

ABE Journal

Architecture beyond Europe

19 | 2021

Varia

Articles

A hospital typology translated: Transnational flows of architectural expertise in the Clinique Reine Elisabeth of Coquilhatville, in the Belgian Congo

Traduction d'un modèle architectural d'hôpital et flux d'expertise transnationaux : la clinique Reine Elisabeth de Coquilhatville au Congo belge

SIMON DE NYS-KETELS

<https://doi.org/10.4000/abe.12715>

Abstracts

English Deutsch Español Français Italiano

Architectural historians discussing transnational knowledge exchange have primarily focused on English- or French-speaking or bilateral flows of expertise. This article goes beyond those boundaries to trace the multi-sited design process of a colonial hospital for Europeans built in Coquilhatville, the Belgian Congo. Western hospital typologies underwent multiple typological innovations as they progressed from Brussels to the colonial capital of Léopoldville, and then to the remote town of Coquilhatville. A surprising variety of actors from outside the architectural discipline—administrators, engineers, and especially doctors—impacted its design. To “translate” Western hospital typologies to the tropical climate and colonial racial inequalities, they supplemented metropolitan expertise by drawing on alternative connections provided by the Belgian Congo’s intersectional position within the colonial world. Individual travel experiences, participation in colonial research missions, and direct personal contacts with other colonial administrations all played a role. Uncovering these alternative flows of expertise in the history of Coquilhatville’s *Clinique* sheds light on how colonial (hospital) architecture cannot simply be reduced to direct bilateral “export.” It was actually the product of a much more complex network of architectural knowledge exchange, so far insufficiently documented by architectural historians, that transcended conventional linguistic and imperial borders.



In ihren Diskussionen über transnationalen Wissensaustausch haben sich Architekturhistoriker*innen bisher auf englisch- oder französischsprachige bzw. bilaterale Kompetenzflüsse konzentriert. Der vorliegende Artikel fasst den Blick weiter, um den Gestaltungsprozess eines in Coquilhatville im belgischen Kongo gebauten Kolonialkrankenhauses für Europäer nachzuvollziehen, an dem eine ganze Reihe von Orten beteiligt waren. Westliche Krankenhaustypologien erfuhren auf ihrem Weg von Brüssel über die Kolonialhauptstadt Léopoldville und weiter in die entlegene Stadt Coquilhatville mehrfach typologische Neuerungen. Eine überraschend große Vielfalt nicht aus der Architektur kommender Akteure – Verwalter, Ingenieure und insbesondere Ärzte – nahm Einfluss auf die Gestaltung. Um die westlichen Krankenhaustypologien in das tropische Klima und in die kolonial-rassistischen Ungleichheiten zu „übersetzen“, ergänzten sie die aus der Hauptstadt kommende Kompetenz um Wissen aus anderen Zusammenhängen, die der belgische Kongo als Schnittstelle der Kolonialwelt bot. Dabei spielten sowohl individuelle Reiseerfahrungen als auch die Teilnahme an kolonialen Forschungsmissionen und direkte persönliche Kontakte zu anderen Kolonialbehörden eine Rolle. Arbeitet man diese alternativen Kompetenzflüsse für die Geschichte der Clinique von Coquilhatville heraus, so wird deutlich, dass koloniale (Krankenhaus-)Architektur sich nicht einfach auf einen direkten, bilateralen „Export“ reduzieren lässt. Tatsächlich entstand sie innerhalb eines komplexen, bisher von Architekturhistoriker*innen nicht ausreichend dokumentierten Netzwerks, in dem architektonisches Wissen über die üblichen Grenzen von Sprachen und Kolonialreichen hinweg ausgetauscht wurde.

Este artículo contribuye al debate sobre las transferencias de conocimientos transnacionales en el seno de la historia de la arquitectura, más allá del flujo de experticia de inglés parlante, de habla francés, o bilateral, sobre los cuales se han focalizado principalmente los historiadores de la arquitectura. El artículo traza el proceso de concepción sobre varios sitios de un hospital colonial para europeos, situado en Coquilhatville, en el Congo belga. Subrayamos cuanto, de Bruselas a la capital Léopoldville, y hasta la lejana ciudad de Coquilhatville, el modelo de hospital occidental ha sufrido múltiples transformaciones. Un número extrañamente importante de actores exteriores al mundo de la arquitectura (administradores, ingenieros, y en particular, médicos) han contribuido a su concepción. La experticia de la metrópolis no fue la única utilizada para “traducir” este modelo de hospital occidental en la realidad del clima tropical y sus desigualdades coloniales. Aprovechando de la situación del Congo belga en el cruce del mundo colonial, nos hemos apoyado igualmente en otras fuentes de información: comentarios de experiencias de los viajeros, misiones coloniales de investigación, contactos directos personales con otras administraciones coloniales. Haciendo surgir estas experiencias alternativas, la historia de la Clínica de Coquilhatville revela como la arquitectura colonial (de los hospitales coloniales) no era solamente el resultado de una “exportación” directa bilateral sino el resultado de una red más compleja de intercambios de conocimientos, que trasciende las fronteras lingüísticas e imperiales convencionales, y que los historiadores de la arquitectura no lo han tomado suficientemente en cuenta.

Cet article contribue au débat sur les transferts de connaissances transnationaux au sein de l’histoire de l’architecture, au-delà des flux d’expertise anglophones, francophones, ou bilatéraux sur lesquels se sont principalement focalisés les historiens de l’architecture. L’article retrace le processus de conception sur plusieurs sites d’un hôpital colonial pour Européens, implanté à Coquilhatville, au Congo Belge. On souligne combien, de Bruxelles à la capitale Léopoldville, et jusqu’à la lointaine ville de Coquilhatville, le modèle de l’hôpital occidental a subi de multiples transformations. Un nombre étonnamment important d’acteurs extérieurs au domaine de l’architecture (des administrateurs, des ingénieurs, et en particulier, des médecins) ont contribué à sa conception. L’expertise de la métropole ne fut pas la seule utilisée pour « traduire » ce modèle d’hôpital occidental dans la réalité du climat tropical et des inégalités coloniales. Profitant de la position du Congo belge au carrefour du monde colonial, on s’est également appuyé sur d’autres sources : retours d’expériences de voyageurs, missions coloniales de recherche, contacts personnels directs avec d’autres administrations coloniales. En faisant émerger ces expertises alternatives, l’histoire de la Clinique de Coquilhatville révèle comment l’architecture coloniale (des hôpitaux coloniaux) n’était pas seulement le résultat d’une “exportation” directe bilatérale mais le produit d’un réseau plus complexe d’échanges de connaissances, qui transcende les frontières linguistiques et impériales conventionnelles, et que les historiens de l’architecture n’ont pas suffisamment pris en compte.

Il presente articolo mira a contribuire al dibattito sugli scambi transnazionali di conoscenze nella storia dell’architettura, andando oltre i flussi di competenze anglofoni, francofoni o bilaterali su cui si concentrano principalmente gli storici dell’architettura. Ripercorrendo il processo di progettazione multisito di un ospedale coloniale per europei realizzato a Coquilhatville, nel Congo belga, mette in evidenza come, da Bruxelles alla capitale Léopoldville, e fino alla remota Coquilhatville, il modello dell’ospedale occidentale abbia subito molteplici trasformazioni. Un numero straordinariamente elevato di attori esterni al campo dell’architettura – amministratori, ingegneri e soprattutto medici – contribuì alla sua progettazione. Per “tradurre” il modello dell’ospedale occidentale nella realtà del clima tropicale e delle disuguaglianze coloniali, non ci si affidò solo alle competenze metropolitane ma, attraverso la posizione di crocevia del mondo coloniale del Congo belga, si attinse anche ad altre fonti, che andavano dalle esperienze di viaggio alle missioni coloniali di ricerca, passando per i contatti personali diretti con altre



amministrazioni coloniali. Facendo emergere questi flussi di competenze alternativi, la storia della Clinique de Coquilhatville fa luce sul fatto che l'architettura (ospedaliera) coloniale non fu semplicemente il risultato di un "esportazione" bilaterale diretta, bensì il prodotto di una rete di scambi di conoscenze architettoniche più complessa, che trascendeva i confini linguistici e imperiali convenzionali, e che gli storici dell'architettura non hanno ancora considerato a sufficienza.

Index terms

Index de mots-clés : architecture coloniale, réseau transnational, hôpital

Index by keyword: colonial architecture, transnational networks, hospital

Indice de palabras clave: arquitectura colonial, red transnacional, hospital

Schlagwortindex: Koloniale Architektur, Transnationale Netzwerk, Krankenhaus

Parole chiave: architettura coloniale, rete transnazionale, ospedale

Geographical index: Africa, Central Africa, Democratic Republic of the Congo

Chronological index: 20th century

Ancient territories: Congo belge

Full text

Figure 1: Current-day view of the imposing façade and empty hallways of the *Clinique*, now called the *Centre Hospitalier Universitaire*.



Source: Photos by Kristien Geenen, 2016.

- 1 Compared to Kinshasa's constant hustle and bustle, the daily routine of urban life in Mbandaka seems to flow as slowly as the adjacent Congo River. During its interbellum colonial heyday, however, when the town was called Coquilhatville, it was a fast-growing outpost full of economic promise, and one of the four provincial seats of the Belgian Congo. In the 1920s, Charles Duchesne, its ambitious Provincial Governor, sought to realize his career-long ambition to transform the city into a prestigious urban center.¹ He launched a series of ambitious building projects, of which the new hospital for Europeans—or *Clinique Reine Elisabeth*—would be the crown jewel. Situated at the end of a gently ascending boulevard, the building's imposing façade, with its play of protruding eaves and meticulous symmetry reminiscent of a *beaux arts* tradition, still forms one of the most remarkable architectural landmarks of Mbandaka's current cityscape. Inside the grand complex, however, it's eerily quiet. With an average of around five patients for about 150 beds, the building appears abandoned. During colonial times, the hospital must have left a similar impression. Designed in a time of economic prosperity, yet realized when the Depression hit Congo and many Europeans were leaving the town, the complex was completely oversized. In 1931, when it opened its two pavilions of twelve private rooms each, only 377 European inhabitants remained in Coquilhatville.² At the time, even Belgians at home grumbled about the extravagance of the over-scaled hospital, which quickly became known as the "scandale de Coquilhatville."³
- 2 Yet the story of the hospital's design is not only one of an overambitious local governor longing to fulfill his dream of putting Coquilhatville on the map. It is also the final result of an intensive search by colonial officials to adjust existing hospital typologies from across the globe to the tropical and colonial context of the Belgian



Congo. Its construction was part of the larger *Plan Franck*, a colony-wide construction program launched by then Minister of Colonies Louis Franck in 1921.⁴ Although mainly focused on industrialization and transportation infrastructure, the plan also entailed the construction of various hospitals across the colony, including three state-of-the-art facilities for Europeans in Léopoldville, Stanleyville, and Coquilhatville.⁵ Because the hospital projects were similar, the Brussels Ministry of Colonies decided to develop a standardized type-plan to facilitate their construction. Drafted by a Brussels-based private architect, the resulting design was primarily based on hospital planning practices institutionalized in the *métropole*, particularly the pavilion hospital typology. Exemplary of the often messy administrative processes that characterized colonial governance, however, the provincial department of Léopoldville was also simultaneously working on a local design proposal. This parallel design was developed by colonial administrators, architects, and doctors, who drew upon somewhat different knowledge networks and foreign best practices as inspiration for local typological innovations. Eventually, it was this local design that was selected instead of the Brussels type-plan.⁶ After the blueprints were sent to Coquilhatville, local architects again re-adapted the Léopoldville plans, seeking an architectural compromise between the grand urban ambitions of Governor Duchesne and the need to downscale the hospital to the smaller town.

