

[Bibliography]

Bekaert, Geert and Francis Strauven. *Construction en Belgique 1945-1970*. Brussels, Confédération Nationale de la Construction, 1971.

Buisseret, Jacques. *La construction de l'Eglise*. Unpublished, archive of St. Alena Parish, est. 1952-1957.

Cohen, Maurizio and Jan Thomaes. *Jacques Dupuis l'architecte*. Bruxelles: La Lettre volée, 2000.

Lanotte, André. "Notice sur Roger Bastin." *Annuaire de l'Académie Royale de Belgique 1933*. Brussels: Maurice Lamertin, 1933.

MRBC. "Eglise Sainte-Alène. Avenue des Villas 49-51-53." Last modified: 2004. http://www.irismonument.be/fr.Saint-Gilles.Avenue_des_Villas.49.html

van de Weijer, Marijn and Nikolaas Vande Keere. "The Case of the St. Alène Church in Brussels." In *RMB Conference Week 2018 Coimbra // April 6th and 7th*, edited by Michel Melenhorst, Gonçalo Canto Moniz and Paulo Providencia, 73-81. Coimbra: RMB Erasmus Project, 2019 (publication pending).

Vande Keere, Nikolaas and Bie Plevoets. "Heritage without heirs? Reconnecting church and community through adaptive reuse." In *Proceedings of the Interpret Europe Conference 2018*, edited by Marie Banks, 195-207. Kőszeg: Kőme, 2018.

[List of figures]

- [1] Bastin, Christine. "St. Alena, interior view towards nave and side chapel." Date unknown. Reproduced with permission from the heirs of Roger Bastin.
- [2] Bastin, Roger and Jacques Dupuis. cut-out of "Eglise Ste. Alène, dessin n° 1. Partie du dossier du Conseil de Fabrique, vu et approuvé 24-4-1940." 1940. St. Alène parish archives (reproduced with permission from the parish and from the heirs of Roger Bastin).
- [3] Bastin, Roger and Jacques Dupuis. cut-out of "Eglise Sainte Alène. Construction de la façade, vue en plan, n° 6. Partie du dossier du Conseil de Fabrique, vu et approuvé 3 avril 1955." 1955. St. Alène parish archives (reproduced with permission from the parish and from the heirs of Roger Bastin).
- [4] Van Den Bosch, Linde. "Timeline of the architectural project of St. Alena parish church." 2018. Collage, all images collected from St. Alène parish archives (reproduced with permission from the parish and from the heirs of Roger Bastin) or provided by authors.
- [5] Combier, Jean. "Taizé (71. S.-et-L.): Église de Réconciliation, cc - L'intérieur." 1967. Mâcon, postcard provided by authors.
- [6] Beelen, Tijn. "St. Alena: new front facade and longitudinal section." 2017.
- [7] Schapochnik, Fernando. "Sainte-Marie de la Tourette - Facade detail." date unknown. Project by Le Corbusier, 1960.
- [8] Driessen, Liesbeth. "model of St. Alena with new volume." 2017. Project by Emilie Raquet.
- [9] Raquet, Emilie. "St. Alena: floor plan with routing of exhibition vs. church space." 2017.

Re-reading the 'Corridor-School' of J. W. Hanrath

Addressing the interior DNA of a typology

T. Beelen, S. Heynickx



[1] Corridor in the C.N.S. school Galileistraat, Eindhoven

Reading a site or a building in the context of adaptive reuse almost always starts with gaining an understanding of the urban context. The reading of the layers of history is an important base for first conclusions and the introduction of possible interventions. The building, always testimony to a specific period, is categorised in that moment in a value system. Often, the question arises: do we keep it, and additionally: can we transform it to a new programme?

The qualities of the interior-DNA can then be a source of inspiration. Combining the meaning of the larger scale (urban development, other cases) with the analysis and the contours of typological qualities, as well as the specific intentions of the architect, can initiate a thinking process from the inside. This reuse strategy, starting from the spatial qualities in the typology of the architecture, is broader than a-priori programmatic choices such as loft housing in former industrial and school buildings.¹

Our case study is a school by architect Johan Wilhelm Hanrath (1867–1932) in Eindhoven (NL). Hanrath played an important role in the history of Eindhoven and Philips,² designing various mansions, housing projects and schools in the years of the city's explosive growth in the interwar period. The school in Galileistraat, built in 1922, was the



[2] Production of lightbulbs, ca. 1915 (Philips Company Archives) This image of the first lightbulb factory in Europe illustrates the rapid development of modernisation in the city of Eindhoven. Notice the changing role of the woman, working in a factory now.

focus of Tijn Beelen's graduation project.³ The original project is organised around the typology of the corridor. The specific use of the corridor and its potential forms the backbone of the redesign proposal.

