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Lab, Book, Work. Jane Drew and Maxwell Fry and the beginnings of modern architecture in the tropics

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Abstract

This article aims to explore how Jane Drew and Maxwell Fry's move to British West Africa and the publication of *Village Housing in the Tropics* (1947) were pivotal in their professional trajectory and in the consolidation of an architectural approach adapted to tropical contexts within the twentieth-century modernist movement. The research draws on interviews with Ola Uduku and Jacopo Galli, as well as documents and articles, notably the correspondence between Drew and Fry. The article examines Fry and Drew's progression in three phases: the laboratory (i), the book (ii), and the built work (iii). Their arrival in Ghana marked the beginning of a process of discovery and experimentation, during which the architects undertook field visits and direct observation to understand local realities, climatic challenges, and building practices (i). The outcomes of this disciplinary inquiry were systematised in the 1947 manual, conceived as a practical guide for non-architects (ii). However, the process did not end with the written record: their ideas were immediately tested and developed, first through the adaptation of two pre-existing schools and later in a ground-up commission—the University of Ibadan—one of their most emblematic projects in the region (iii). By tracing this trajectory, the article offers a new reading of the significance *of Village Housing in the Tropics* (1947) as the initial moment in the transformation of Fry and Drew's practice, which would position them as central figures in the development of modernism in tropical contexts.

Keywords: Tropical architecture, Jane Drew, Maxwell Fry, Tropical modernism.

Introduction

> "Tropical architecture, used as a description of modernist architecture in Africa, had its birth in British West Africa, comprising the Gold Coast (Ghana), Nigeria, Sierra Leone, and the Gambia at the end of the Second World War. This was initiated by a group of architects who designed new buildings in West Africa mainly at the behest of the then British Colonial government." (UDUKU, 2006: 2)
>
> "Tropical Modernism was an architectural style developed in the hot, humid conditions of West Africa in the 1940s. After independence, India and Ghana adopted the style as a symbol of modernity and progressiveness, distinct from colonial culture." [1]

This article emerges from a renewed interest in the life and work of the British architects Jane Drew (1911–96) and Maxwell Fry (1899–1987). It seeks to demonstrate how their departure for British West Africa [2] and the subsequent publication of ***Village Housing in the Tropics*** (1947) was decisive both to their professional trajectories and to the consolidation of an architectural discourse adapted to the tropical context within the twentieth-century modernist movement. The study is organised into three main strands: Laboratory, Book, and Work.

The research draws primarily on the studies of Iain Jackson (2014, 2016), Jacopo Galli (2019), Ola Uduku (2006) [3], and Inês Nunes (2023a, 2023b, 2024), all of whom have recently contributed to a renewed perspective on the careers of these architects. Although their work has been referenced since the earliest studies on architecture in Africa — such as those by Udo Kultermann (1963 and 1969) — and was recognised by their contemporaries, it is today re-examined in light of a growing interest in the role of women in architecture and in the impact of European architecture on colonial and post-colonial territories. Post-colonial studies now constitute a significant field of architectural research. Authors such as Mark Crinson (2003), Gwendolyn Wright (1991), Samia Henni (2017), and Hannah Le Roux (2003) contribute to a contemporary reading of the role of architects within the colonial context and to understand how architecture was part of the debate surrounding the formation of independent nations, particularly in the context of African modernism.

Laboratory, in the sense that it refers to the experience of Fry and Drew when seconded by the British government to coordinate urban planning in West Africa, and how this shaped their working methods (*design* [4]). They had the opportunity to live in, study, and work directly within the territory, engaging local communities in the process and thereby transforming these regions into genuine laboratories for architectural research and experimentation.

The **book** *Village Housing in the Tropics* is examined as the unifying and objective medium through which this body of architectural knowledge was organised, compiled, and disseminated. Fry and Drew gathered and systematised their observations and proposed practical, innovative solutions to the specific challenges posed by tropical climates. In a letter to her father (DREW; FRY, Correspondence), Drew emphasised the significance of the book, stating that its impact might surpass that of any architectural work, given its potential to reach and influence a broad audience — from architects to political decision-makers.

Finally, the article illustrates how the research and practices documented in the book transformed Fry and Drew's architectural **work**. Subsequent projects, such as the extension of the Wesley Girls and Mfantsipim schools, and the University of Ibadan, attest the practical application of the principles and innovations developed during the production of the book, showing that the experiences documented therein were fundamental in adapting European modernism to the tropical context.

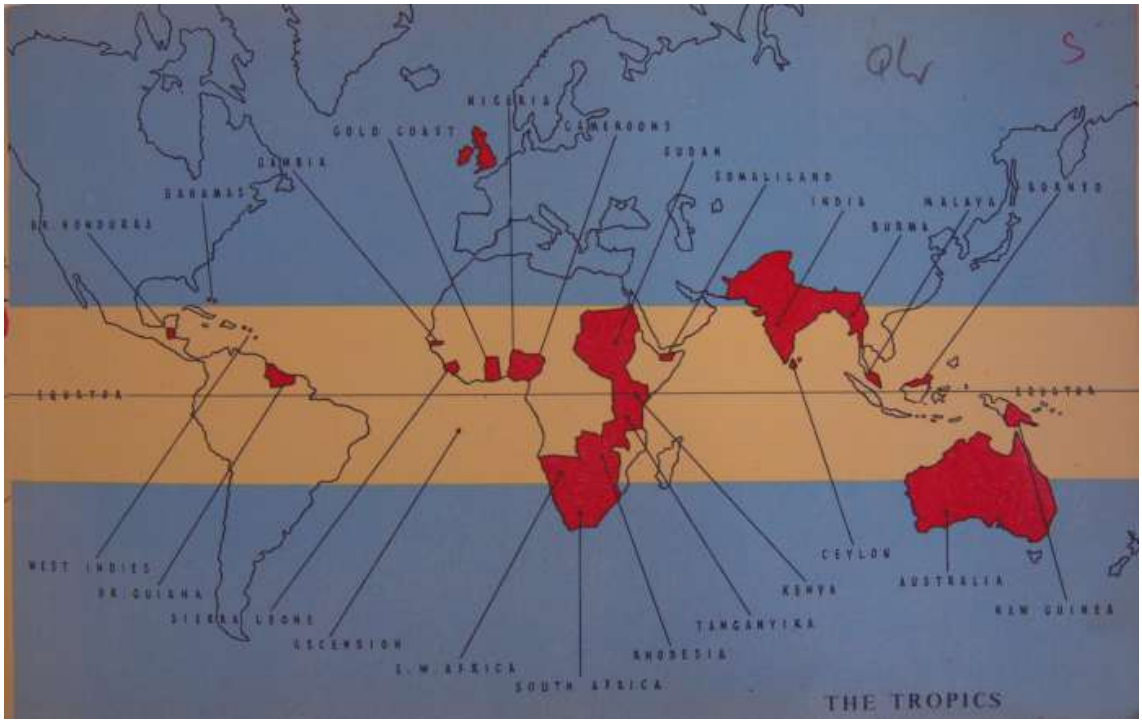


Figure 1 - Back cover of *Village Housing in the Tropics* (1947), with the territories of the British Empire situated within what was conceived as a tropical belt – assuming a climatic uniformity that would justify a unified architectural approach.

Historical context. The relevance of Fry and Drew before their trip to Africa

Maxwell Fry (1899–1987), a graduate of the Liverpool School of Architecture, was influenced by key figures such as Patrick Abercrombie and Trystan Edwards, who helped shape his perspective on the integration of architecture and urban planning. Prior to the Second World War, Fry was already regarded as one of the leading figures of the modernist movement in the United Kingdom.

In 1933, Fry was one of the founding members of the Modern Architectural Research (MARS) Group, an organisation established at the request of Sigfried Giedion, then Secretary-General of the *Congrès International d'Architecture Moderne* (CIAM). The MARS Group's initial purpose was to represent the United Kingdom at CIAM events and to promote British modernism on the international stage. Fry played a pivotal role within the group, driving discussions on social housing, urban planning, and the standardisation of housing production. Under his leadership, between 1937 and 1942, the MARS Group developed ambitious proposals, such as the MARS Plan for London (GOLD, 1995), which aimed to restructure the city in the post-war period. The plan proposed a functional

separation of residential, industrial, and commercial zones, alongside the creation of extensive green spaces. Although never implemented, the plan embodied the group's ideals and their aspiration to transform London into a functional and modern(ist) city. Moreover, Fry drew on the group's principles in projects such as the R.E. Sassoon House (1933–1934) and Kensal House (1933–1937), where he implemented concepts of efficiency, rationalisation, and social welfare, converting the group's vision into buildings that were, for their time, innovative responses to the needs of the working classes. These initiatives contributed to establishing British modernism as a significant force within the European architectural landscape.

Fry's partnership with Walter Gropius, between 1934 and 1937, was fundamental to the development of his career. This collaboration not only shaped Fry's modernist thinking but also introduced a pragmatic dimension that would later prove essential in tropical contexts. The exploration of new materials and, for instance, the application of natural ventilation principles tested during this period were subsequently integrated into Fry's work in Africa, reflecting a synthesis of Gropius's ideas with local needs. Gropius, fleeing the Nazi regime, settled in the United Kingdom before moving to the United States. Together, they shared an office and co-designed Impington Village College (Figure 2) in 1939. This collaboration not only consolidated Fry's position in British modernism but also gave him a prominent status on the international architecture scene. His contemporaries regarded him as one of the most influential figures in British modern architecture, stating that "It is almost impossible to name any one man as the leader in modern architecture to-day, but it is perhaps Maxwell Fry who should be given first place by his colleagues. He has been responsible for a number of houses in which rational planning and delicacy of treatment are combined with a precise selection of materials to produce a fine finish." (YORK; PENN, 1939: 45).