3 By tracing this incremental and multi-sited design process, I aim to contribute to the growing scholarship that deals with transnational knowledge exchange of architectural expertise. Alongside other approaches, architectural historians have examined several building typologies as a vantage point from which to discuss such transnational exchanges—from schools to military barracks to housing.⁷ Nevertheless, hospitals remain somewhat overlooked, although I would argue that they are a particularly insightful source of knowledge.⁸ Architectural historians have noted how the growth of hospital planning in the West into a specialized discipline in the 19th century went hand in hand with transnational exchange between several Western countries. The pavilion typology in particular, which compartmentalized different groups of patients and optimized ventilation, has been explained as the result of this intense knowledge exchange between Western nations.⁹ Within these typological studies of hospital architecture, however, *colonial* hospitals have usually been absent.¹⁰ To gauge how Western knowledge on hospital planning was imported and translated to the colonial world, the crucial role of hospital infrastructure within the (Belgian) colonial and tropical context must be understood. First, tropical Africa was feared as a “white man’s grave” in which “the deadliness of the African climate to white men, while Africans were apparently healthy there, had been enshrined at the very heart of pseudo-scientific racism.”¹¹ As a result, hospitals were considered a key “tool of empire” to protect the health of European colonizers and unlock the continent for imperial occupation.¹² Contemporary medical and climatological views also shaped the colonial built environment in another important way, as Africans were pathologized as the main carriers of tropical disease. This led to what historian Maynard Swanson has called the “sanitation syndrome,” or the way colonial authorities used and abused medical arguments in an “imagery of infection and epidemic disease” to scientifically legitimize “the creation of urban apartheid.”¹³ Of course, colonial hospital infrastructure followed this medically driven racialized imagery, with hospitals spatially segregated as much as possible.

4 Race, space, and medicine were thus deeply intertwined, and, as I argue in this article, this also had profound effects on the way knowledge on hospital planning circulated to and within the colonial world. Due to the Belgian Congo’s specific local conditions of climate and racial-medical anxieties, existing Western hospital typologies could not be directly “exported” or “diffused” from metropole to colony.¹⁴ Instead, in a process similar to the one described by other scholars as “import” or “editing,” these internationally circulating typologies were consciously adapted to local conditions.¹⁵ Dissecting these typological “translations”—to build on architectural historian Esra Akcan’s description of “the process of transformation during the act of



transportation”¹⁶—reveals the surprising impact of various colonial actors and alternative networks of knowledge transfer, which have both received only limited attention in architectural scholarship.

- 5 On the one hand, most authors have essentially focused on architects or urban planners as the key designers.¹⁷ It was colonial doctors, however, who often acted as the most influential “specialists of space” in colonial interwar Africa,¹⁸ particularly for the design of medical infrastructure such as the *Clinique*. The external plans and architectural documentation that served as sources of inspiration for Coquilhatville’s *Clinique* were collected through members of the Medical Service and their (personal) relations with other foreign colonial medical departments rather than through the Public Works Department. Actors outside the architectural discipline thus profoundly shaped the networks through which architectural knowledge was exchanged, and while this article focuses on hospitals, this may have also been the case for other building typologies as well. On the other hand, in compiling these documents as inspiration, local officials relied on, and even actively established and maintained, alternative networks of knowledge exchange that went beyond the well-known bilateral connections between metropole and colony. That these bilateral ties are still disproportionately analyzed by architectural historians¹⁹ may be explained by the “strong historiographic bias towards the English—and French-speaking ‘center’” of current-day academic scholarship.²⁰ Shifting attention towards smaller colonial powers, however, may actually reveal hitherto hidden transnational flows of expertise—from trans-imperial connections through international organizations to direct intercolonial contacts between local administrations. The Belgian Congo was situated at the geographical, linguistic, and cultural crossroads of various colonial influences and planning cultures. As Johan Lagae has already argued, this may have prompted an implicit policy of “selective borrowing,” a process whereby many Belgian colonial architectural practices and guidelines were essentially a pick-and-mix of best practices in other European colonial territories.²¹ Likewise, for Coquilhatville’s *Clinique*, colonial officials drew upon a panoply of German, French, and North African books, practices, or plans in addition to well-established metropolitan guidelines. Like other authors who are exploring beyond the “well-trodden paths” of conventional knowledge networks,²² I thus aim to show how colonial (hospital) architecture was not simply the result of bilateral “export,” but the product of diverse and overlapping sets of transnational networks of knowledge exchange that transcended conventional linguistic and imperial borders, and that this phenomenon has not been fully accounted for by architectural historians.

Metropolitan institutionalization of the pavilion typology

- 6 21st August 1921 marked the official launch of the Belgian Congo’s “programme de travaux d’utilité publique”—which later became known in historical publications as the *Plan Franck*. The colonial authorities not only aimed to realize an “armature économique” of transport infrastructure to efficiently ship goods and resources in and out of the colony, but also planned the first colony-wide network of hospitals. The implementation of the program, however, did not run as smoothly as initially planned, and it was only in 1927 that the Brussels Ministry of Colonies could finally initiate the most extensive and prestigious hospital projects of the *Plan Franck*: the construction of three hospitals for Europeans.²³
- 7 One sign of the great importance policymakers attributed to the architecture of these *Cliniques* was that for the first time, colonial authorities selected an architect from outside the colonial department to design the project. Maurice Delcuve, a Brussels-based architect who had never set foot in Africa, was appointed to design a hospital type-plan for the city of Léopoldville that would also be suitable for the other two



provincial capitals, Stanleyville and Coquilhatville. To facilitate his task, the Brussels Ministry sent out a questionnaire about the design and “construction d’un hôpital type pour Européens.”²⁴ With queries about orientation, ventilation, building materials, and square meters and volume per patient, the survey was of highly technical and architectural nature. Nevertheless, it was not only addressed to the Chief-Engineer of the Congolese Public Works Service, but also to the heads of the Congolese Medical Service and of the Brussels colonial Medical Department, both doctors. The doctors’ responses, like those of the engineer, clearly revealed an intimate knowledge of the best practices and key themes set forth in the latest manuals and official guidelines on hospital planning. It was the head of the Brussels Medical Department, for instance, who recommended to Maurice Delcuve that he visit the hospital Brugmann in Brussels, designed by famous architect Victor Horta, as an inspiration for the design, and stressed the importance of the instructions of the Belgian *Conseil supérieur d’hygiène*.

8 Founded in 1849, this state organization had quickly evolved from an advisory council into an official government body that closely monitored everything related to public healthcare, including hospital construction. By the turn of the century, a specific subcommittee examined and questioned the design of every new hospital planned in Belgium. The committee was comprised not only of doctors, but also included Hendrik Beyaert, a renowned Belgian architect who had briefly supervised Victor Horta in his early days as an intern.²⁵ It had compiled a set of official guidelines, based on literature and best practices, for Belgian architects who were designing hospitals and needed to apply for approval to the committee. These instructions were not only published in the *Conseil’s* official *Recueil des Rapports*, but also made accessible through more widely-read Belgian architectural journals such as *L’Émulation*.²⁶

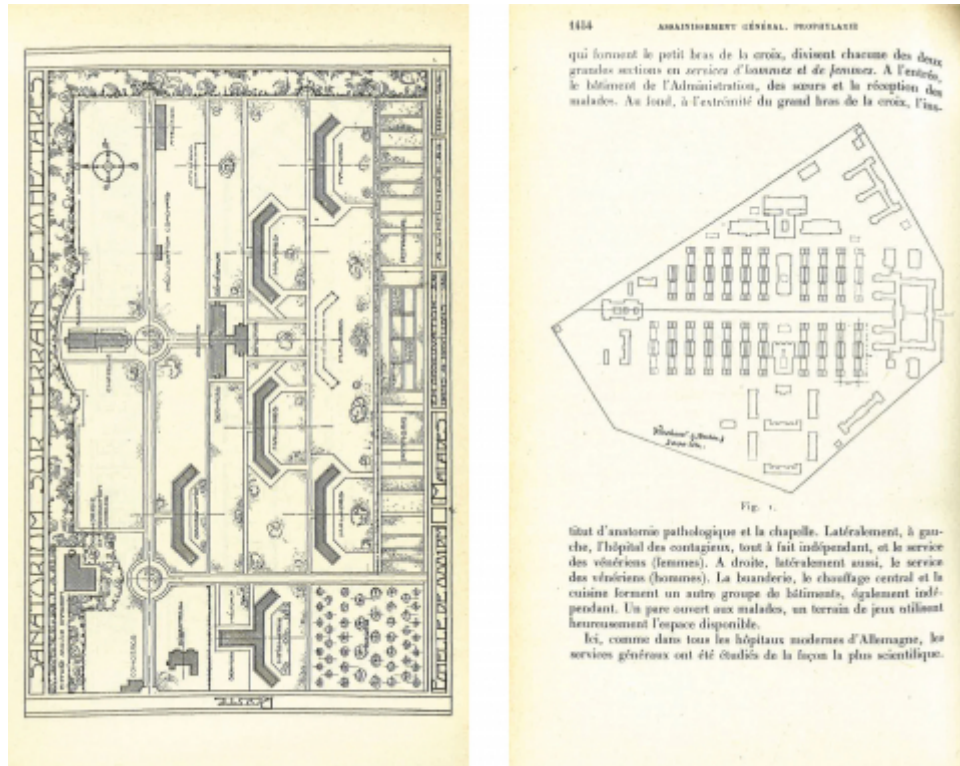
9 When the *Conseil* published its first two sets of guidelines in 1851 and 1884, it closely followed the latest scientific insights from Britain and France, where the pavilion hospital was emerging as the most scientifically sound hospital design.²⁷ Doctors and architects had originally developed the pavilion typology based on the belief that contagious miasmas emanated from the soil, and that maximum ventilation thus prevented infection. By the turn of the century, when the *Conseil* again updated its guidelines, the miasma theory was slowly being replaced by the germ theory, in which bacteria became the culprits of contamination. Although historians have long argued that this turning point in medical theory caused revolutionary changes in hospital design, the changes in fact came about gradually.²⁸ Although manuals and guidelines on hospital planning lessened the emphasis on ventilation and increasingly recommended building materials that facilitated cleaning and disinfection, for several decades the pavilion hospital remained the most widely advocated typology, especially in Europe.