An (almost) modern architect in the new landscape of Eindhoven

C.N.S. Galileistraat (figure 1) is the name of a former school, located on Galileistraat in Eindhoven, The Netherlands. It was designed by Hanrath, in collaboration with his partner P.H.N. Briët (1894–1978) and completed in 1932. The school was part of a large social housing district, designed and commissioned by the Philips Company. Its location is characterised by the presence of many historical layers that provide the building with a unique context. Furthermore, this school building is one of five schools designed by the same architects in the same time period, probably derived from a standard typology.

According to a report by Crimson in 2016, Hanrath's traditional, sometimes historicising style was not considered particularly striking or innovative during his lifetime, especially when compared to his contemporaries, H.P. Berlage (1856–1934), K.P.C. de Bazel (1869–1923) and W.M. Dudok (1884–1974). These were attracted to new kind of 'rational

architecture' embedded in international developments. Nevertheless, Hanrath's work received recognition in later times, as many of his buildings became listed as National or Municipal Monuments.

Developing an individual style

Hanrath slowly started to develop his own architectural style, inspired by the farmhouses scattered around the landscape surrounding Hilversum. Another influence was the English mansion style. His designs were characterised by the use of natural materials, striving to create a sense of calm and not disrupting the surroundings. The façades are often unplastered brickwork under a high tiled roof with a large overhang and a strong emphasis on the horizontal line.

In general, his work can be characterised as traditional, with the occasional side step into a more modern and expressionistic architecture for non-residential designs. Hanrath carefully studied various architectural styles and applied elements of these in his own designs. He aspired to peace and order, as seen in his symmetrical plans, elevations and shapes. Interruptions to that symmetry were often a very conscious choice to strengthen the design.

Hanrath does not seem ever to have prioritised developing a personal architectural style. According to Van Aalst,⁵ his work can be divided into two types of architecture. On the one hand, his Revival architecture used historical motifs and the villa 'Groenendaal' is a primary example of this. Hanrath always underlined in this project the importance of the use of craftsmanship, and unity between interior and exterior, in compliance with the values of the Arts and Crafts movement.⁶

On the other hand, a more traditional, and to some extent vernacular, architecture characterised the beginning of his career. Van der Zweth⁷ states that Hanrath took his inspirations from both the English tradition of house building and the Dutch farm building, and that he always aimed to contextualise his buildings with their surroundings. He was never regarded as an architectural innovator.

Towards the end of his life, his designs start to show affinity with modernistic elements and especially the typology in plan. After the tragic death of his son, however, Hanrath was unable to continue working and his designs were completed by Briët, who introduced this more fashionable design style.⁸

Typology of Hanrath's schools

The original design of the school on Galileistraat is a typical example of a 'corridor school'. The layout is characterised by the position of the classrooms, unilaterally connected by a corridor or hallway, with different floors linked via the main staircase.

An educational law of 1985, stating that kindergartens and primary schools should merge, increased pressure on many school buildings as they were now supposed to accommodate more children. Many corridor schools, and also schools from the post-war period, were simply too small, and could no longer meet contemporary educational requirements. The lack of space was often solved by the use of temporary, prefabricated, classrooms, or when the location allowed it, by expanding the school with new buildings.⁹

General description of the building

Crimson describes the former C.N.S. School as having a principal brick structure, housing four classrooms on the ground floor and three on the first floor, with a gently sloping roof and relatively large roof overhangs, covered with dark roof tiles. The school is situated on the edge of a square, is freestanding and has a fenced playground. The long façade on the Galileistraat is orientated towards the east and has large composed windows (one per classroom) on the ground floor and on the first floor [figure 3].

Original setup

The school's main entrance is on Galileistraat and leads to the central hall where the stairs are located. The headmaster's room was strategically positioned to the left of the entrance, with a small window looking onto the central hall. There is also a door, opposite the entrance, to the playground, and a door to the long corridor that connects the four classrooms on the ground floor.