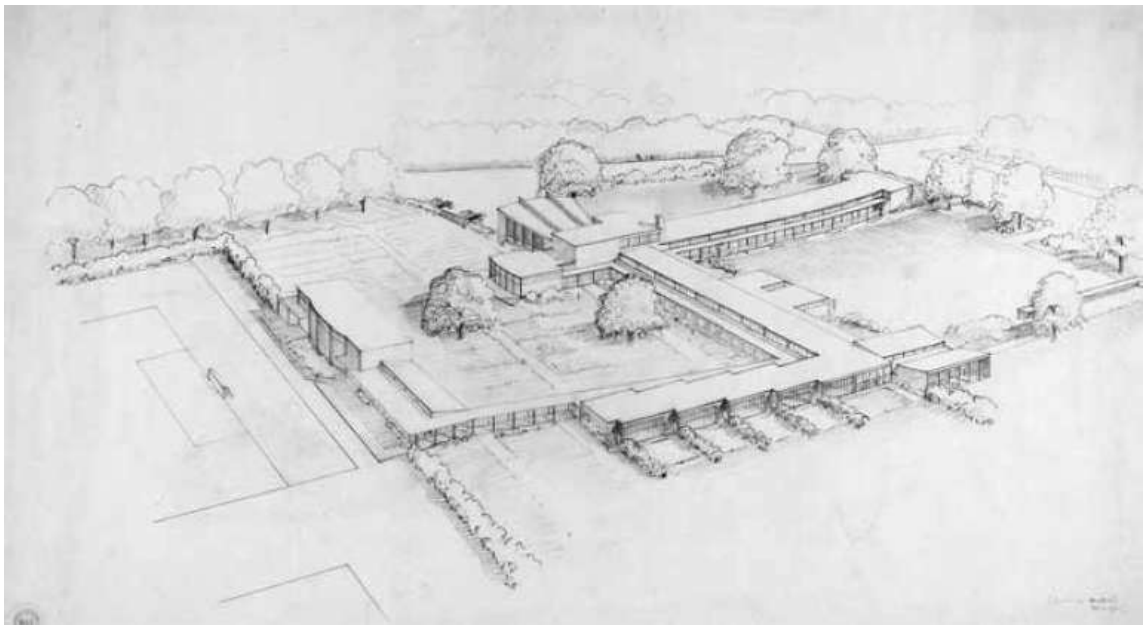


Figure 2 - Impington College, Cambridgeshire, perspective, 1936 (Source: JACKSON; HOLLAND, 2016: 76).

Jane Drew (1911–1996), twelve years younger than Fry, graduated from the prestigious Architectural Association School of Architecture in London in 1929. From early in her

career, Drew demonstrated a remarkable capacity to build collaborative networks and influence both architectural practice and policy. She established her first office with the intention of employing only female architects — a pioneering gesture, though ultimately constrained by the cultural and financial limitations of the time. Drew became actively engaged in the vibrant cultural scene of London's elite and served as public relations officer for the RIBA. In 1943, she curated the exhibition *Rebuilding Britain* at the National Gallery in London. This exhibition highlighted reconstruction as a collective effort, introducing concepts of social housing that would later be adapted to the tropical context. That same year, she was appointed Consulting Architect to the Commercial Domestic Heating Services Committee by the British Commercial Gas Association. This position allowed her to explore new materials in detail while designing modern kitchens for the post-war period. Although she was conscious this might be seen as condescending, as these projects were typically assigned to women, Drew embraced the opportunity to improve the everyday lives of women. As she put it: "I feel that every woman agrees that household drudgery must be banished after the war and that's why I'm concentrating on kitchens" (in JACKSON, 2015). During the Second World War, she also contributed to the design of "fake factories" intended to mislead Nazi bombers and claimed to have served as an MI6 agent. However, this latter claim may be due to Drew's reputation as a great storyteller (idem). Shortly afterwards, they founded a joint office, which would become the centre for the development of landmark projects adapting European modernism to tropical contexts.



Figure 3 – Kitchen model designed by Jane Drew, in *Kitchen planning exhibition*, 1945 (Source: JACKSON; HOLLAND, 2016: 118)



Figure 4 - In 1945, the office *Fry, Drew and Partners* is created (Source: Tag Archives: Drew. Available at: https://transnationalarchitecture.group/tag/drew/ [accessed 14/05/2025])

Laboratory

Colonial context: changes and opportunities

Before World War II, British colonial policy was largely focused on economic exploitation, with little investment in local infrastructure. During the war, the colonies' participation in the war effort and growing pressure for independence led the United Kingdom to adopt a different approach. Reports from Mass Education in African Society and the Commission on Higher Education in West Africa highlighted the need to improve infrastructure and education in the colonies. In 1942, for example, there were only 43 recognised secondary schools for a population of over 27 million in British West Africa (JACKSON in FRY; DREW, 1947). This change resulted in programmes such as the First Gold Coast Schools Programme (1945–1950) [5], funded by the colonial government. These investments, although presented as philanthropic, were intended to strengthen the United Kingdom's commercial ties and the British economy through the export of materials and technical services to the colonies. The memory of apparent British benevolence towards the colonies in the post-war period should be viewed with

some reservation [6]. This duality highlights how colonial efforts could be both an opportunity for development and a reflection of structural inequalities that had not yet been overcome.

> "I also find her work fascinating because of the time period in which it was produced, during a period of immense political change. It's possible to think about Fry and Drew as unwitting agents of empire, producing buildings that reinforced and disseminated notions of British imperialism, albeit dressed up in seemingly innocent modernist facades. But equally, they worked in the post-colonial period, along that fuzzy edge when colonies were winning their independence, and perhaps there was a cultural or temporal lag that wasn't immediately resolved — and perhaps still isn't." (JACKSON, 2015).

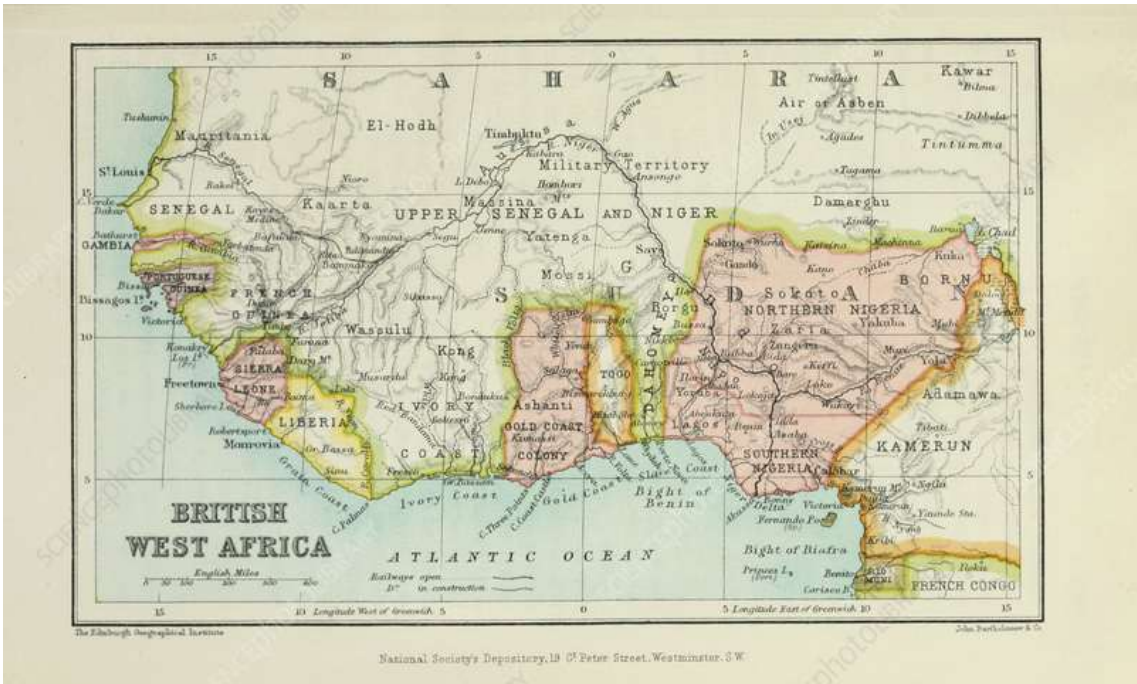


Figure 5 - Map of the British Colonial territories, "West Africa". (Source: Available at: https://www.sciencephoto.com/media/1247275/view/map-of-british-west-africa [accessed 14/05/2025])

Fry and Drew worked exclusively for the government in West Africa during the post-war transition period, a time when public investment was primarily directed towards two emerging sectors: urban planning and education. Supported by substantial government funding and enjoying a degree of freedom that was not possible in Europe, Fry and Drew were able to develop what would become a process and a formal evolution of a work that was instrumental in shaping what came to be known *Tropical Architecture* or *tropical modernism*.