10 Firstly, many doctors and healthcare policymakers were initially skeptical about newly emerging medical theories. Secondly, institutions and professional associations continued to advocate the construction of pavilion hospitals.²⁹ One particularly influential organization was the Paris-based *Office internationale d’hygiène publique*. Founded in 1908, its core task was the rapid exchange of medical data between member states, in order to quickly coordinate quarantines and preventative measures in case of an epidemic. Yet with member states such as Great Britain, France, Portugal, Spain, Belgium, Germany and the United States, the *Office* also quickly became a central hub of transnational knowledge exchange on medical science and hospital construction that transcended classic imperial and linguistic borders. Its annual bulletin provided not only extensive coverage of the latest medical research, but also occasional guidelines and discussions concerning hospital construction, often illustrated with plans of existing hospitals as best practices. While some of its member countries, the United States in particular, were already shifting towards high-rise hospital typologies, most of the examples published in the bulletin were still pavilion hospitals.³⁰ In Belgium, too, the *Conseil supérieur d’hygiène publique* remained a remarkably faithful advocate of the old pavilion system. Even as late as 1923, when it published a revised set of



guidelines, the *Conseil* continued to point to the single-story pavilion typology as not only the most healthful, but even the most economical solution.³¹

Figure 2: Metropolitan institutionalization of the pavilion typology.



Both the Belgian *Conseil supérieur d'hygiène publique* and the Paris-based *Office international d'hygiène publique* continued to advocate the pavilion typology well after the turn of the century and contributed to the institutionalization of the typology.

Source: Conseil supérieur d'hygiène publique, *Recueil des rapports, Instructions sur les constructions hospitalières*, 1923, p. 472 (left); Bulletin de l'Office international d'hygiène publique, *Notes sur quelques hôpitaux modernes*, 1910, p. 1454 (right).

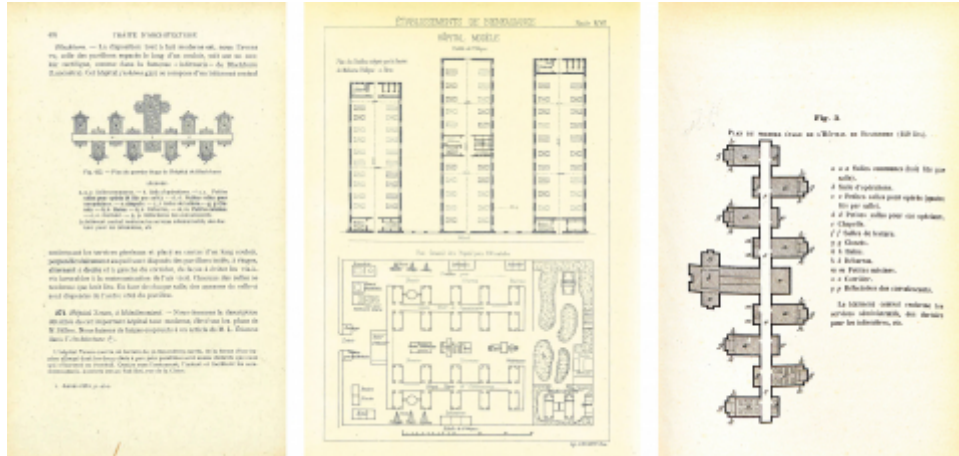
11 For almost a century, the pavilion hospital served as the official standard for hospital construction in Belgium. Throughout these years, the typology was not only imposed by the *Conseil supérieur d'hygiène publique* and institutionalized through international organizations, but also became cemented and ingrained in the minds of many young architects, doctors, and engineers during their training. For aspiring architects, one particularly influential handbook at the time was the *Traité d'architecture*, written in 1900 by architect Louis Cloquet,³² which included an extensive chapter on “locaux hospitaliers.” Both the original and revised edition of 1922 continued to advocate the “système à pavillons isolés” as the most appropriate design for “hôpitaux modernes.”³³ His chapter was based on a highly detailed bibliography of the contemporary international literature on hospital planning. Besides clarifying the familiar spatial guidelines necessary for hygienic ventilation—surface and cubic meter per patient, distance between pavilions, orientation, etc., Cloquet provided an extensive overview of the various best practices of pavilion typology hospitals across Europe.

12 The pavilion typology was taught not only to architectural students, but to other professions as well. Young Belgian engineers were given hands-on syllabi such as *L'Économiste Pratique* by French engineer Émile Cacheux, which featured multiple spatial guidelines for hospital constructions and plans of best practices across Europe.³⁴ Belgian students of medicine received a similar overview on hospital planning, often as part of courses on “hygiène publique et privée.”³⁵ Doctors aspiring to move to the Belgian Congo also had to take additional courses at the *Institut de médecine tropicale*, including courses on “hygiène tropicale,” “hygiène et physiologie,” and “hygiène coloniale et prophylaxie.” These not only included very specific guidelines on dwellings, construction materials, and racial segregation as urban hygiene, but also instructions on “hospitals and public health institutions.”³⁶ The courses were taught by the former



head of the Brussels Medical Department, who had also been consulted for the questionnaire, and who probably passed on some of his expertise on hospital planning to his students.³⁷ Remarkably, the literature on hospital construction written for medical students differed little from publications for architects and engineers. They were often based on many of the same books, and included comparable technical instructions, plans, and sections of the same canon of existing best practices.³⁸

Figure 3: Hospital manuals by architect Cloquet (left), engineer Cacheux (middle) and Dr. Plucker (left).



Regardless of whether handbooks were written for or by doctors, engineers or architects, their authors drew upon the same body of literature on hospital planning, discussed the same topics and best practices, and depicted similar detailed plans and technical information.

Source: Louis CLOQUET, *Traité d'architecture. Tome quatrième*, Liège: Ch. Béranger, 1922, p. 470 (left); Émile CACHEUX, *L'économiste pratique: construction et organisation des crèches, salles d'asile, écoles, habitations ouvrières et maisons d'employés, hôtels pour célibataires, cuisines économiques, bains, lavoirs, cercles populaires, nourriceries, maternités, dispensaires, hôpitaux, hospices, asiles de nuit, postes de secours: établissement, mécanisme, statuts et règlements des institutions de prévoyance et de bienfaisance*, Paris: Baudry, 1885, planche 67 (middle); Dr. PLUCKER, *Notes sur les installations hospitalières anglaises*, Liège: Vaillant-Carmanne, 1880, figure 3 (right).

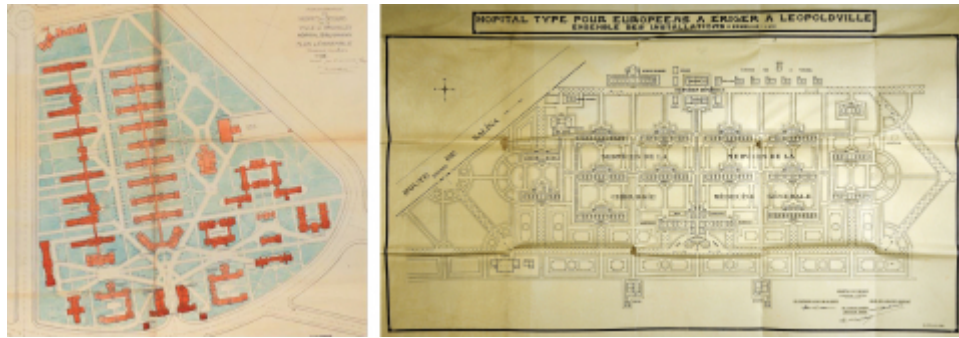
- 13 By the time the questionnaire was sent to colonial doctors and engineers, the pavilion hospital had clearly been institutionalized as the optimal typology in Belgium and other European colonial metropolises such as France and Great Britain, and this through a complex patchwork of overlapping transnational medical and architectural networks, national legal guidelines and (cross)professional education. This preference was also reflected in Maurice Delcuve's final design proposal for an "hôpital type pour Européens." The Brugmann pavilion hospital, itself the result of an inherently transnational process of knowledge exchange, was especially frequently cited as a best practice.³⁹ Horta's vision of a garden-like "hospital city" indeed seems to have been a clear and direct inspiration for the Léopoldville design.⁴⁰ Imitating Horta's design, several paved pathways connected the most important departments and were easily accessible by car, while the symmetrically composed pavilions and landscaped courtyards of Delcuve's plans echo Horta's idea of a "garden-hospital."⁴¹

- 14 Although Delcuve's proposal was clearly based on Horta's metropolitan hospital design, he did translate it to the tropical conditions of the Belgian Congo. Unlike the Brugmann hospital, the Léopoldville pavilions aligned perfectly from east to west, which Dr. Van Campenhout had explicitly indicated in his questionnaire as the optimal orientation in the tropics. And just as Dr. Trolli and engineer Itten had requested in the survey, Delcuve never placed more than two beds in a room—colonial officials believed the additional airspace was a necessary luxury for Europeans in the unhealthy tropical climate. As a result, the colonial design was far more spacious than hospitals in Belgium at the time, and easily met the minimum standards of the *Conseil supérieur d'hygiène publique*. The most noticeable change, however, was related to the logistics of the hospital. Whereas the corridors in most Western hospitals, including the Brugmann hospital, were organized perpendicular to the large communal wards, Delcuve had introduced exterior hallways that surrounded the smaller wards and at the same time



served as a veranda for the patients. This simultaneously ventilated the rooms and protected them from direct tropical sunlight. It was this logistical decision caused Delcuve's efforts to be rejected, because the colonial government eventually selected a counterproposal developed by the provincial Public Works Service of Léopoldville offering an important alternative circulation system.

Figure 4: Western hospital design as inspiration for colonial medical infrastructure.



Designed as an autonomous *hôpital-jardin*, with pavilions separated by large courtyards and boulevards for automobile transport, the Brugmann hospital was an important source of inspiration for architect Maurice Delcuve. With the orientation of the wards, spacious patient rooms and innovations in the design of the hallways, however, Delcuve did attempt to adapt classic Western hospital typologies to the tropical and colonial conditions of the Belgian Congo.

Source: Claire DICKSTEIN-BERNARD, Astrid LELARGE, David GUILARDIAN and Judith LE MAIRE, *Van monumentaal tot functioneel: de architectuur van de Brusselse openbare ziekenhuizen (19e-20e eeuw) : ambities en verwezenlijkingen*, Brussel : Civa, 2005, p. 17 (left); Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/3DG 1183 (right).

Colonial “translations” of a transnational typology

15 Ironically, it had been the Brussels authorities themselves who had assigned the Léopoldville officials to design their own hospital for Europeans in the first place. Somehow, however, this command had been forgotten. Nevertheless, architect Vander Elst, head of the local Public Works Service, and Dr. Van Hoorde, head of the city's existing hospital for Europeans, had continued working on the project, unbeknownst to authorities in Brussels. It was only when the Léopoldville services received Delcuve's finished type-plan for approval that the two administrative branches realized that there were two competing proposals for the same hospital. Just like the Brussels Department, the Léopoldville Services had invested considerable time and effort in their designs. With the decisive meetings organized in Léopoldville, however, it was no surprise that the local design was eventually selected, and would serve as the template for the new hospitals for Europeans in Léopoldville, Stanleyville, and Coquilhatville.