The first floor, with the staffroom directly above the entrance, features another long hallway, leading to three classrooms. A small protrusion (towards the playground) at the end of this corridor houses the toilets, located directly above the toilets on the ground floor. The first floor also grants access to attics, only used for storage. Finally, below the entrance hall is the basement, used as a coal shed and to house the heating system.

¹ This vision is explained in Sharon Zukin, *Loft Living* (New York: Rutgers University Press, 2014). Zukin wrote a pioneering book about the concept of lofts in 1983. In *Loft Living* she describes sharply the phases in the process of gentrification and the role of the industrial open space in the changing patterns of lifestyle. Zukin demonstrates that, initially, the reuse of industrial heritage was not a question of design or good taste but an almost sponta-

neous discovery and recuperation of found qualities (high ceilings, open plan spaces).² The relationship between the company Philips, founded by Gerard (son) and Frederik (father) Philips, and Eindhoven is a striking example of the innovational impact of the second industrial revolution in the 19th century. The company started in Eindhoven in 1891 with the production of carbon-filament lamps and other electro-technical products, the high-tech

products of that moment. Eindhoven, until then a combination of small villages, becomes an industrial city with a more than symbolic connection with Philips and the modern area of electricity and artificial light. (See 'More than a century of innovation and entrepreneurship', Philips, accessed May 5, 2019, <https://www.philips.com/a-w/about/company/our-heritage.html>)

³ This article is largely based on research by Tijn Beelen, *C.N.S. Galileistraat, searching permanent optimization for temporary adaptive re-use initiatives* (unpublished masters thesis, Hasselt University, 2018). This thesis is the result of research conducted in the courses *Masters Thesis* and *Masters Project* at the International Masters on Adaptive Reuse at Hasselt University.

⁴ Crimson Architectural Historians, *Bouwen cultuurhistorisch onderzoek voormalige*

Christelijk Nationale School aan de Galileistraat, Eindhoven, last modified April, 2016, https://www.crimsonweb.org/IMG/pdf/eindhoven-cns_school-screen.pdf
⁵ M. Van Aalst, 'Wij hebben met Hanrath een huis gebouwd: Hanrath's gebouwen in Hilversum,' *Hilversums Historisch Tijdschrift Eigen Perik* 26, no 3 (2006): 101–116. Accessed April 1, 2018. <http://zoeken.gooienvechthistorisch.nl/HttpHandler/file.pdf?file=214266350>.

⁶ Ibid
⁷ Stefanie Van der Zweth, *J.W. Hanrath (1867–1932)* (unpublished masters thesis, University of Ghent, 2010), https://lib.ugent.be/fulltxt/RUG01/001/457/605/RUG01-001457605_2011_0001_AC.pdf.
⁸ Crimson Architectural Historians, *Bouwen cultuurhistorisch onderzoek voormalige Christelijk Nationale School aan de Galileistraat, Eindhoven*.

Functionality as a feature of 'modernism'

Etymologically, 'corridor' comes from *courier*, a person who can run very fast to bring a message. The first meaning in an architectural context is of a military nature, referring to spaces in fortifications that enabled rapid communication. The corridor was often a secret gateway, not mentioned on plans. Later on, however, it clearly became an architectural element and a status symbol: 'emphasizing the importance of an owner who wanted to make the impression of needing to be kept abreast of world events by fleet-footed messengers.'¹⁰

The Dutch corridor schools became popular from the late 19th century onwards and were characterised by a corridor on one side of the classrooms. Fouquet¹¹ made a clear analysis of this specific typology, in which he articulates three important spatial components. Firstly, classrooms, the basic building blocks of a school, are in terms of area (square meters) the largest part of the school building, and their design is directly related to government laws over the years. The second spatial element relates to the administrative functions: storage spaces, a cloakroom, the staffroom, toilets, etc. These functions are located close to the main entrance of the school, except for the toilets, which were positioned along the corridor. The third element is the internal circulation routes. Schools are characterised by the constant movements of children, usually at more or less the same time: at the beginning and end of the day, but also between classes. The dimensions of corridors and staircases must be attuned to these movements. The width of the corridor, for example, depends on the flow of students and any secondary activities that may take place. The circulation layout must be designed in such a way that it is possible to go from point A to point B in the most efficient way, without many detours or having to move through other classrooms.¹²

Evolution of the corridor school

Fouquet states that these three spatial components have been combined and arranged in different ways over the years, and explains that the various combinations applied during the second half of the twentieth century resulted in the three most common school types: the corridor school, the hall school and the pavilion school.¹³ The hall school and the pavilion school derived from the corridor school, reflecting changing views on education.