Arrival and Adaptation

Maxwell Fry's professional career was interrupted by the Second World War. In 1942, after his application to work as an architect was rejected by General Williams of Fortifications and Works, Fry accepted a commission as Staff Captain in the Corps of Royal Engineers. A few days before embarking from Liverpool — with no knowledge of

his final destination — he married Jane Drew. After a 25-day voyage, he arrived in Accra, Ghana. Fry described this early period as “desperately unhappy” [7], projects limited to small interventions such as extending the European Club and constructing a scout headquarters. Meanwhile, Drew remained in London, where she remained socially and culturally active. She cultivated a new circle of friends—including Henry Moore [8], Peter Gregory [9], Elizabeth Denby [10], and Kenneth Clark [11] — and took part in RIBA committees, much to Fry’s frustration, as he missed the urban life and intellectual stimulation of London [12]. Despite the challenging beginning, Fry’s appointment as Urban Planning Consultant for West Africa in 1944 marked a turning point. His appointment was secured under the patronage of Lord Swinton, the Resident Minister for the region, and was accepted on three conditions: that Jane Drew be appointed Team Leader; that Fry be granted three months’ leave before assuming the post; and that he be allowed to visit the Tennessee Valley Authority [13] in the United States to study urban planning initiatives. Drew embraced the opportunity with enthusiasm, bringing a practical and innovative approach to the unfamiliar context. Fry and Drew’s early work in the region was characterised by pragmatic planning strategies, often responding to urgent needs in cities such as Bathurst, Gambia. A key priority was the improvement of inadequate drainage systems, which were frequently blocked and susceptible to flooding (Uduku, 2015). Although Fry claimed that African architecture did not offer a direct model for his work, he acknowledged a strong attraction to the setting in which he found himself [14].

> “…there was none. Not in our own colonial buildings which were without character or the sort of response to natural conditions that we were seeking; nor in African building which taught us the value of shade but was of a passing order the beauty of which we could admire as it fell and decayed …” (Fry’s Memories, p. 16 apud JACKSON; HOLLAND, 2014: 1569).

Although employed by the colonial regime, Fry and Drew frequently challenged official directives, siding with the local populations. One example was their recommendation to improve the conditions of African dwellings, including the introduction of cement floors for health reasons. At the time, colonial policy tended to prioritise housing for colons. Fry and Drew's approach in colonial contexts sparked debates about the apparent political neutrality of modern architecture, characterised by white geometric forms and “scientific” climate modifications. Although Fry dismissed African architecture as a reference, both were fascinated by the vernacular and “primitivism” of local buildings. This fascination, however, was accompanied by an attempt to “improve” them with modern materials such as concrete and steel. The contrast between their enchantment with the African cultural landscape and the application of modernist solutions emerged as a central feature of their work, which coincided with a time when modern architecture sought to assert itself as a “universal” tool, but was inevitably marked by the dynamics of power and colonial context. It was in this environment that they established a productive collaboration with Alfred Edward Savige (Bunny) Alcock [15], an architect and urban planner who was leading an experimental housing project in Asawasi, Ghana.

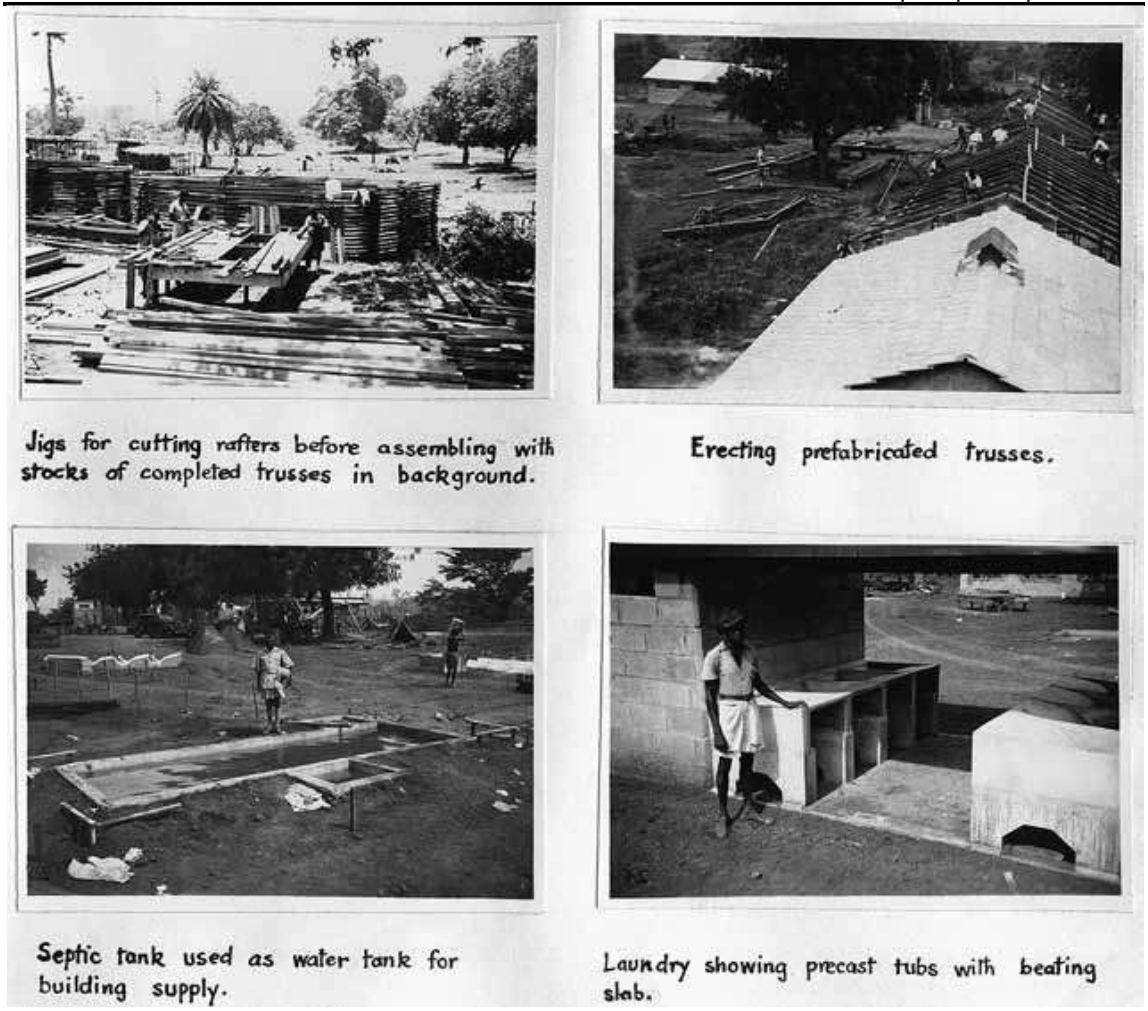


Figure 6 – Alcock's experimental dwelling in Asawasi – 1945-6 (Source: JACKSON, HOLLAND, 2014: 157)

Alfred Edward Savige ("Bunny") Alcock developed innovative methods, such as the production of laterite block production and roof truss jigs and community sanitation facilities. Fry and Drew collaborated with Alcock and later integrated some of these ideas into their own projects, such as the Agbani plan in Nigeria. In the second phase of Asawasi, Fry and Drew proposed housing arranged around shared community spaces, anticipating urban concepts they would later employ in Chandigarh, India. Drew realised the need for practical solutions, focusing on using local materials and designing solutions/mechanisms to protect the interior of the dwellings so as not to depend on air conditioning. Her engagement with local communities — supported by her basic knowledge of African languages — helped ensure that the projects responded to specific local needs. She emphasised the importance of participatory processes in order to understand and adapt to local practices, cultural customs, and climatic conditions. To this end, she organised lectures and meetings, and set up exhibitions to present urban planning proposals to local leaders, fostering mutual understanding and enabling the social impact she aimed to achieve. In her view, involving the communities for whom the projects were intended was essential.



Figure 7 – Olta river, Project tour, exhibition with model, c. 1950s (Source: JACKSON, HOLLAND, 2014: 201).

However, not all initiatives were well received. The use of materials such as earthen construction, for example, was rejected by some communities, who regarded them as inferior. If concrete was suitable for Europeans, then it should be suitable for them as well. Drew viewed this response less as a design issue and more as a political one. Concrete was perceived as a symbol of modernity and a desire for social and cultural equality. Such episodes — familiar across many participatory approaches, regardless of geographical or historical context, and ultimately reflecting a class condition — reveal the limitations of the European colonial approach when intervening in a place to which one does not belong. In spite of the effort we may recognise in their work, they remained Europeans, in the service of colonial power, proposing and intervening in local ways of life.

London as a Connecting Point

Between 1944 and 1956, Fry and Drew established their primary base of operations in West Africa, working in the colonial territories of the Gold Coast (now Ghana), Nigeria, and Sierra Leone — countries to which they did not return professionally following independence. During this period, however, they maintained their main office in London, which was crucial in preserving their ties with the United Kingdom and consolidating their reputation within the British and European modernist movements. Fry became a regular lecturer at the Architectural Association School of Architecture, strengthening links with the Building Research Institute and facilitating knowledge exchange between British architects working in tropical regions and London-based research institutions. This

network not only provided technical support for architects engaged in projects across West Africa — particularly in relation to material selection and environmental strategies suited to the tropical climate — but also helped promote professional opportunities in the colonial territories to a new generation of British architects. This positioning reinforced Fry and Drew's role as key figures in the dissemination of modernism in tropical contexts and further established their influence within the broader international movement. Their co-authorship of *Village Housing in the Tropics* reflects this dynamic, bringing together observations and ideas on tropical architecture in a manual that combines a Western perspective on the built environment, a pragmatic approach to development, and an early attempt to formulate environmental design principles adapted to tropical conditions. Its publication by Humphries in London underscores their ongoing connection to the metropolis and the role it played in facilitating the circulation of architectural knowledge between Britain and its colonies (Uduku, 2006: 3–4).