16 While this anecdote is exemplary of the messiness of the often sluggish colonial apparatus, the parallel development of these two designs provides an especially interesting case, since it highlights how various branches of the same colonial administration had access to, and translated from, rather different transnational networks of knowledge exchange. Whereas Delcuve had predominantly based his design on guidelines and best practices stemming from the West, the authorities in Léopoldville seem to have been inspired by other, less conventional examples. However, it is much harder to pinpoint the direct influences they drew from than it is with Delcuve's design. Their design process was simply less documented, as if it had relied on an “epistemic community” built up through the informal personal connections and individual experiences that local officials had acquired throughout their colonial careers and that often cut across linguistic or imperial boundaries.⁴²

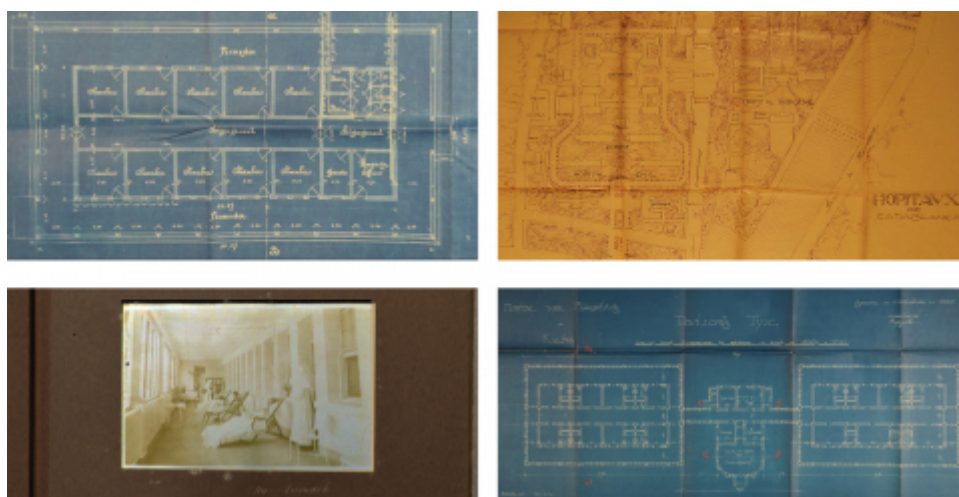


Through international travels and research missions, several members of the colonial administration had developed personal know-how and connections that likely impacted

the hospital's design. Direct colonial connections with foreign administrations led to colonial doctors being sent on prospecting missions to colonial cities such as Dar es Salaam and Luanda.⁴³ Other, higher-ranked medical officers covered even more impressive international trajectories, often supported by research scholarships and emerging international institutions. Dr. Duren, for instance, the head of the *Service d'hygiène publique* of Léopoldville at the time, had spent eight months in Brazil studying tropical diseases at the hospital and research institute of Rio de Janeiro in 1921.⁴⁴ Five years later, he was part of a research mission on sleeping sickness organized by the League of Nations, the Geneva-based intergovernmental organization founded after the First World War. Under its aegis, a Health Section was organized to coordinate global health and spread medical knowledge. While the annual bulletins of the Health Section contained less direct information on hospital planning than those of the *Office international d'hygiène publique*, its Paris-based counterpart, it funded exchanges of medical personnel and organized several international or inter-colonial conferences and research missions.⁴⁵ These gatherings were never specifically focused on hospital architecture, but did include organized visits to medical infrastructure in various colonial contexts across Africa. They offered a platform where colonial doctors and officials could meet and mingle, network, exchange experiences, and become acquainted with the varying approaches to hospital construction in Africa's colonies.⁴⁶

18 Such intangible networks of personal experiences and connections are of course hard to track based on archival traces, and it is even more difficult to precisely chart if and how these influenced the local design. If anything, these experiences, rather than serving as direct sources of inspiration, may simply have supplied subconscious yet invaluable background information that allowed colonial officials to assess their preliminary designs. Nonetheless, Léopoldville's local officials did draw from a few concrete examples as well. In 1925, the local Medical Service deployed its relations with foreign colonial administrations to acquire additional documentation on colonial hospital construction, and received responses from varying places such as Dakar, Saint-Louis, Bamako, and Luanda.⁴⁷ Within the vast Belgian colony, too, information was exchanged. The Léopoldville branch established a connection with the remote municipal authorities of Elisabethville, who sent plans and a photo album of their local European *Clinique*, along with the plans of a French hospital complex in Casablanca that had largely inspired the Elisabethville design.⁴⁸

Figure 5: Selective borrowing of transnational hospital design solutions.



Elisabethville's design of a central service corridor separated from a semi-private veranda for the patients clearly pleased the architect Vander Elst and Dr. Van Hoorde. They translated the system to the larger pavilions of Léopoldville's hospital, and made sure that the hallways were well-lit by borrowing from the Casablanca hospital, where pavilions were subdivided in several wings but connected by a central corridor.

Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/3DG 1231 (right); Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 16850.

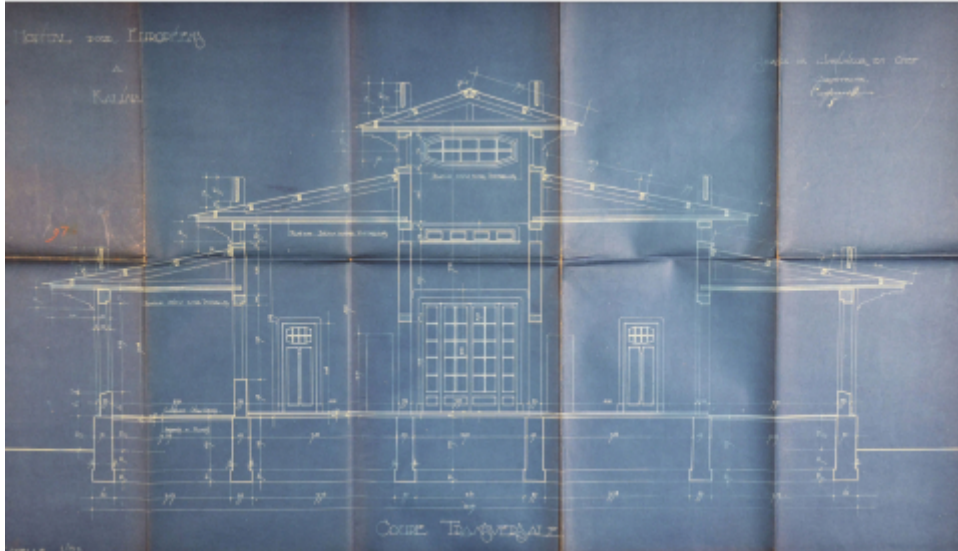
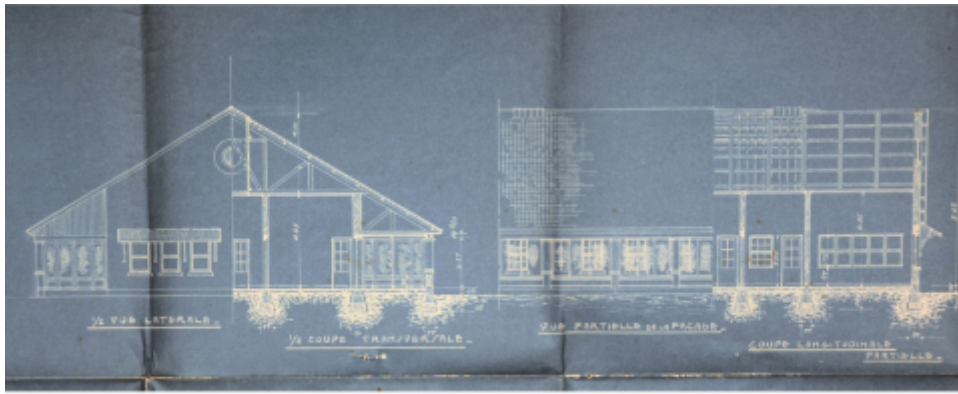


This documentation proved vital for Léopoldville's local architect Vander Elst and Dr. Van Hoorde, who seem to have directly based the floorplan on these existing examples.

The photo album accompanying the Elisabethville hospital plans confirmed how the sunny, well-ventilated verandas offered European patients the space for rest and relaxation deemed to be vital in the harsh tropical climate. Vander Elst and Van Hoorde quickly adopted the idea of a central corridor and an external porch, but translating this scheme to the context of Léopoldville posed new problems. On the one hand, being located in the future capital of the colony, the pavilions in the hospital of Léopoldville had to be much larger. As a result, they would not allow sufficient light to reach the central corridor. The floorplan of pavilions in the hospital of Casablanca, with its double wings connected by a central corridor, may have offered a partial solution. Vander Elst and Van Hoorde divided each pavilion into two separate sections connected by a central hallway that gained additional sunlight from the sides. Conversely, the Katangese and Moroccan climates differ distinctly from that of Léopoldville, where European officials were much more anxious about excessive heat in the patient rooms. This was where Vander Elst and Van Hoorde had to innovate and develop their own response. Where the hospital in Elisabethville had a single gabled roof and the corridor was lit and ventilated only from the sides, the solution in Léopoldville was rather different. Subdivided into three levels, the roof not only added extra skylights, but also created additional air circulation. The central hallway, over seven meters high, was designed to create a chimney effect and cool down the adjacent patient rooms by drawing air through internal ventilation shafts. At the meetings where both projects were compared, local officials sold this ingenious system of natural ventilation as one of the main advantages of what they proudly called the “projet Vander Elst-Van Hoorde.”⁴⁹ Pitching the proposal to the central authorities, Van Hoorde explained that this corridor was designed as “a temperature regulator” and would ensure a “less elevated and more consistent temperature” as opposed to Delcuve’s design of “single-row patient rooms” which would lead to “abrupt variations in temperature.”⁵⁰ To convince the Brussels opposition even more, they compiled an extensive brochure in which they justified the additional cost of their design by comparing the results to Western standards. Interestingly, they cited German, French, and Swiss publications rather than exclusively Belgian sources.⁵¹

Figure 6: Hospital sections adapted to the tropical climate.





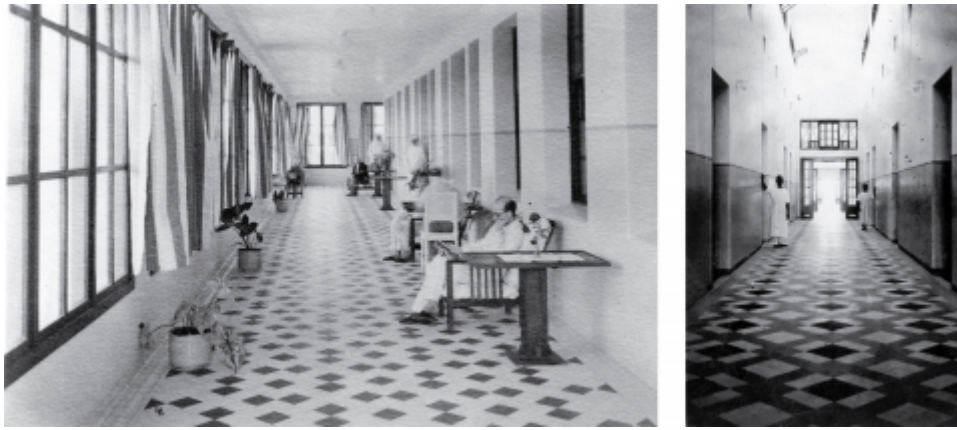
Vander Elst and Van Hoorde translated the section to the local tropical climate of Léopoldville. Where the hospital in Elisabethville had a single-tiered gabled roof and the corridor was lit and ventilated only from the sides, the solution in Léopoldville was completely different. The multi-tiered gabled roof not only offered an extra skylight, but its windows were also designed to create additional air circulation. The seven-meter-high central hallway would create a chimney effect and cool down the adjacent patient rooms by drawing air through internal ventilation shafts.

Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 15920 (above); Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/3DG 1231 (below).

- 20 The hallway that functioned as heat regulator, however, was not the only reason why the authorities eventually selected the Léopoldville design over the one from Brussels. As Van Hoorde argued, “a corridor reserved for services alone facilitates surveillance of African personnel” since “theft is easier in rooms with doors to two accessible verandas.”⁵² Similarly, a private veranda accessible only to European visitors, patients, and personnel would increase “patient comfort” and make them feel “more at home.”⁵³ By separating the semi-private verandas for patients from the service logistics—most often used by African personnel, who far outnumbered the few European doctors and the nuns from religious nursing orders working at the hospital—Vander Elst and Van Hoorde thus to some extent created a de facto racial segregation on the scale of the building. If the main goal of the central hallway was to respond to the tropical climate, its separate-logistics design also conveniently responded to widespread anxieties about the allegedly contagious African body. In the medical space of a European hospital, these anxieties were expressed more openly and explicitly than anywhere else in the colonial built environment.⁵⁴

Figure 7: Racial segregation and hospital logistics.



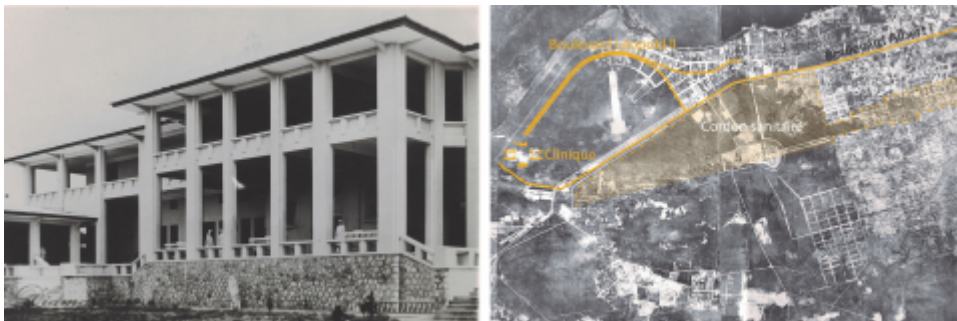


While the main goal of the central hallway was to function as a heat regulator, Vander Elst and Van Hoorde also praised their design because it improved control over the African staff, prevented theft, and improved the comfort of the patients who were less disturbed by the staff. As such, it conveniently facilitated racial segregation in the hospital, which, it seems, local officials deemed an additional reason to opt for this proposal.

Source: Tervuren (Belgium), African Museum, Franciscan Sisters, 1937, AP.0.0.38538 (left); Tervuren (Belgium), African Museum, Franciscan Sisters, 1934, AP.0.0.38540-2 (right).

- 21 Colonial racial hierarchies were materialized not only through interior circulation, but also through the exterior architecture of the hospital and its symbolic prominence and position in Léopoldville's growing cityscape. The hospital was the centerpiece of the urban planning project for the new colonial capital of Léopoldville. Its strategic location marked the end of a central boulevard and leisure promenade that connected key political functions such as the Governor's residence and the Léopold II Memorial.⁵⁵ As such, its monumental façade served as an important architectural expression of the hierarchic "prestige du blanc" the Belgian colonial authorities were so anxious to uphold towards their colonized population.⁵⁶ Similar to what architectural historian Thomas Metcalf has described, the hospital thus served to express the Belgian colonial "vision of empire."⁵⁷ Moreover, the main entrance on the other side of the hospital was oriented towards another crucial thoroughfare of the city. This central boulevard followed the tracks of the former railway, which had long served as an unofficial boundary between the old European center and the African neighborhood.⁵⁸ When the hospital opened its doors by 1932, this unofficial limit had been transformed into an official neutral zone or *cordon sanitaire*. Neatly following the reigning views on race and public health at the time, the *Clinique*, of course, was properly positioned on the European side of the segregationist zone.

Figure 8: The imposing façade of the *Clinique* oriented towards the Boulevard Léopold II, and the Boulevard Albert I.



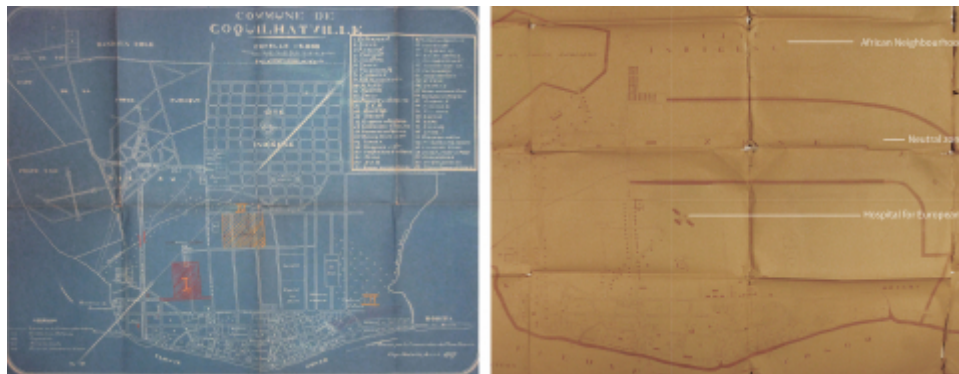
Source: Tervuren (Belgium), African Museum, Franciscan Sisters, c. 1937, 0.0.38544-2.

- 22 As the last stage in a long search for a local typology, the "projet Vander Elst-Van Hoorde" was sent to Coquilhatville as the officially selected type-plan. The provincial Public Works Service faithfully recycled many of the basic principles of the design, yet had to find a compromise with the lofty ambitions of Provincial Governor Duchesne. The orientation and urban setting of the hospital were a first step in the local translation of the plans. Although Duchesne and his local administration proposed several different locations, the central authorities from Brussels overruled all of these.



Eventually, after a long and heated debate, the hospital would be constructed in a vacant lot just next to the future neutral zone that separated the European center from the African neighborhoods. This empty site gave local architects the leeway to easily orient the hospital along the ideal east-west axis, as stipulated by “pavillon-type” plans. Yet this also meant that the urban boulevard leading to hospital gates clashed with the town’s existing grid of streets, aligned with the river’s edge. Since Duchesne had been forced to give in to the demands of the central authorities, however, he was “in no mood to make concessions on the prestige of the project” and the grand boulevard was realized, even though it created somewhat of an anomaly in Coquilhatville’s general street pattern.⁵⁹

Figure 9: Urban location of the *Clinique Reine Elisabeth* in Coquilhatville.



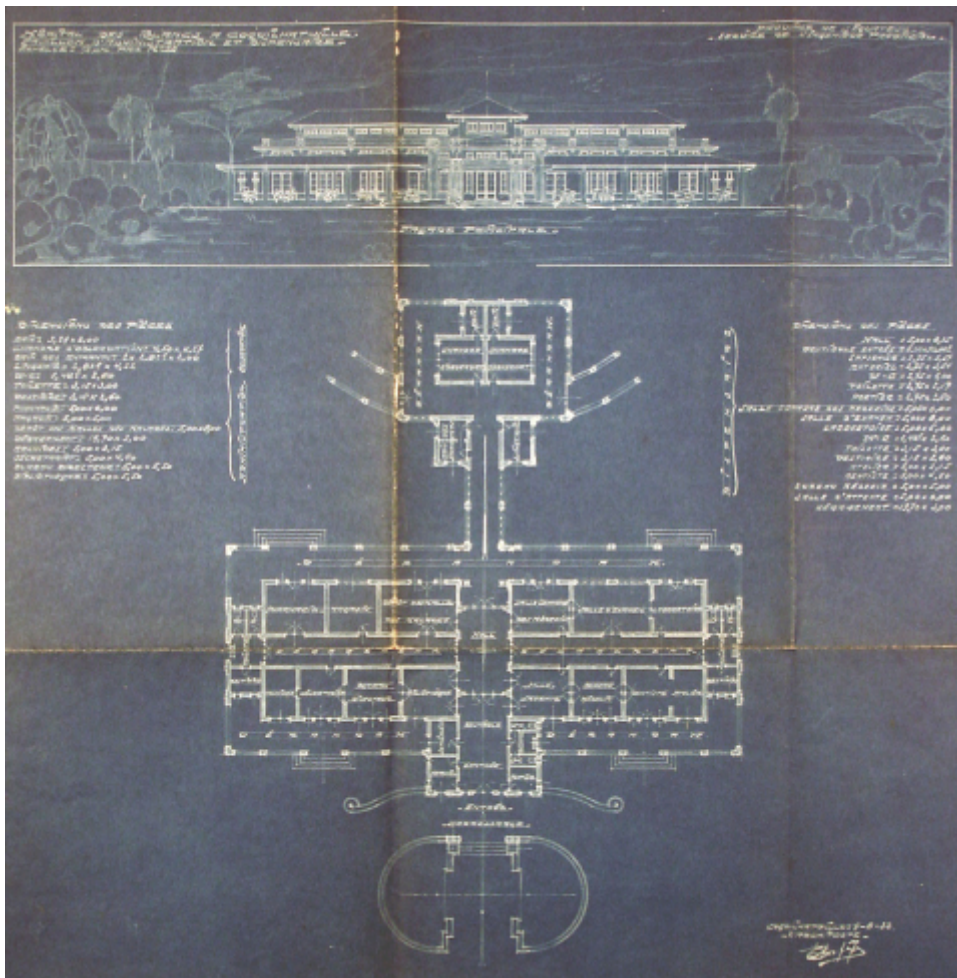
After long discussions, the hospital was located on a vacant lot near the neutral zone (indicated as proposal II in the contemporary map on the left). While this allowed a perfect orientation along the east-west axis, as the map on the right illustrates, this orientation meant that the boulevard leading to the hospital, the urban showpiece of Governor Duchesne, became an anomaly within the existing street grid.

Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 12836.

- 23 The Léopoldville design itself also underwent several local adaptations. Although the floorplan of the type-pavilion was far too big for the much smaller town, and had to be reduced, it seems the local Public Works Service intervened carefully to maintain the prestige of the complex Governor Duchesne aimed for. As the head of Public Works explained, it was precisely this downsizing that “would make it possible to spend a bit more money on the actual architectural aspect,” and turn the hospital into “one of the city’s showpieces.”⁶⁰ The pavilions were scaled down in a rather straightforward way by joining both wings. While this certainly reduced the width of the pavilions, the central *salle de séjour*, or lobby, was cleverly used to create a more unified and imposing façade, by shifting it forwards, giving it more prominence and increasing its height. Inside the pavilions, however, the layout barely changed, and was designed to respond to the same tropical anxieties and colonial agendas. As the tropical climate of Coquilhatville—positioned right on the Equator—was considered even more taxing on the European body, the central hallway again had to function as a heat regulator, while the luxurious verandas made sure the hospital offered the revitalizing rest European patients allegedly needed in the tropics. And just as in Léopoldville, while the hallway was translated to the tropical climate, its separated system of service logistics and semi-private verandas again catered to colonial racial hierarchies.