From the 1950s onwards, it was felt that children needed more than just space to sit in order to develop.¹⁴ Extra spaces for varied group activities, such as film and theatre, were incorporated into school buildings, which were now often grouped in several wings positioned around a central hall, which was used not only as a circulation space but also for communal activities. The corridor school thus developed into the hall school. The central hall also included staircases to the different wings, which had a layout based on that of the corridor school.

The evolution of these different school types indicates that the corridor was, in architectural terms, the most important spatial element of the typology. It is the place where students meet each other when they have to change classrooms and where activities such as self-study can take place. The corridor is a place that organises the school system in a clever way.

Dutch architect Herman Hertzberger (1932-) stated that school corridors and staircases were designed with relatively large dimensions specifically for this purpose. They would partly inspire his famous structuralist office interiors, based on democratic principles which break down hierarchies and generate conditions for people to meet. The seemingly over-dimensioned corridors of the school described here provided the inspiration for his value-based architecture.

In connection with wardrobes, the expected rush at those and the image of a mass of hyper-active children who have not been allowed to move for too long and whose frustrated energy, once released, would have to discharge explosively in an indiscriminate dynamic of pulling and pushing, all in a peak of simultaneously emptying classes, justifies these generous dimensions.¹⁵

The wall as an interface

The school building underwent multiple changes over the years, some due to fire safety regulations and others because of a lack of space. Crimson's report of 2016 discusses all those changes in detail.¹⁶ Several additions with toilet units were made over the years and unfortunately ruined the architectural qualities of this corridor school. The design proposal by student Tijl Beelen for his master's project starts with the elimination of these additions.



CHRISTELIEK NATIONALE SCHOOLEVERENIGING, ENTRANCE



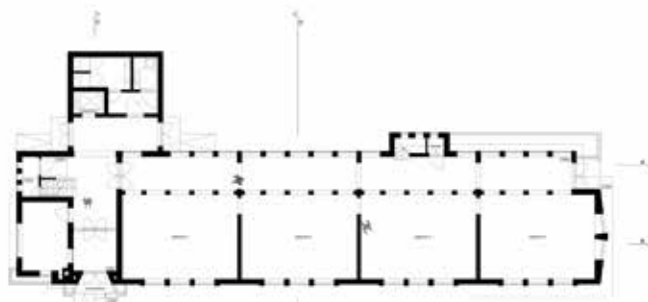
SITUATION



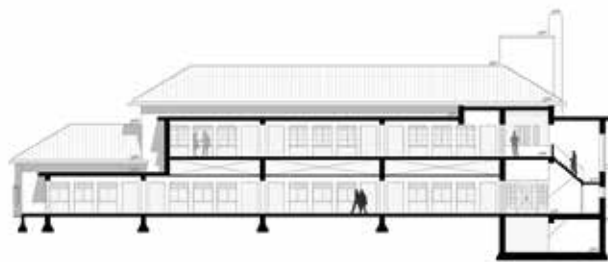
EAST ELEVATION



SOUTH ELEVATION



GROUND FLOOR



SECTION A



SECTION C

C.N.S. GALILEISTRAAT, EINDHOVEN
designing with DNA

[2] Plans of the school and photograph of the building in 1936

⁹ Crimson Architectural Historians, *Bouwen cultuurhistorisch onderzoek voormalige Christeliek Nationale School aan de Galileistraat, Eindhoven*, 46.

¹⁰ Mark Jarzombek, 'Corridor Spaces', *Critical Inquiry* 36, no. 4 (June 2010): 735.