Village Housing in the Tropics (1947) as Laboratory

At first, going to Africa was a shock for Drew:

> "I was simply unprepared for the mud villages. The shocking state of disrepair and the eroded village streets overwhelmed me. I had no romantic notion of a 'noble savage'; instead, I saw poor slum dwellers living in conditions worse than I had ever imagined". (JACKSON, 2015)

But this initial shock did not lead to paralysis or inertia; on the contrary, they quickly rose to the significant responsibility placed in their hands. Fry found himself in Africa by chance, often longing to be elsewhere, while Drew approached the experience as a quixotic adventure. Drew preferred working directly with local communities, whereas Fry favoured working at the drawing board, focusing on construction details (Jackson, 2015). In a letter to her father in 1943, Jane Drew captured much of the spirit with which she approached that period:

> "Have you visited the Kitchen Exhibition? at Dorland Hall Regent Street. I hear the Queen visited it. I shall put on my headed notepaper as patronised by her majesty. I'm both glad and sorry to have missed the fun of the opening. I shall be very glad to go to the Gambia soon. I begin to get a kind of wanderlust after a little while. It is an appetite that grows with whetting. We are doing a village planning book. … I like the feel of a book going on. It is curious but in some ways a book feels more permanent than a building. We are doing some houses here too." (Correspondence between Jane Drew e "Dear Daddy", 19.02.1943.)

The book was created in the context of 20th-century British colonialism, when technical manuals were often produced by the Public Works Department (PWD). However, these materials focused almost exclusively on buildings intended for Europeans, neglecting the needs and specificities of the African population. *Village Housing in the Tropics* marks a break with this tradition, presenting itself as an accessible manual, designed not only for specialised technicians, but also for Commissioners, District Officers, Chiefs and Native Authorities and, significantly, for the growing number of Africans concerned about the future of their housing. The manual was largely based on Fry and Drew's direct observation and practical experience in the field. They recorded empirical data, identified

local problems and proposed simple, low-cost solutions, often rooted in locally available materials and techniques. This focus on pragmatic solutions reflects a trial-and-error approach, as Iain Jackson and Jessica Holland point out:

> "Although little more than a pamphlet, this slender volume was a seminal piece of work, perhaps the first to be written by architects for a wider audience, rather than a technically focused bulletin based on scientific research. The results are wholeheartedly empirical, and it has a charming 'suck it and see', pioneer tinkering approach, full of 'low-tech', but always practical solutions." (Iain Jackson, apud DREW; FRY, 2014, ed. original 1947) [24].

This small volume thus became a summary of what they observed, tested and learned in the field — and a decisive preparation for the projects that would follow.

> "Village Housing in the Tropics (Fry & Drew, 1947) which gives a charmingly dated account of both a Westerner's view of the architecture, and social anthropology of life amongst the 'natives' in the tropics.5 It also can be read as an early development of their ideas in environmental design that they applied to their architectural design in the tropics". (UDUKU, 2006: 3) [25].

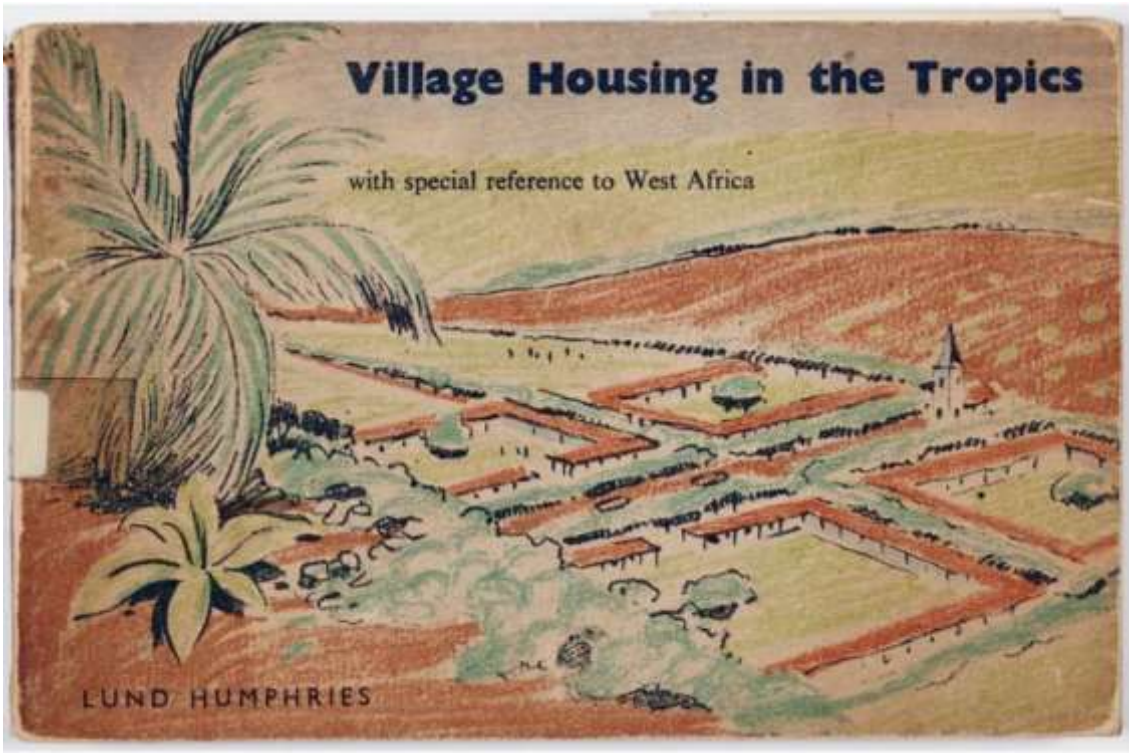
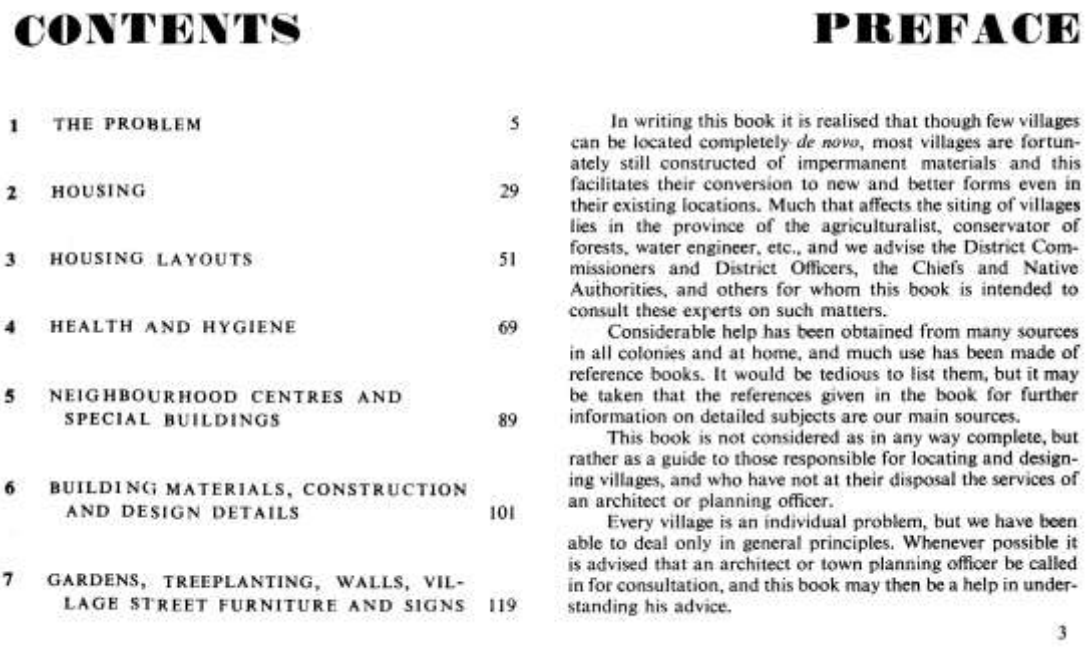


Figure 8 - *Village housing in the tropics*, cover of the first edition, 1947.

Book content and structure



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PREFACE

In writing this book it is realised that though few villages can be located completely *de novo*, most villages are fortunately still constructed of impermanent materials and this facilitates their conversion to new and better forms even in their existing locations. Much that affects the siting of villages lies in the province of the agriculturalist, conservator of forests, water engineer, etc., and we advise the District Commissioners and District Officers, the Chiefs and Native Authorities, and others for whom this book is intended to consult these experts on such matters.