Figure 10: Adapted design for the *Clinique Reine Elisabeth* in Coquilhatville.





The floorplan of Léopoldville was downscaled by compressing both wings into one. By pronouncing and heightening the central “hall vestibule d’entrée,” however, the local architects still managed to create an architecturally impressive façade.

Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 14776.

24 Coquilhatville’s *Clinique Reine Elisabeth* in Coquilhatville was thus the final result of a long and multi-sited design process, which had been shaped by various overlapping networks of knowledge exchange on hospital construction. Selectively borrowing from various Western best practices, the Brussels colonial administration compiled a first hospital design which was shipped from the metropole. Nevertheless, such bilateral flows were not the only ways in which hospital planning expertise reached the Belgian colony. Through conferences and research missions on both African and European soil, international institutions such as the *Office international d’hygiène publique* or the *League of Nations* fostered both transimperial knowledge exchange between major colonial powers, and direct intercolonial connections between colonial administrations. Through these forums, but also through personal travels or correspondence, various colonial administrators—often from medical departments—came in increasingly closer contact with each other, transferring information and plans of best practices of hospital design.

25 These flourishing alternative networks were precisely what provided the Belgian colonial administration with the necessary sources of inspiration to design the hospital as both a “vision” and a “tool of empire.”⁶¹ On the one hand, Belgian colonial policymakers were inspired by various Western and colonial best practices to deploy the *Clinique’s* grand façades and symbolic urban location as a way of touting the colonial administration’s alleged devotion to public health. On the other, officials selectively borrowed and compiled various design solutions to translate the global pavilion typology to the local tropical and colonial conditions. By creating an additional interior hallway, local designers not only offered a cool and comfortable shelter to European patients through improved airflow, but also assuaged persistent racial-medical anxieties in the tropical “white man’s grave” through segregated circulation systems.



Inspired by these overlapping transnational and intercolonial networks of knowledge exchange, this segregated medical architecture also serves as an evident but important reminder of how racial asymmetries pervaded almost every aspect of colonial reality. Indeed, African voices would continue to be excluded from these emerging networks, which remained dominated by European colonial officials, architects, and doctors until the eve of independence.⁶² Nevertheless, despite the eloquent African absence from these networks, the history of Coquilhatville's *Clinique* reveals how flows of architectural expertise were much more diverse than the "conventional frameworks of bilateral colonial channels" architectural historians have generally focused on. It provides some crucial counterweight to the "hegemonic presence of Anglophone or Francophone networks in historiographical representations of colonial and tropical architecture."⁶³

Notes

1 Through this "embellissement urbanistique," Duchesne aimed to give "son chef-lieu [...] peu à peu le visage qu'il en a rêvé." *Biographie coloniale belge = Belgische koloniale biographie*, Brussels: Éditions J. Duculot, 1958, vol. 5, p. 282.

2 Kristien GEENEN, "Categorizing colonial patients: Segregated medical care, space and decolonization in a Congolese city, 1931-62," *Africa*, vol. 89, no. 1, 2019, p. 100-124. DOI: <https://doi.org/10.1017/S0001972018000724>

3 Brussels (Belgium), African Archives, Ministry of Foreign Affairs, Brussels (AA)/Public Works Department files (3DG), 1638, *Note au sujet des prétendus gaspillages dans les dépenses pour construction des hôpitaux de la Colonie*, by Médecin en Chef Trolli, 25 May 1932.

4 On the *Plan Franck*, see M. VAN LEEUW, "Histoire des travaux publics du Congo belge, d'après les budgets," *Périodique de l'union des ingénieurs sortis des écoles spéciales de Louvain*, 1932; Guy VANTHEMSCHE, *Genèse et portée du Plan décennal du Congo belge (1949-1959)*, Brussels: Académie royale de Belgique, 1994, p. 8, 56.

5 The fourth provincial capital, Elisabethville, already possessed a recently built hospital for Europeans.

6 Léopoldville—the future Kinshasa—was still only a provincial capital in the early 1920s.

7 Luce BEECKMANS, "The 'Development Syndrome': building and contesting the SICAP housing schemes in French Dakar (1951-1960)," *Canadian Journal of African Studies*, vol. 51, no. 3, 2017, p. 359-388. DOI: <https://doi.org/10.1080/00083968.2017.1411820>; Kim DE RAEDT, *Policies, people, projects school building as development aid in postcolonial Sub-Saharan Africa*, PhD Thesis in Architectural History, Ghent University, Ghent, 2017; Jiat-Hwee CHANG, *A genealogy of tropical architecture: colonial networks, nature and technoscience*, London; New York, NY: Routledge, 2016 (The Architext Series).

8 Jiat-Hwee CHANG, *A genealogy of tropical architecture*, *op. cit.* (note 7); Peter SCRIVER, *Rationalization, standardization, and control in design: a cognitive historical study of architectural design and planning in the Public Works Department of British India, 1855-1901*, Delft, Technische Universiteit, 1994.

9 Jeremy TAYLOR, *The architect and the pavilion hospital: Dialogue and design creativity in England, 1850-1914*, London; New York, NY: Leicester University Press, 1997; Lindsay PRIOR, "The Architecture of the Hospital: A Study of Spatial Organization and Medical Knowledge," *The British Journal of Sociology*, vol. 39, no. 1, 1988, p. 86-113. DOI: <https://doi.org/10.2307/590995>; Nikolaus Sir PEVSNER, *A history of building types*, London: Thames and Hudson, 1976.

10 As an exception, see: Didier BAISET, Pascal GAREL and Christian MÉSENSE, *Patrimoine hospitalier d'Afrique: Égypte, Maroc, Sénégal, Bénin*, Paris: Riveneuve, 2010 (Rives africaines).

11 Philip D. CURTIN, "'The White Man's Grave': Image and Reality, 1780-1850," *Journal of British Studies*, vol. 1, no. 1, 1961, p. 104. DOI: <https://doi.org/10.1086/385437>.

12 Daniel R. HEADRICK, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century*, New York, NY: Oxford university press, 1981.

13 Maynard W. SWANSON, "The Sanitation Syndrome: Bubonic Plague and Urban Native Policy in the Cape Colony, 1900-1909," *The Journal of African History*, vol. 18, no. 3, 1977, p. 387-410. For more on racial segregation, see Carl NIGHTINGALE, *Segregation: A Global History of Divided Cities*, Chicago, IL: University of Chicago Press, 2012.

14 According to the rather outdated paradigms of "export" or "diffusion," architectural ideas and models were exclusively developed in the West, and then directly exported or diffused across



the globe. See Peter HALL, *Cities Of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century*, Oxford: Blackwell, 1988.

15 Joe NASR and Mercedes VOLAIT, *Urbanism: Imported or Exported?*, Chichester; Hoboken, NJ: Wiley-Academy, 2003; Luce BEECKMANS, *Making the African City: Dakar, Dar es Salaam, Kinshasa: 1920-1980*, PhD dissertation, Rijksuniversiteit Groningen, Groningen, 2013.

16 Esra AKCAN, *Architecture in Translation: Germany, Turkey, and the Modern House*, Durham, NC; London: Duke University Press, 2012, p. 3.

17 Some have zoomed in on visionary architects such as Edwin Lutyens in Delhi or Le Corbusier in Chandigarh. Peter HALL, *Cities of Tomorrow*, *op. cit.* (note 14); Robert Grant IRVING, *Indian Summer: Lutyens, Baker, and Imperial Delhi*, New Haven, CT: Yale University Press, 1981. Others have traced the trajectories of lesser-known technocrats or “architect-consultants:” for a historiographical overview, see Johan LAGAE and Bernard TOULIER, “De l’outre-mer au transnational: glissement de perspectives dans l’historiographie de l’architecture coloniale et post-coloniale,” *Revue de l’Art*, 2014, special issue *Architecture du XXe siècle*, p. 45-56 ; Johan LAGAE and Kim DE RAEDT, “Editorial,” *ABE Journal*, no. 4, 2013, *Global Experts “off Radar”*. DOI: <https://doi.org/10.4000/abe.485>; Eric VERDEIL, “Expertises nomades au Sud. Eclairages sur la circulation des modèles urbains,” *Géocarrefour*, vol. 80, no. 3, 2005, p. 165-169. DOI: <https://doi.org/10.4000/geocarrefour.1143>. For concrete examples, see Luce BEECKMANS, “The adventures of the French architect Michel Ecochard in post-independence Dakar: a transnational development expert drifting between commitment and expediency,” *The Journal of Architecture*, vol. 19, no. 6, 2014, p. 849-871. DOI: <https://doi.org/10.1080/13602365.2014.982146>; Johan LAGAE, “Unlocking the archive of a transnational expert,” *ABE Journal*, no. 4, 2013, *Global Experts “off Radar”*. DOI: <https://doi.org/10.4000/abe.3390>; Rachel LEE, *India: Otto Koenigsberger, Urban Visions and Architecture in India*, Liverpool: TAG Press; Bengaluru: MPD Institute, 2015.

18 Robert K. HOME, *Of Planting and Planning: The Making of British Colonial Cities*, London: Spon, 1997 (Studies in History, Planning and the Environment, 20), p. 42.

19 See Jiat-Hwee CHANG, *A genealogy of tropical architecture*, *op. cit.* (note 7); Robert K. Home, *Of Planting and Planning*, *op. cit.* (note 18). This of course is also tied to pragmatic reasons such as the accessibility of archival sources, and the language barriers faced by researchers.

20 G. A. BREMNER, Johan LAGAE and Mercedes VOLAIT, “Intersecting Interests: Developments in Networks and Flows of Information and Expertise in Architectural History,” *Fabrications*, vol. 26, no. 2, 2016, p. 241. DOI: <https://doi.org/10.1080/10331867.2016.1173167>.

21 *Ibid.*, p. 239.

22 G. A. BREMNER, Johan LAGAE and Mercedes VOLAIT, “Intersecting Interests: Developments in Networks and Flows of Information and Expertise in Architectural History,” *op. cit.* (note 20), p. 228. Recently a handful of authors have indeed begun shifting the focus beyond conventional English- or French-speaking (bilateral) networks. Some point to international institutions and lesser-known “inter-colonial” conferences as complementary knowledge hubs. Others zoom in on different colonial powers, or discuss the increasing influence exerted by Eastern Europe and socialism on the global architectural scene. Łukasz STANEK, *Architecture in Global Socialism*, Princeton, NJ: Princeton University Press, 2020; IDEM, “Introduction: the ‘Second World’s’ architecture and planning in the ‘Third World,’” *The Journal of Architecture*, vol. 17, no. 3, June 2012, p. 299-307. DOI: <https://doi.org/10.1080/13602365.2012.692597>; Ana Vaz and MILHEIRO and Liam BURKE, *Arquitecturas coloniais Africanas no fim do “Império Português,”* [Lisboa]: Relógio D’Água Editores, 2017; Liora BIGON, “Transnational networks of administrating disease and urban planning in West Africa: The inter-colonial conference on yellow fever, Dakar, 1928,” *GeoJournal*, vol. 79, no. 1, 2014, p. 103-111. URL: <http://www.jstor.org/stable/24432617>. Accessed 10 December 2021.