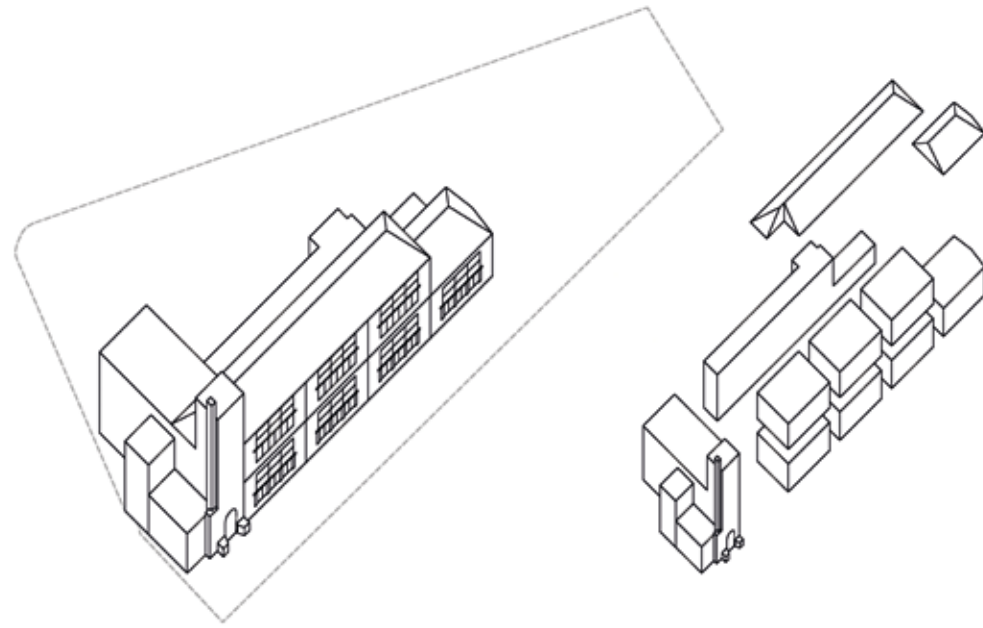
¹¹ Maarten Fouquet, *Van Schoolgebouw naar Studiehuis; Onderzoek naar de Ruimtelijke Vertaling van een Nieuw Pedagogisch-Didactisch Idee* (Unpublished masters thesis, University of Ghent, 2005), https://lib.ugent.be/fulltxt/RUG01/000/895/767/RUG01-000895767_2010_0001_AC.pdf.

¹² This could be due to the book *Scholenbouw* by Hoogewoud, Spoelstra & Van der Werf (DATE), which contained a number of specific guidelines for architects, for example avoiding central corridors in schools because not all classrooms can enjoy optimal sunlight. Guido Hoogewoud, Yteke Spoelstra and Jouke Van der Werf, *Schoolvoorbeelden: In-*

ventarisatie en selectie van schoolgebouwen buiten de Singelgracht in Amsterdam 1850-1965 (Bureau Monumenten en Archeologie Amsterdam, 2004), <http://ytekespoelstra.nl/schoolvoorbeelden>.

¹³ Maarten Fouquet, *Van Schoolgebouw naar Studiehuis*, 27.

¹⁴ Maarten Fouquet, *Van Schoolgebouw naar Studiehuis*, 31.



[4] On the right, the building reduced to its original building blocks, illustrating the basic concept of the corridor with the classrooms.

Isometric drawings and models, a method for a new corridic future

The design concept for the school [figure 4] by Tijn Beelen demonstrates that the process of shifting functions, from office to housing and vice versa is perfectly possible in this building. By re-using the typological element of the corridor as a connector, the former classrooms become new spaces on two levels. The classrooms are containers with new connections. Connections between the rooms are possible and the matrix of isometric analysis shows that the potential variety in typology of housing or offices is enormous. Several types of housing can be combined into new spatial configurations. The wall between corridor and room acts as an interface where furniture punctuates existing openings. Possible scenarios [figures 5 and 6] include student housing with shared facilities, a new school using the Montessori educational system, use by small companies that can grow through time, or even a student atelier combined with a private atelier.

The layout, with the corridor as the backbone, is an incentive for development. You do not simply rent or buy a place, but you buy into the potential and

¹⁵ Herman Hertzberger, *Ruimte en Leren* (Rotterdam: Uitgeverij 010, 2018), 45.