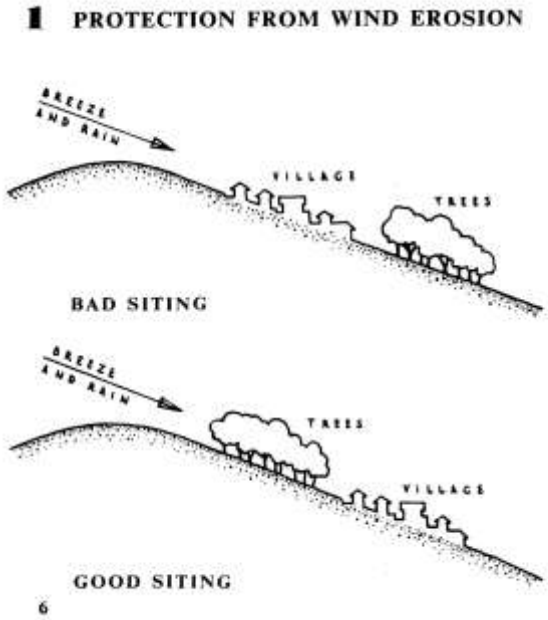
Considerable help has been obtained from many sources in all colonies and at home, and much use has been made of reference books. It would be tedious to list them, but it may be taken that the references given in the book for further information on detailed subjects are our main sources.

This book is not considered as in any way complete, but rather as a guide to those responsible for locating and designing villages, and who have not at their disposal the services of an architect or planning officer.

Every village is an individual problem, but we have been able to deal only in general principles. Whenever possible it is advised that an architect or town planning officer be called in for consultation, and this book may then be a help in understanding his advice.

3

Figure 9 - *Village housing in the tropics*, syllabus and preface of the first edition, 1947.



1 PROTECTION FROM WIND EROSION

Forest Belt

The location of villages in the Forest belt or bush areas complicated by the presence of insect breeding bush. Generally speaking the high land to be avoided in the Northern Territories is here the healthiest.

Coastal Areas

Here it is a problem of lagoons and swamp with coast erosion as a further possible evil. Over-population and exploitation of the land cause erosion by denuding the land of its vegetation, especially by burning bush and cutting forests.

Need for Preliminary Survey

This outline leads to the planner's essential preliminary, which is a survey. This survey must be inclusive not only of the land contours, but also of the proximity of farmland, the means of communication to other villages and towns, the direction of the breeze, the duration and extent of the rainfall, the nature of the soil and its liability to erosion, the nearest firewood reserves, the sources of water, and if these are not from concreted wells or deep bore holes, the extent of the catchment area to be kept free from pollution.

Illustration 2 gives a possible plan resulting from such a survey with the essential points noted. The planner would in addition describe in his note-book the condition of individual buildings, the type of soil, data as to population, volume of traffic, and all relevant information which will help in the preparation of a new planning scheme.

6

2

Figure 10 - *Village Housing in the Tropics*, chapter 1, diagram and text.

The book is clearly intended to be easy to consult. The balance between graphic clarity and straightforward explanations reflects Fry and Drew's practical and accessible approach. Figure 10, for instance, addresses the issue of Protection from Wind Erosion, illustrating how appropriate planning in the siting of dwellings can help mitigate the effects of wind. Simple diagrams of good and poor siting demonstrate how factors such as building layout and natural barriers — like trees — can influence protection against erosion.

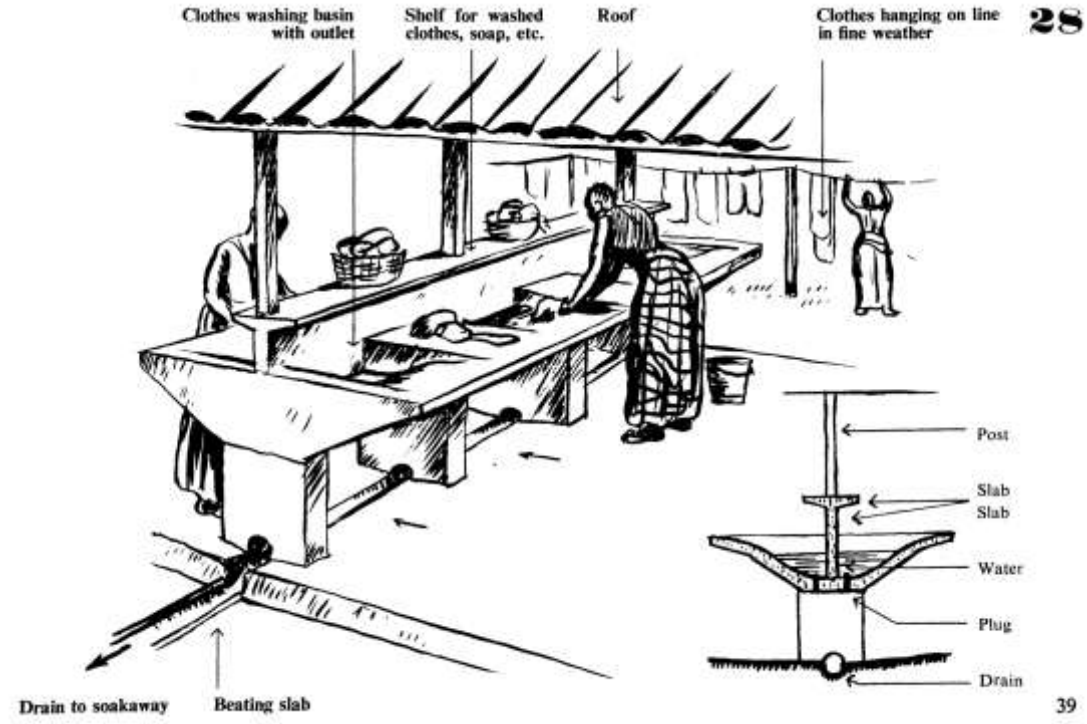
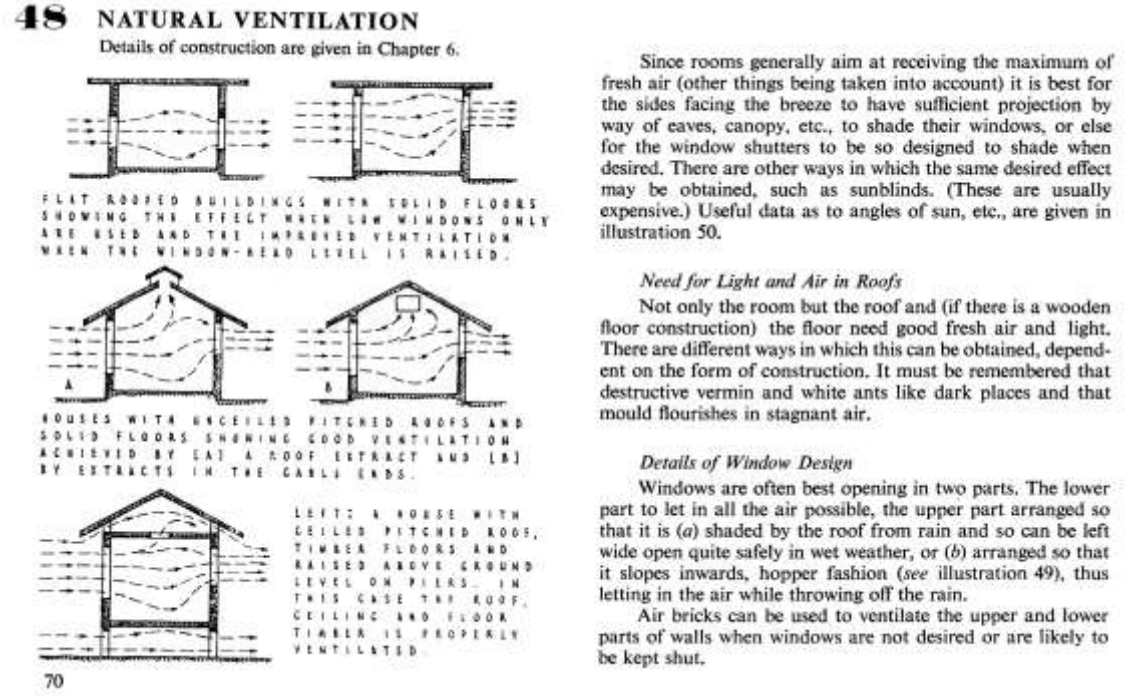


Figure 11 - *Village Housing in the Tropics*, chapter 2, illustration.

The illustration in Figure 11 highlights improvements in water supply, sanitation, and laundry facilities — key elements for public health in tropical contexts. The graphic representation, supported by clear captions, emphasizes the importance of using local materials and techniques to develop practical and accessible solutions. This focus addresses one of the most pressing challenges in such environments: ensuring water safety and preventing the spread of disease. The example reflects the manual's commitment to translating technical issues into simple, applicable guidelines, contributing directly to the well-being of communities.



48 NATURAL VENTILATION

Details of construction are given in Chapter 6.

FLAT ROOFED BUILDINGS WITH SOLID FLOORS SHOWING THE EFFECT WHEN LOW WINDOWS ONLY ARE USED AND THE IMPROVED VENTILATION WHEN THE WINDOW-HEAD LEVEL IS RAISED.

HOUSES WITH UNCEILED PITCHED ROOFS AND SOLID FLOORS SHOWING GOOD VENTILATION ACHIEVED BY [A] A ROOF EXTRACT AND [B] BY EXTRACTS IN THE GABLE ENDS.

LEFT: A HOUSE WITH CEILED PITCHED ROOF, TIMBER FLOORS AND RAISED ABOVE GROUND LEVEL ON PIERS. IN THIS CASE THE ROOF, CEILING AND FLOOR TIMBER IS PROPERLY VENTILATED.