23 Access to colonial hospital infrastructure was strictly segregated in the Belgian Congo during the interbellum. See Simon DE NYS-KETELS, Laurence HEINDRYCKX, Johan LAGAE and Luce BEECKMANS, “Planning Belgian Congo’s network of medical infrastructure: Type-plans as tools to construct a medical model-colony, 1949–1959,” *Planning Perspectives*, vol. 34, no. 5, 2019, p. 757-778. DOI: <https://doi.org/10.1080/02665433.2019.1633950>; Kristien GEENEN and Simon DE NYS-KETELS, “Pedestrian Itineraries in Kinshasa: On Shortcuts, Permeable Walls, and Welded Shut Gates in a Former Colonial Hospital,” *Space and Culture*, vol. 24, no. 1, 2021, p. 113-127. DOI: <https://doi.org/10.1177/1206331218797037>.

24 Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/Hygiene files (H), 4390, Construction d’un hôpital type pour Européens, questionnaire, 15 June 1927.

25 Stylistically speaking, especially his later work has been described as a “manifestation of ‘a link between Neoclassicism and Art Nouveau.’” At the same time, his projects—and especially his design of the Brussels Ministry of Railways headquarters building—attests to his typological creativity, functionalism, and a far-reaching knowledge of hygienic architecture. See Jens VAN DE MAELE, *Architectures of Bureaucracy: An Architectural and Political History of Ministerial Offices in Belgium, 1915-1940*, PhD Thesis in Architectural History, Ghent University, Ghent, 2019, p. 61-69.



26 *L'Émulation*, vol. 7, 1899, p. 106-108; *L'Émulation*, vol. 8, 1899, p. 115-117.

27 L. WELLENS-DE DONDER, "Enquête sur les hôpitaux d'Europe occidentale en vue de la construction et de l'agencement du nouvel hôpital Saint-Jean à Bruxelles 1828-1830," *Annales de la Société belge d'histoire des hôpitaux*, vol. 8, 1970, p. 73-134. *Moniteur belge*, 1884, p. 675-678.

28 This idea has been developed by Lindsay PRIOR, "The Architecture of the Hospital: A Study of Spatial Organization and Medical Knowledge," *op. cit.* (note 9) ; Nikolaus Sir PEVSNER, *A history of building types*, *op. cit.* (note 9). Later architectural historians focusing on hospital architecture, such as Jeanne Kisacki, however, have convincingly questioned this claim. Jeanne KISACKY, *Rise of the Modern Hospital: An Architectural History of Health and Healing, 1870-1940*, Pittsburgh, PA: University of Pittsburgh Press, 2017.

29 Adrian Forty has explained how the professions of architects, nurses and doctors all fared well from the continued use of the pavilion typology. Adrian FORTY, "The modern hospital in England and France: the social and medical uses of architecture," in Anthony D. KING (ed.), *Buildings and Society: Essays on the Social Development of the Built Environment*, London: Routledge; Kegan Paul, 1984, p. 61-93.

30 Examples of publications related to hospital planning in the Bulletin de l'Office international d'hygiène publique are: *Hygiène hospitalière: projet pour un nouvel hôpital à Nice*, 1909, p. 963-977; *Notes sur quelques hôpitaux modernes*, 1910, p. 1450-1488, in which the Berlin hospital featured as a best practice; *Les hôpitaux d'isolement en Angleterre*, 1912, p. 2200. URL: <https://archive.org/details/tudesurleshpooluta>. Accessed 13 December 2021.

31 Conseil supérieur d'hygiène publique, *Séance du 14 Juillet 1923: Instructions sur les constructions hospitalières*, p. 472.

32 Contemporary reviewers praised Cloquet's *Traité* for filling a historiographical hiatus in Belgium at the time, and for offering both students and practicing architects a hands-on manual for education and inspiration. See Patrick GODITIABOIS, *Ingenieur Louis Cloquet (1849-1920): architect tussen monument en stad*, Licence dissertation, Catholic University of Leuven, Leuven, 1987, p. 21-22.

33 Louis CLOQUET, *Traité d'architecture. Tome quatrième*, Liège: Ch. Béranger, 1922, p. 436, 444, 450.

34 The work of Émile CACHEUX: *L'économiste pratique: construction et organisation des crèches, salles d'asile, écoles, habitations ouvrières et maisons d'employés, hôtels pour célibataires, cuisines économiques, bains, lavoirs, cercles populaires, nourriceries, maternités, dispensaires, hôpitaux, hospices, asiles de nuit, postes de secours: établissement, mécanisme, statuts et règlements des institutions de prévoyance et de bienfaisance*, Paris: Baudry, 1885, to which Cloquet also referred in his *Traité d'architecture*, contained a practical "atlas" with accessible plans of how to construct pavilion hospitals. It was used as a handbook at the *École du Génie civil* in Ghent.

35 Students who opted for a specialization as "Docteur-Hygiéniste" attended lectures on "The Hygiene of the Dwelling." *Université de Gand, Programme des cours and Ouverture solennelle des cours*, multiple years. With medical education covering such broad topics, it is no surprise that the first authors who wrote on housing in the tropics were colonial doctors rather than architects, as other authors already discussed: see Johan LAGAE, *Kongo zoals het is : drie architectuurverhalen uit de Belgische koloniatiegeschiedenis (1920-1960)*, PhD Thesis in Architectural History, Ghent University, Ghent, 2002, p. 36.

36 See ITG, *Syllabi of hygiène tropicale, hygiène et physiologie and hygiène coloniale et prophylaxie*, multiple years.

37 For instance, Dr. Van Den Branden, one of his former students and successor at Léopoldville's medical laboratory, also seemed well aware of this literature, as he referred to Brouardel's work in his report on Léopoldville's lazaretto. F. VANDENBRANDEN, L. FORNARA and A. STAUB, *Rapport sur le fonctionnement du lazaret des tuberculeux de Léopoldville et sur l'infection tuberculeuse de Stanley-Pool*, 1926. URL: <http://lib.itg.be/open/ASBMT/1926/1926asbm0235.pdf>. Accessed 10 December 2021.

38 Cloquet referred to a wide array of sources and truly serves as a valuable entry point to the body of literature that existed at the time on hospital construction. He not only cited the instructions of the *Conseil supérieur d'hygiène publique*, and several articles in *L'Émulation*, but also included the references to various well-established authors—doctors, engineers and architects alike. Shared references across professions came from various foreign nations, including Great Britain, France, and Belgium, and include: Jacques-René TENON, *Mémoires sur les hôpitaux de Paris*, Paris: Mécquignon, 1788; Frederic J. MOUAT and H. Saxon SNELL, *Hospital construction and management*, London: J. & A. Churchill & Co., 1883; Antoine DEPAGE, Paul VANDERVELDE and Victor CHEVAL, *La construction des hôpitaux: étude critique*, Brussels: Misch et Thron, 1907; Dr. PLUCKER, *Notes sur les installations hospitalières anglaises*, Liège: Vaillant-Carmagne, 1880; H. NAPIAS, A. J. MARTIN and P. BROUARDEL, *L'étude et les progrès de l'hygiène en France de 1878 à 1882*, Paris: Masson, 1882.

39 During the design of the Brugmann hospital, Victor Horta had himself conducted an extensive study on hospital planning, travelling across Europe to various important best



practices. He was especially influenced by the Virchow Hospital in Berlin, which featured in numerous other manuals on hospital design as a best practice. Claire DICKSTEIN-BERNARD, Astrid LELARGE, David GUILARDIAN and Judith LE MAIRE, *Van monumentaal tot functioneel: de architectuur van de Brusselse openbare ziekenhuizen (19e-20e eeuw): ambities en verwezenlijkingen*, Brussel: Civa, 2005.

40 Patrick BRUNIAT and Judith LE MAIRE, *Brugmann: het parkziekenhuis van Victor Horta*, Brussel: Ministerie van het Brussels Hoofdstedelijk Gewest, 2011, p. 15.

41 Claire DICKSTEIN-BERNARD, Astrid LELARGE, David GUILARDIAN and Judith LE MAIRE, *Van monumentaal tot functioneel*, *op. cit.* (note 39).

42 Peter HAAS, "Introduction: Epistemic Communities and International Policy Coordination," *International Organization*, vol. 46, no. 1, 1992, p. 1-35. URL: <https://www.jstor.org/stable/2706951>. Accessed 10 December 2021.

43 Conducted by a doctor yet mainly focused on the architecture of the *Hôpital de Luanda*, with minute descriptions of various pavilions, ventilation techniques and building materials, the mission to Luanda was particularly interesting. Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/Files of local *Gouvernement Général* (GG), 16854, *Quelques notes concernant mon voyage à Saint-Paul de Loanda*, Report from Dr. Druart, December 1921.

44 Dr. Duren was perhaps the most influential figure for hospital architecture throughout the Belgian Congo. On his impact, see Simon DE NYS-KETELS, Laurence HEINDRYCKX, Johan LAGAE and Luce BEECKMANS, "Planning Belgian Congo's network of medical infrastructure," *op. cit.* (note 23).

45 Exchanges for both colonial doctors and sanitary engineers were organized. League of Nations, *Procès-verbal de la huitième session*, 13 to 19 October 1926.

46 See the report of the inter-colonial yellow fever conference of Dakar by Selwyn-Clarke (1929).

47 Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/H 4390/178, Letter from Belgian Ministry of Foreign Affairs to various colonial ministries, 23 November, 1925.

48 See Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 15953, Letter from *Médecin en Chef* Trolli to *Médecin Provincial* Repetto, 7 November, 1924.

49 Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 15899, Plan-type pour Hôpital pour Européens à Kalina. Procès-verbal de la réunion tenue à Léopoldville, 28 July 1928.

50 Or "un régulateur de température," offering a "température moins élevée et plus constante" than Delcuve's "chambres en enfilade" which would lead to "variations brusques de température." Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 15899, Note from Dr. Van Hoorde, 12 September 1928.

51 Again, this attests to the particular linguistic position the Belgian Congo occupied within the colonial world. Contemporary works referred to: Belgians Félix PUTZEYS, S. SCHOOF, G. MAUKELS and G. VELLUT, *Traité de technique sanitaire. 5. La Réforme économique et technique des constructions hospitalières, propreté, désinfection*, Paris; Liège: Librairie polytechnique Ch. Béranger, 1928; Germans S. MERKEL, H. SCHMIEDEN and J. BOETHKE, "Krankenhäuser," in Max RUBNER, M. V. GRUBER and M. FICKER (eds.), *Handbuch der Hygiene*, Leipzig: S. Hirzel, 1912; American Charles Blount SLADE, *The establishment and conduct of a tuberculosis sanatorium*, New York, NY: Department of Health, 1918; and several other French, Swiss, and British authors and conferences.