¹⁶ Crimson Architectural Historians, *Bouwen cultuurhistorisch onderzoek voormalige Christelijk Nationale School aan de Gallieistraat, Eindhoven*, 63–77.

changing possibilities of a variety of places such as in figure 6. The original materials, such as tiles, are preserved, while the strict corridor system becomes instead playful. Jarzombek also concluded that the corridor always updates itself through history. He calls it a '*corridic future*'. The idea of the corridor, however, in fact brings the building completely into the modern age.

Beelen's design strategy starts with an architectural re-reading of the corridor as a rich typological feature, once intended for hectic schoolchildren. In his master's project, he re-programmes it as a place for living, studying or working. It expresses the generous character of the corridor, freed from its merely functional character. Taking the school as subject for an adaptive reuse process, the building's history did not obscure his vision for the future; instead, he looked to the internal richness and logic of the original typology of the building for inspiration for a new type of use.



[5-6] Possible scenarios for housing (green) or art ateliers (red)

[Bibliography]

Beelen, Tjil. *C.N.S. Galileistraat, searching permanent optimization for temporary adaptive re-use initiatives*. Unpublished masters thesis, Hasselt University, 2018.

Crimson Architectural Historians. *Bouw- en cultuurhistorisch onderzoek voormalige Christelijk Nationale School aan de Galileistraat, Eindhoven*. Last modified April, 2016. https://www.crimsonweb.org/IMG/pdf/eindhoven-cns_school-screen.pdf

Fouquet, Maarten. *Van Schoolgebouw naar Studiehuis: Onderzoek naar de Ruimtelijke Vertaling van een Nieuw Pedagogisch-Didactisch Idee*. Unpublished masters thesis, University Ghent, 2005. https://lib.ugent.be/fulltxt/RUG01/000/895/767/RUG01-000895767_2010_0001_AC.pdf.

Hertzberger, Herman. *Ruimte en Leren*. Rotterdam: Uitgeverij 010, 2018.

Hoogewoud, Guido, Yteke Spoelstra and Jouke Van der Werf. *Schoolvoorbeelden: Inventarisatie en selectie van schoolgebouwen buiten de Singelgracht in Amsterdam 1850-1965*. Bureau Monumenten en Archeologie Amsterdam, 2004. <http://ytekespoelstra.nl/schoolvoorbeelden>.

Jarzombek, Mark. "Corridor Spaces." *Critical Inquiry* 36, no. 4. (June 2010): 728-770.

Philips. "More than a century of innovation and entrepreneurship." Accessed May 5, 2019. <https://www.philips.com/a-w/about/company/our-heritage.html>.

Van Aalst, M. "Wij hebben met Hanrath een huis gebouwd: Hanrath's gebouwen in Hilversum." *Hilversums Historisch Tijdschrift Eigen Perk* 26, no 3 (2006): 101-116. Accessed April 1, 2018. <http://zoeken.gooienvechthistorisch.nl/HttpHandler/file.pdf?file=214266350>.

Van der Zweth, Stefanie. *J.W. Hanrath (1867-1932)*. Unpublished masters thesis, University Ghent, 2010. https://lib.ugent.be/fulltxt/RUG01/001/457/605/RUG01-001457605_2011_0001_AC.pdf.

Van Oorschoot J.M.P., *Eindhoven: Een samenleving in verandering (Deel 2)*. Eindhoven: Municipality of Eindhoven and Author, 1982.

Zukin, Sharon. *Loft Living*. New York: Rutgers University Press, 2014.

[List of figures]

- [1] Beelen, Tjil. "Corridor of the school C.N.S. Galileistraat, Eindhoven." 2018.
- [2] "Gloeilampenfabricage, Lampenmaaksters." ca. 1915. Philips Company Archives, 880911-10-01.
- [3] Beelen, Tjil. "poster with plans of the school C.N.S. Galileistraat, Eindhoven." 2018. Collage, provided by authors. Image top left: "17. Eindhoven. Galileistraat. Chr. Nationale School." 1936. Stichting Eindhoven in Beeld, 32134.
- [4] Beelen, Tjil. "DNA of C.N.S. Galileistraat." 2018.
- [5] Beelen, Tjil. "Axonometric view of proposed scenario - housing." 2018.
- [6] Beelen, Tjil. "Axonometric view of proposed scenario - art." 2018.

Reviving the modernist utopia¹

M. Moors



[1] Top view image of Park Hill, 1960