70

Since rooms generally aim at receiving the maximum of fresh air (other things being taken into account) it is best for the sides facing the breeze to have sufficient projection by way of eaves, canopy, etc., to shade their windows, or else for the window shutters to be so designed to shade when desired. There are other ways in which the same desired effect may be obtained, such as sunblinds. (These are usually expensive.) Useful data as to angles of sun, etc., are given in illustration 50.

Need for Light and Air in Roofs

Not only the room but the roof and (if there is a wooden floor construction) the floor need good fresh air and light. There are different ways in which this can be obtained, dependent on the form of construction. It must be remembered that destructive vermin and white ants like dark places and that mould flourishes in stagnant air.

Details of Window Design

Windows are often best opening in two parts. The lower part to let in all the air possible, the upper part arranged so that it is (*a*) shaded by the roof from rain and so can be left wide open quite safely in wet weather, or (*b*) arranged so that it slopes inwards, hopper fashion (*see* illustration 49), thus letting in the air while throwing off the rain.

Air bricks can be used to ventilate the upper and lower parts of walls when windows are not desired or are likely to be kept shut.

Figure 12 - *Village Housing in the Tropics*, chapter 4, diagrams on ventilation.

In the final chapters of the book, more elaborate diagrams (Figure 12) appear, related to ventilation and climate control strategies. These illustrations show tools for dealing with tropical conditions, integrating a more technical but still accessible perspective. These elements anticipate solutions that would later be materialised in Fry and Drew's projects, establishing a direct link between the manual and their built works. In addition to consolidating a set of ideas and experiences, the manual also served as a means for Fry and Drew to elevate themselves as local professional references. By offering a set of pragmatic solutions, the book reinforced the confidence of government departments and potential clients, while helping to shape what would become known as *Tropical Modernism* [16].

Village Housing in the Tropics marked a shift in the way housing was conceived within the British colonial context. Written in clear language and with an educational purpose, it was intended for circulation among administrators, technicians, and local populations. It was a theoretical manual that systematised a range of practical experiences Fry and Drew had been developing in the field—serving as a record of the early stages of their work, which would later expand significantly across the African continent. Its personalised and informal tone gave it a distinctive and pioneering quality, far from the ‘dryness of the PWD bulletins’, as described by Iain Jackson and Jessica Holland (2016: 159). These features reflected Fry and Drew’s aim to develop an accessible architectural system, rooted in the climatic and geographical specificities of the tropics —t hough inevitably connected to the machinery of the British regime.

Despite efforts to develop practical solutions adapted to local materials, the manual is grounded in a European academic framework, with limited engagement with African forms of knowledge or architectural references. Its pedagogical intention and

experimental spirit suggest a genuine voluntarism, yet one that operates within the colonial logic of "helping" dominated territories.

As Edward Said (1979: 94–95) has shown, European knowledge about colonised regions is not neutral: it interprets and redefines local knowledge through external categories, thereby reinforcing the authority of the European expert and legitimising colonial interventions. This dynamic, also examined by William Easterly (2006), helps to explain how *Village Housing* reinforces, even without direct intention, the authority of the British expert in the context of the transition from colonialism to an era of Development and Welfare.

In addition to consolidating a set of ideas and experiences, the manual also served as a means for Fry and Drew to elevate themselves as local professional authorities. By offering a set of pragmatic solutions, the book reinforced the confidence of government departments and potential clients, while helping to shape what would become known as *Tropical Modernism*. This concept, although far from uniform or coherent, began to be discussed in a more structured way after a lecture given by Sir Frank Stockdale at RIBA in 1948. At this event, experiences from different parts of the Empire were compared, highlighting how, even in a fragmented colonial context, similar ideas were being developed globally.

Work

Wesley girls' school (1947), Mfantsipim school (1953) and Universidade em Ibadan (1948-1960) [17]

Wesley Girls' School (1947) and Mfantsipim School (1953), originally established by missionaries, represent Fry and Drew's first interventions in the African educational context. Despite the constraints imposed by the existing structures, the architects succeeded in implementing experimental solutions that addressed the region's challenging climatic conditions. Making use of the long, linear layouts typical of school buildings, Fry and Drew introduced verandas along the facades to encourage cross ventilation and help cool the classroom interiors. These galleries were fitted with *brise-soleils*, designed to filter intense sunlight without obstructing airflow. This combination of simple yet effective strategies marked the beginning of an architectural approach that would be refined and widely applied in their subsequent projects.

Ibadan, Nigeria, was chosen as the site for the construction of a new university, part of an ambitious project by the British government to improve educational infrastructure in its colonial territories. This decision, motivated by the Asquith Report, recognised the importance of higher education in preparing the colonies for self-determination, training local elites aligned with British values who could take on leadership roles in future independent governance. In addition, Ibadan, a pre-colonial "African city", represented a strategic choice in line with local nationalist agendas and the construction of a new nation.

> "This has also been interpreted by historians to be the Colonial Government's response to the push for self-determination by some groups in West Africa at the time: the Government hoped that by providing better services and infrastructure to the masses it might ward off the growth of the independence movements. This had special relevance in West Africa, where members of the West African Frontier Force had seen combat in North Africa and elsewhere as part of the Commonwealth armed forces contribution to the War effort". (Ola Uduku in Modernist architecture and "the tropical" in West Africa: The tropical architecture movement in West Africa, 1948–1970).

The construction of the university was a very desired project, with several architectural teams competing for the contract. Given the reluctance of most to recruit local staff, the list was narrowed down to three companies. Among the finalists (Edward Payne of Sir Aston Webb & Son, Hugh Casson, and Fry & Drew), Maxwell Fry stood out due to his extensive experience in Africa and his willingness to employ local staff.

> "Mr. Payne [18] was unsuitable and that Casson [19] had not anything like the experience or organization to justify the entrusting to him of such an immense project. Maxwell Fry had the great advantage of wide local experience and he has a very big organization at his disposal and seemed quite confident that he could in addition to his other commitments undertake the Ibadan project".

Fry sent books, drawings, and guidelines on tropical architecture, arguing that the project could be largely overseen from London. He also proposed hiring African staff to work in his London office, where they would be exposed to the discipline of the architectural environment. Kenneth Mellanby, the director, decided in his favour without hesitation.



Figure 13 - Drew and Fry with architect team, 1950's (Source: Tag Archives: Drew. Available at: https://transnationalarchitecture.group/tag/drew/ [assessed 14/05/2025])

However, the initial enthusiasm soon faded, and from the outset Fry and Drew encountered significant challenges with the University of Ibadan project. These included frequent changes to the programme, a lack of reliable data, and inefficient communication with the client. Kenneth Mellanby, the director and principal client,

strongly criticised the plans submitted, deeming them unsuitable for the local climate and conditions. Mellanby advocated for a more compact and functional campus, arguing that the dispersion of buildings would lead to higher operational and maintenance costs. Fry and Drew, by contrast, maintained their preference for a low-density campus that prioritised natural ventilation and open spaces. As Mellanby remarked: “They [the architects] have just sent us some perfectly absurd plans for buildings, which would be dark, hot stuffy, and not water-tight, and also it is very difficult for us to get them to realise the implications of the difficult things they do, when it comes to planning for African labour and material” (Kenneth Mellanby, cited in Jackson & Holland, 2016: 185).

The divergence of views resulted in the client hiring regional architects, such as J.E. Evens, linked to the PWD, who prioritised more conservative solutions in line with traditional colonial practices. This step was seen as an attempt to mitigate delays in the project and growing mistrust of the British architects' approach. Tension increased as the client felt that Fry and Drew were ignoring recommendations and introducing experimental methods that, according to Mellanby, “were impractical for the reality of the labour and materials available” (op. cit). The conflict reached such a point that Mellanby even proposed using standard PWD models to replace parts of the project, especially in staff housing.

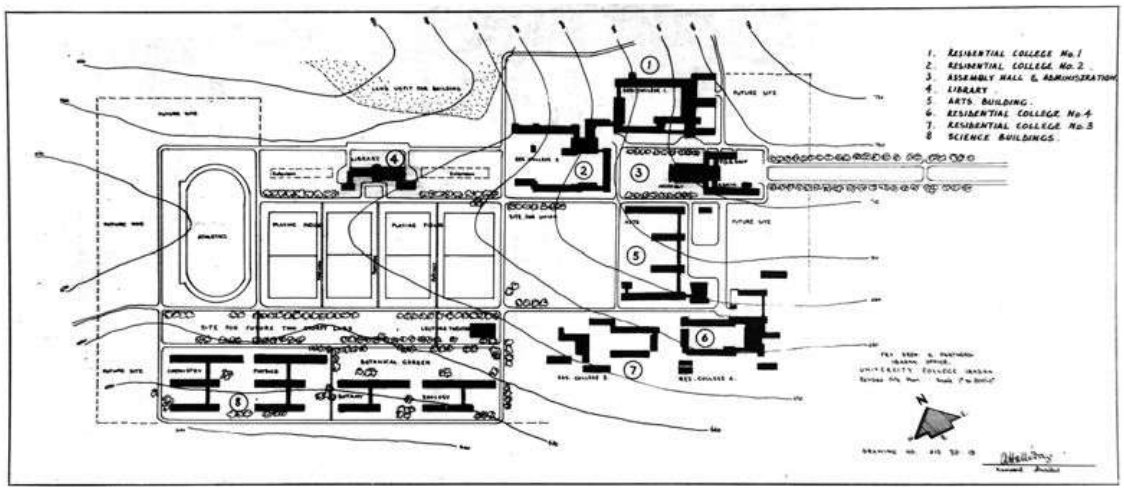


Figure 14 - Ibadan University plan (Source: JACKSON; HOLLAND, 2014: 188).