52 Or "un couloir unique réservé au service permet plus aisément de surveiller les boys," since "les vols sont plus faciles sans des chambres a deux portes donnant de chaque côté sur une barzah accessible" – "boys" being the common term used in French-speaking Belgian Congo to describe African (household) personnel. Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 15899, Note from Dr. Van Hoorde, 12 September 1928.

53 *Ibid.*

54 Of course, segregated circulation not only occurred in hospitals, but also in other colonial building typologies such as bungalows. See Anthony D. KING, *The Bungalow: The Production of a Global Culture*, London; Boston: Routledge; Kegan Paul, 1984.

55 Until then, the smaller coastal town of Boma had served as the capital of colonial Congo.

56 On (an architectural reading of) the "prestige du blanc" in Belgian colonial policymaking, see Cédric LELOUP, "Maintenir une hiérarchie des races? La question de l'africanisation des cadres de la Force publique du Congo (1908-1960)," *Journal of Belgian History*, vol. 45, no. 2/3, 2015, p. 46-79. URL: https://www.journalbelgianhistory.be/en/system/files/article_pdf/005_Leloup_Cedric_2015_2_3.pdf. Accessed 10 December 2021; Sofie BOONEN and Johan LAGAE, "A city constructed by 'des gens d'ailleurs': Urban development and migration policies in colonial Lubumbashi, 1910-1930," *Comparativ: Zeitschrift für Globalgeschichte und Vergleichende Gesellschaftsforschung*, vol. 25, no. 4, 2015, themed issue Geert CASTRYCK (ed.), *From Railway Junction to Portal of*



Globalization Work in Africa and South Asian Railway Towns, p. 51-69. DOI: <https://doi.org/10.26014/j.comp.2015.04.04>.

57 Adrian FORTY, “The modern hospital in England and France: the social and medical uses of architecture,” *op. cit.* (note 29).

58 Luce BEECKMANS and Johan LAGAE, “Kinshasa’s syndrome-planning in historical perspective: from Belgian colonial capital to self-constructed megalopolis,” in Carlos Nunes SILVA (ed.), *Urban Planning in Sub-Saharan Africa: Colonial and Post-Colonial Planning Cultures*, New York, NY: Routledge, 2015, p. 201-224.

59 Kristien GEENEN, “Categorizing colonial patients: Segregated medical care, space and decolonization in a Congolese city, 1931-62,” *Africa*, vol. 89, no. 1, 2019, p. 100-124, DOI: <https://doi.org/10.1017/S0001972018000724>. She draws on earlier, unpublished research conducted by Johan Lagae, “Cracks in the ‘cordon sanitaire’. Hospital architecture, urban planning and colonial policy in the Belgian Congo, 1920-1960,” presented at the Conference on colonial and postcolonial urban planning in Africa, Lisbon, 5-6 September 2013.

60 “permettra de dépenser un peu plus d'argent pour l'aspect architectural proprement dit,” turning it into “un des joyaux de la ville.” Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 12641, Internal note from Head of the *Travaux Publics Provinciaux* De Boeck, 24 October, 1928.

61 Daniel R. HEADRICK, *The Tools of Empire*, *op. cit.* (note 12).






62 G. A. BREMNER, Johan LAGAE and Mercedes VOLAIT, “Intersecting Interests,” *op. cit.* (note 20), p. 228, 239.

63 *Ibid.*, p. 239.

List of illustrations

	Title Figure 1: Current-day view of the imposing façade and empty hallways of the <i>Clinique</i> , now called the <i>Centre Hospitalier Universitaire</i> .
	Credits Source: Photos by Kristien Geenen, 2016.
	URL http://journals.openedition.org/abe/docannexe/image/12715/img-1.jpg
	File image/jpeg, 895k
	Title Figure 2: Metropolitan institutionalization of the pavilion typology.
	Caption Both the Belgian <i>Conseil supérieur d'hygiène publique</i> and the Paris-based <i>Office international d'hygiène publique</i> continued to advocate the pavilion typology well after the turn of the century and contributed to the institutionalization of the typology.
	Credits Source: Conseil supérieur d'hygiène publique, <i>Recueil des rapports, Instructions sur les constructions hospitalières</i> , 1923, p. 472 (left); Bulletin de l'Office international d'hygiène publique, <i>Notes sur quelques hôpitaux modernes</i> , 1910, p. 1454 (right).
	URL http://journals.openedition.org/abe/docannexe/image/12715/img-2.jpg
	File image/jpeg, 1.8M
	Title Figure 3: Hospital manuals by architect Cloquet (left), engineer Cacheux (middle) and Dr. Plucker (left).
	Caption Regardless of whether handbooks were written for or by doctors, engineers or architects, their authors drew upon the same body of literature on hospital planning, discussed the same topics and best practices, and depicted similar detailed plans and technical information.
	Credits Source: Louis Cloquet, <i>Traité d'architecture. Tome quatrième</i> , Liège: Ch. Béranger, 1922, p. 470 (left); Émile Cacheux, <i>L'économiste pratique: construction et organisation des crèches, salles d'asile, écoles, habitations ouvrières et maisons d'employés, hôtels pour célibataires, cuisines économiques, bains, lavoirs, cercles populaires, nourriceries, maternités, dispensaires, hôpitaux, hospices, asiles de nuit, postes de secours: établissement, mécanisme, statuts et règlements des institutions de prévoyance et de bienfaisance</i> , Paris: Baudry, 1885, planche 67 (middle); Dr. Plucker, <i>Notes sur les installations hospitalières anglaises</i> , Liège: Vaillant-Carmagne, 1880, figure 3 (right).
	URL http://journals.openedition.org/abe/docannexe/image/12715/img-3.jpg
	File image/jpeg, 1.2M
	Title Figure 4: Western hospital design as inspiration for colonial medical infrastructure.



Caption	Designed as an autonomous <i>hôpital-jardin</i> , with pavilions separated by large courtyards and boulevards for automobile transport, the Brugmann hospital was an important source of inspiration for architect Maurice Delcuve. With the orientation of the wards, spacious patient rooms and innovations in the design of the hallways, however, Delcuve did attempt to adapt classic Western hospital typologies to the tropical and colonial conditions of the Belgian Congo.
Credits	Source: Claire Dickstein-Bernard, Astrid Lelarge, David Guillardian and Judith le Maire, <i>Van monumentaal tot functioneel: de architectuur van de Brusselse openbare ziekenhuizen (19e-20e eeuw) : ambities en verwezenlijkingen</i> , Brussel : Civa, 2005, p. 17 (left); Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/3DG 1183 (right).
URL	http://journals.openedition.org/abe/docannexe/image/12715/img-4.jpg
File	image/jpeg, 1.3M
Title	Figure 5: Selective borrowing of transnational hospital design solutions.
Caption	Elisabethville's design of a central service corridor separated from a semi-private veranda for the patients clearly pleased the architect Vander Elst and Dr. Van Hoorde. They translated the system to the larger pavilions of Léopoldville's hospital, and made sure that the hallways were well-lit by borrowing from the Casablanca hospital, where pavilions were subdivided in several wings but connected by a central corridor.
	
Credits	Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/3DG 1231 (right); Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 16850.
URL	http://journals.openedition.org/abe/docannexe/image/12715/img-5.jpg
File	image/jpeg, 1.5M
Title	Figure 6: Hospital sections adapted to the tropical climate.
Caption	Vander Elst and Van Hoorde translated the section to the local tropical climate of Léopoldville. Where the hospital in Elisabethville had a single-tiered gabled roof and the corridor was lit and ventilated only from the sides, the solution in Léopoldville was completely different. The multi-tiered gabled roof not only offered an extra skylight, but its windows were also designed to create additional air circulation. The seven-meter-high central hallway would create a chimney effect and cool down the adjacent patient rooms by drawing air through internal ventilation shafts.
	
Credits	Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 15920 (above); Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/3DG 1231 (below).
URL	http://journals.openedition.org/abe/docannexe/image/12715/img-6.jpg
File	image/jpeg, 1.3M
Title	Figure 7: Racial segregation and hospital logistics.
Caption	While the main goal of the central hallway was to function as a health regulator, Vander Elst and Van Hoorde also praised their design because it improved control over the African staff, prevented theft, and improved the comfort of the patients who were less disturbed by the staff. As such, it conveniently facilitated racial segregation in the hospital, which, it seems, local officials deemed an additional reason to opt for this proposal.
	
Credits	Source: Tervuren (Belgium), African Museum, Franciscan Sisters, 1937, AP.0.0.38538 (left); Tervuren (Belgium), African Museum, Franciscan Sisters, 1934, AP.0.0.38540-2 (right).
URL	http://journals.openedition.org/abe/docannexe/image/12715/img-7.jpg
File	image/jpeg, 1.1M
Title	Figure 8: The imposing façade of the <i>Clinique</i> oriented towards the Boulevard Léopold II, and the Boulevard Albert I.
Credits	Source: Tervuren (Belgium), African Museum, Franciscan Sisters, c. 1937, 0.0.38544-2.
	
URL	http://journals.openedition.org/abe/docannexe/image/12715/img-8.jpg
File	image/jpeg, 1.4M
Title	Figure 9: Urban location of the <i>Clinique Reine Elisabeth</i> in Coquilhatville.
Caption	After long discussions, the hospital was located on a vacant lot near the neutral zone (indicated as proposal II in the contemporary map on the left). While this allowed a perfect orientation along the east-west axis, as
	

	the map on the right illustrates, this orientation meant that the boulevard leading to the hospital, the urban showpiece of Governor Duchesne, became an anomaly within the existing street grid.
Credits	Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 12836.
URL	http://journals.openedition.org/abe/docannexe/image/12715/img-9.jpg
File	image/jpeg, 1.3M
Title	Figure 10: Adapted design for the <i>Clinique Reine Elisabeth</i> in Coquilhatville.
	The floorplan of Léopoldville was downscaled by compressing both wings into one. By pronouncing and heightening the central “hall vestibule d’entrée,” however, the local architects still managed to create an architecturally impressive façade.
Credits	Source: Brussels (Belgium), African Archives, Ministry of Foreign Affairs, AA/GG 14776.
URL	http://journals.openedition.org/abe/docannexe/image/12715/img-10.jpg
File	image/jpeg, 1.8M

References

Electronic reference

Simon De Nys-Ketels, “A hospital typology translated: Transnational flows of architectural expertise in the Clinique Reine Elisabeth of Coquilhatville, in the Belgian Congo”, *ABE Journal* [Online], 19 | 2021, Online since 10 January 2022, connection on 18 January 2022. URL: <http://journals.openedition.org/abe/12715>; DOI: <https://doi.org/10.4000/abe.12715>

About the author

Simon De Nys-Ketels

Postdoctoral Researcher, Ghent University, Ghent, Belgium
Orcid ID: 0000-0002-5302-9582

By this author

Jiat-Hwee Chang, *A Genealogy of Tropical Architecture: Colonial Networks, Nature and Technoscience* [Full text]

Abingdon; New York, NY: Routledge, 2016 (The Architext series)
Published in *ABE Journal*, 12 | 2017

Copyright



La revue *ABE Journal* est mise à disposition selon les termes de la Licence Creative Commons Attribution - Pas d'Utilisation Commerciale - Pas de Modification 4.0 International.

