues Weimar. Mitteleuropäische Impulse in frühen finnischen Modernismus," trans. by Tina Solda, *Jahrbuch für finnisch-deutsche Literaturbeziehungen*, No. 30, 1998.

8. Kimmo Sarje, *Sigurd Frosteruksen modernin käsité. Arkkitehtuuri ja maail-*

*mankatsomus*, Dimensio 3, Finnish National Gallery Research Series, Valtion Taidemuseo (Helsinki 2000), 27–29 and 118–124.

9. Henry Van de Velde, *Geschichte meines Lebens*, ed. Hans Curjel (München: R. Piper & Co Verlag, 1962), 259.

10. Sigurd Frosterus, "Nietzsche-Arkivet i Weimar," *Euterpe* 18, 1904, 207–208.

11. Sigurd Frosterus, "Vår arkitektur. Ett föredrag," *Euterpe* 15–16, 1905, 149–150.

12. Sigurd Frosterus, "Två nya affärspalats," *Arkitekten* V, 1911, 65.

13. *Ibid.*, 68.

14. *Ibid.*, 70.

15. *Ibid.*

16. Sigurd Frosterus, "Kalevas granitpalats," *Arkitekten* IX, 1914, 123–124.

17. Frosterus & Strengell, *Arkitektur en stridskrift*, 74–75.

18. Sigurd Frosterus, "Aritektonisk antinomi," *Nya Argus* 14, 1914.

19. Sigurd Frosterus, "Den katolska katedralen i Westminster," *Arkitekten* II, 1915, 13.

20. Sigurd Frosterus, "Järnet och teglet," *Arkitekten* V, 1917.

21. Sarje, "Gustaf Strengell and Nordic Modernism," 95–100.

22. Sigurd Frosterus, "Berghälls nya kyrka," *Arkitekten* VI, 1911.

23. Sigurd Frosterus, "Varuhus Stockmann," *Arkitekten* 10, 1924, 135.

24. Sigurd Frosterus, *Skyskrapan hägrar* (Helsingfors: J. Simelius, 1922), 4.

25. *Ibid.*, 15.

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