Despite these challenges, they succeeded in incorporating key elements of their modernist vision, along with systems they had already identified as essential for the climate: the use of cross ventilation, *brise-soleils*, and internal courtyards in both residential and educational buildings.

Although the relationship with the client was often troubled, Fry and Drew’s design for the University of Ibadan stands as the most representative example in Africa at the time of what they were exploring in their work. It reflects the outcome of their research and the opportunity to experiment with ideas they had been developing — embodying a modernist approach adapted to the tropical context, integrating both climatic and functional solutions. The main buildings were oriented on a North-south axis to maximise cross ventilation and minimise heat gain, while the East-West facades were generally blind to avoid direct sunlight. This orientation ensured that environmental conditions were a central factor in the design. The Kenneth Dike Library, considered the most emblematic

building on campus, stood out for its use of a “breathable wall” system, which combined horizontal and vertical *brise-soleils*. This innovative system allowed for natural ventilation and the entry of diffused light, while protecting the books from storms, insects and excessive heat. Inside, corridors protected the reading areas and collections, while windows with copper mesh filters ensured a controlled environment.

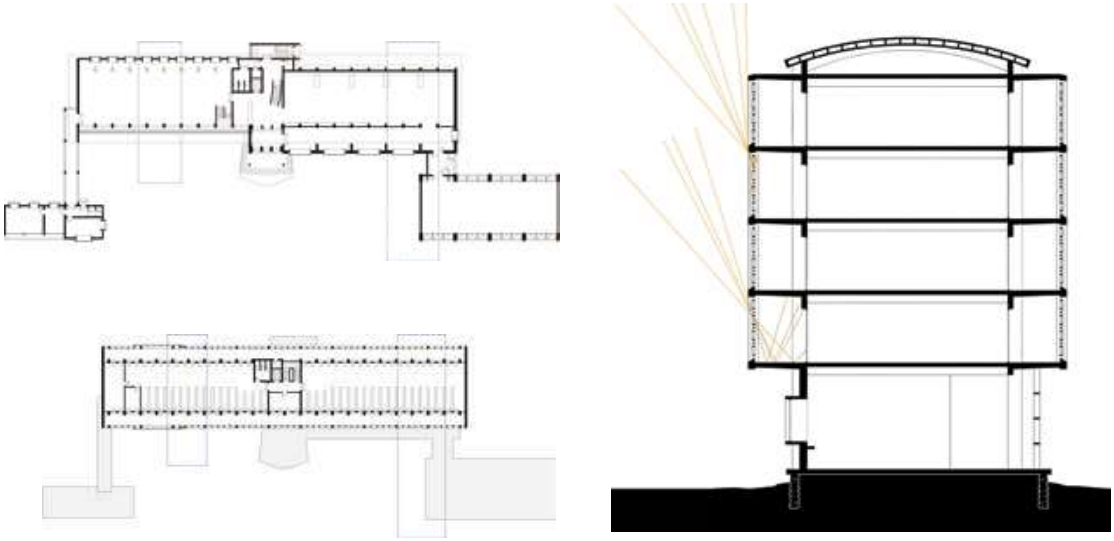


Figure 15 - Kenneth Dike Library, Ibadan University, Plants and solar incidence studies (Source: GALLI, 2019: 131).

The residential blocks were organised around central courtyards, creating outdoor social spaces that balanced interaction with privacy. While these courtyards served both functional and social purposes, student overcrowding later exposed the limitations of the original design, as it had not anticipated the rapid increase in student numbers. In terms of materials, Fry and Drew adopted strategic solutions such as reinforced concrete, prefabricated concrete grids, and hollow blocks, ensuring both durability and efficiency. These grids, while functional, also became decorative elements that helped define the campus’s visual identity. Among the most emblematic buildings were the cafeteria and chapel, both featuring concrete shell roofs. These structures not only met functional requirements but also introduced a sculptural quality to the campus architecture. Even after fifty years, these spaces remain in use, demonstrating the resilience of the architectural solutions despite minimal maintenance and intensive use. The campus as a whole was conceived as a “climate machine”, with each building designed to respond to tropical conditions while encouraging social interaction and fostering a sense of community among students. Even after fifty years, these spaces remain in use, demonstrating the resilience of the architectural solutions despite minimal maintenance and intensive use. The campus as a whole was conceived as a “climate machine”, with each building designed to respond to tropical conditions while encouraging social integration and fostering a sense of community among students.

The final campus remained a benchmark for tropical modernist architecture. The University of Ibadan, designed by Fry and Drew, exemplifies the application of tropical

modernism on a large scale, combining natural ventilation, sun protection and local materials with a functional structure that is socially adapted to the African context.

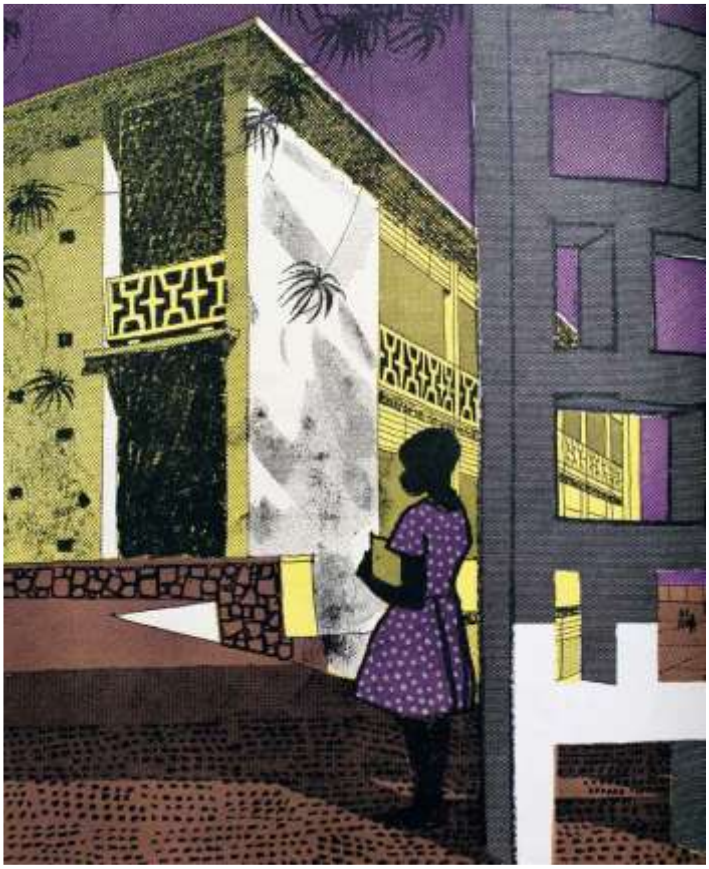


Figure 16 - Illustration of a female student at Ibadan University, 1953. (Source: The Architectural Review. Available at: www.architectural-review.com/essays/tropical-modernism-fry-and-drews-african-experiment [accessed 14/05/2025])

For Fry, the initial phase of the projects was characterised by enthusiasm — primarily centred on the act of designing. Once that stage was complete, he was happy to let others manage the construction while he devoted himself to new projects. Fry and Drew returned to the site in Ibadan several times during construction and received frequent progress reports from the London office. In a rare upbeat moment, Fry declared the completion of the campus as “the crown of our careers, of mine at least” (Fry’s Memories p. 61 apud JACKSON; HOLLAND, 2016: 193).

His approach is described by Jacopo Galli as an effort to create a cosmopolitan and modernist architectural system, deeply rooted in the climatic and geographical conditions of the tropics, but avoiding cultural stereotypes or vernacular reinterpretations. This perspective was consolidated in the manual *Tropical Architecture in the Dry and Humid Zones* (1964) [34], which synthesised decades of experience in Africa, transforming it into a set of rules and quantitative tools for future architects. This work not only systematised the practice but also positioned tropical architecture as a benchmark for functional and sustainable modernity, reconciling applied science and humanistic concerns. The impact of Fry and Drew is particularly notable for the way they translated the practical demands of the tropics into innovative solutions that not only responded to

local challenges but also offered a universal model of architecture rooted in scientific rigour and adaptation to the specificities of the context.

Conclusion

After World War II, Drew and Fry moved to West Africa, where they had the opportunity to work on a variety of projects, including housing, schools, universities, and hospitals, some of considerable scale. Confronted with the challenge of designing in a context entirely unfamiliar to them, they realised that the tools of modernist architecture were ill-suited for the region's hot and humid climates, as these did not align with local realities.

> "After the war, we went to West Africa. What did we take with us? Certainly not the traditional architecture of England. We had to deal with not only the people but the climate. You have two major problems to deal with, and the first is the sun. You're very near to the Equator and the sun is very fierce. But the next one is humidity. And this is much more difficult to deal with and a very great problem." (Maxwell Fry in V&A - "Inside mid-century Tropical Modernist architecture").

Drew and Fry's trip to West Africa marked a fundamental turning point in their architectural practice. Although they were already established architects in the United Kingdom, the new territory presented them with unprecedented challenges, forcing them to re-evaluate the principles they worked with. This shift was not only geographical, but also intellectual and methodological: when confronted with a radically different context, they recognised the need to observe, investigate and learn before intervening. By involving local communities in the planning process, they introduced a participatory method that not only improved the acceptance of their proposals, but also profoundly influenced the way they approached projects in tropical regions.

> "It is hard to imagine a more romantic architectural program that this that took us in long journeys to sites, some of them deep in the forest, other atop ridges rising atop the tree level or looking at the ocean. Each school or college was different and each was a new venture an experiment pushing our knowledge and skill a stage further in our collaboration with nature. I was never more happy in my entire life." (Maxwell Fry Full Autobiography, RIBA Archive, apud GALLI, 2016: 194).

This process culminated in the publication of the book *Village Housing in the Tropics* (1947). What began as a practical necessity quickly evolved into a fascination with the new and unknown, and from there, into a genuine desire. The book served as an essential tool for organising and documenting their observations and thoughts, enabling them to understand before proposing solutions. Travelling is a superficial passage through the places we visit; it is in permanence, in the time of routines, that the true deciphering of everyday habits becomes possible. Then, in the privilege of the architect, the possibility of transforming existing reality into imagined reality. In this context, drawing is not just a technique of representation, but a gesture of understanding and creation. Reflecting this approach, the book becomes a testimony to the beginning of a true immersion in a new territory and reveals, still in an almost naive way, as all beginnings are, their processes of learning and disciplinary transformation before they became recognised figures in tropical modernism. Throughout their careers, they continued to deepen and test the ideas introduced in that first record. Whether through

their built projects, such as the University of Ibadan and the schools on the Gold Coast, or in their published works, like the final edition of *Tropical Architecture in the Dry and Humid Zones* (1964).

Although they are not usually celebrated in the history of modernism, their contribution to tropical architecture and to the adaptation of modernism to new geographies is undeniable. Their work may not have the monumentality and even formal excellence of other modernist references [21], but it carries profound relevance in the way it reconciled functionality, climate adaptation and social involvement. If there is one legacy to be drawn from Fry and Drew's experience, it is how architecture is shape not only by the built object, but by the process of listening, observing and experimenting that precedes it. As Fry stated, architecture is born in design – and, before the work, it was the book *Village housing in the tropics* that allowed them to chart a new course.

> *Oh when man has escaped from the barbed-wire entanglement*
> *of his own ideas and his own mechanical devices*
> *there is a marvellous rich world of contact and sheer fluid beauty*
> *and fearless face-to-face awareness of now-naked life*
>
> (Terra incognita by D. H. Lawrence)



Figure 17 - “Fry and Drew resting in North Wales” (Source: HOLLAND; JACKSON, 2013. Available at: Fry Drew Programme1 | PDF | Modernism [accessed 14/05/2025])

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Notes

[1] The exhibition *Tropical Modernism: Architecture and Independence*, curated by Christopher Turner, was open to the public at the V&A South Kensington from 2 March to 22 September 2024. Further details: About the Tropical Modernism exhibition · V&A
[2] 'British West Africa' referred to a grouping of British colonies in West Africa during the colonial period, including the Gold Coast (now Ghana), Nigeria, Sierra Leone and The Gambia. Although administered separately, these colonies shared institutional structures and colonial infrastructures, functioning as an experimentation zone for planning policies and tropical architecture. Adapted from Britannica. Available at: www.britannica.com [accessed 14/04/2025].
[3] Director of the Liverpool School of Architecture. Modernism in sub-Saharan Africa (particularly 'West Africa') specialist.
[4] In the sense of "cosa mentale" by Leonardo da Vinci. Drawing, as a tool in the creative process, functions as a means of mental organisation, materialising ideas and exploring possibilities.
[5] Funded by the British colonial government, the programme illustrates how investments in education and infrastructure were also intended to stimulate trade and reinforce the UK economy (Uduku, 2015).
[6] This process was not without ambiguity. As depicted in Steve McQueen's film Blitz (2024), relations between Great Britain and its colonial territories were often marked by social tensions and a rigid hierarchy that constrained the freedom and recognition of the "other".
[7] "The ship docked at Accra in the Gold Coast (later Ghana) and although Fry had wanted to leave the UK, he again found himself 'desperately unhappy. Jettisoned. Marooned in a tropical backwater" (Maxwell Fry, Full Autobiography, 1985, apud GALLI, 2016: 54".
[8] Henry Spencer Moore (Castleford, Yorkshire, 1898 — Perry Green, Hertfordshire, 1986) was a British artist who developed predominantly figurative three-dimensional work, with brief forays into abstraction. Adapted from Britannica. Available at: www.britannica.com [accessed 14/04/2025].
[9] Peter Gregory (1887-1959), Director and later Chairman of Lund Humphries, was at the centre of the British avant-garde art world during almost thirty years of great change in society, politics and culture. A pioneering art publisher, responsible for publishing academic and richly illustrated monographs on living artists, Gregory was also a discerning patron and collector, founder of new art organisations and a loyal supporter of young artists. Adapted from 'Peter Gregory Publisher and Patron of Modern British Artists' by Valerie Holman Publication Date: 1/10/2024.
[10] Elizabeth Denby (1894 – 3 November 1965), English, consultant and expert in social housing.
[11] Kenneth McKenzie Clark, The Lord Clark was a writer and museum director from the United Kingdom, and one of the best-known art historians of his generation. Adapted from Britannica. Available at: www.britannica.com [accessed 14/04/2025].
[12] "You seem so engaged with the RIBA and London, while I find myself marooned here. I envy the conversations and opportunities you have there, which are far removed from the isolation I feel in Accra." *In* Correspondence Maxwell Fry to Jane Drew, 1943-1945. Royal Institute of British Architects (RIBA) Archives.
[13] The Tennessee Valley Authority (TVA) is a federally owned electric power utility in the United States. Its service area spans the entire state of Tennessee, as well as parts of Alabama, Mississippi, and Kentucky, with smaller sections of Georgia, North Carolina, and Virginia. Adapted from Britannica. Available at: www.britannica.com [accessed 14/04/2025].
[14] In a 1943 letter to Jane Drew, Maxwell Fry offered a vivid description of Bathurst: "…how charming it is. White walls enclosing gardens, wide grass grown streets, white robed men and

gorgeously dressed Jollof women, all moving as if were in a dream. And a waterside road lined with colour washed old stone buildings with arcaded fronts on the one side and all sorts of delightful foreshore messes on the other" in *In* Correspondence Maxwell Fry to Jane Drew, 1943-1945. Royal Institute of British Architects (RIBA) Archives.

[15] Alfred Edward Savige ("Bunny") Alcock worked as a Municipal Engineer in Kumasi between 1936 and 1945 and later as an Urban Planning Consultant for the Gold Coast from 1945 to 1956. During his time in Kumasi, Alcock pioneered the development of self-build villages. He implemented small-scale production lines where residents could manufacture swishcrete blocks, prefabricated roof structures, and various sanitation devices such as latrines and communal laundries. Adapted from https://transnationalarchitecture.group/tag/building-guide/ [accessed 14/04/2025].

[16] This concept, although far from uniform or consistent, began to be discussed in a more structured way after a lecture given by Sir Frank Stockdale at RIBA in 1948. At this event, experiences from different parts of the Empire were compared, highlighting how, even in a fragmented colonial context, similar ideas were being developed globally.

[17] Images of these works are available for consultation online in the RIBA archive, available at: https://www.ribapix.com/ [consulted on 14/04/2025].

[18] Edward Payne of Sir Aston Webb & Son.

[19] Hugh Casson.

[20] The manual *Tropical Architecture in the Dry and Humid Zones* (1964) represents the final published edition of Fry and Drew's accumulated experience in tropical architecture. Their journey began with *Village Housing in the Tropics* (1947), which marks the first significant record of their work in this field. Originally conceived as a pocket guide for military personnel and technicians in the colonies, it provided practical, straightforward instructions — characteristically British — for addressing local challenges: "Don't do this, do that". According to Jacopo Galli, this approach reflects a clear method tailored to individuals without specialised training but tasked with architecture and urban planning. The manual, which was military in spirit and aimed at a non-architectural audience, sought to simplify complex problems and translate them into practical solutions. This format did not emerge in isolation; it is rooted in a tradition of producing technical manuals to address health and infrastructure issues in tropical contexts, a practice dating back to the early 19th century. Initially developed by public health experts, military engineers, and members of the Royal Engineers, these guides evolved over time to include contributions from architects such as Fry and Drew. *Village Housing in the Tropics*, although modest in scope, represented a transition to a new level of architectural specialisation. Despite its modest format and scope, *Village Housing in the Tropics* functioned as a conceptual laboratory, whose ideas were gradually expanded and refined over the decades. This journey would culminate in the 1964 manual, which consolidated tropical practices into a comprehensive set of rules and tools for architects. While Tropical Architecture in the Dry and Humid Zones stands out as the end result of a mature process, the pioneering nature of the 1947 manual should be understood as the embryo that laid the foundations for this innovative approach.

[21] In an interview with Jacopo Galli on 17 July 2024, he casually justified the secondary role that history has reserved for his work: "I don't think they are incredibly beautiful buildings. They are good buildings, good architecture, but they are not Alvar Aalto, they are not Álvaro Siza".