Neues Bauen and Hygiene:

A mutually profitable relationship investigated in relation to the medical doctor Friedrich Wolf

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Hereby I declare that this thesis has been composed by my self and that
the work is my own. Further I declare that the work has not been
submitted for any other degree or professional qualification.

Christina K. M. Flöotto
Abstract

This thesis examines the interrelationship of hygiene and modernist architecture (Neues Bauen) in Germany in the early twentieth century.

The thesis proposes that the role of hygiene in the architecture of Neues Bauen progressed from its initial position as a purely functional consideration, into a design element, and finally established itself as an integral part of the aesthetic of Neues Bauen. A further proposition is that both the hygienists and the modernist architects of Neues Bauen consciously exploited this overlap in their respective disciplines.

Following two introductory chapters, different aspects of the interrelation between hygiene and architecture will be examined in particular relation to the medical doctor, Friedrich Wolf (1888-1953), who can be seen as the pivotal figure within a whole network of hygienic-architectural exchange. Chapter One describes how infectious diseases generate basic hygienic architectural types (the hospital and sanatorium), and how these became a precedent for modern architectural design. Chapter Two demonstrates how the hygienic criteria of the hospital and the sanatorium became integrated into residential architecture, ultimately resulting in the residential housing of Neues Bauen. Focusing on Friedrich Wolf, Chapter Three documents the biographical interconnections between hygienists and the leading architects of Neues Bauen, and examines the mutual influence that they exerted on one another. The primary objective of Chapter Four is an analysis of the chapter in Friedrich Wolf’s medical advice book Die Natur als Arzt und Helfer (Nature as Doctor and Helper) of 1928, in which he portrays Neues Bauen as the prototype of ideal hygienic architecture. Chapter Five deals with Wolf’s definition of architecture as hygienic shell, surrounding and determining the man within, and his classification of this shell within a self-contained system of healing, concluding with his analogies of the ‘New Man’ and of Neues Bauen. Chapter Six reveals the specific mechanisms that enabled hygienists and doctors such as Friedrich Wolf to ‘sell’ Neues Bauen as a prototypically hygienic architecture, whilst at the same time furthering their personal goals. Finally, this chapter considers the motives, which led the architects of Neues Bauen consciously to adopt metaphors of hygiene to further their own personal design objectives.
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Introduction

Modern man is born in a hospital and he dies in a hospital, so should he make his home like a clinic!¹

Robert Musil (1930)

Architectural history as medical history?

This thesis on the interrelation between hygiene and Neues Bauen in the early twentieth century in Germany came about against the background of a simple observation:

The comparison of hygienic criteria made by hygienists shortly after the discovery of the tuberculosis pathogen by Robert Koch in 1882, with architectural requirements as made 40 years later by the architects of Neues Bauen, gives the impression that the formal principles of modern architecture were taken directly from medical literature on tuberculosis²; in the publications of Neues Bauen, one frequently finds pictures of hospitals and sanatoria portrayed as typically ideal for the style of the times.

The illustrations of these almost clinically sterile seeming buildings and interiors depicted in the publications of Neues Bauen, suggest the diagnosis that the hygienic factors light, air, sun and cleanliness, which at the end of the 1880s were considered to be the only cure for the fatal infectious disease, tuberculosis, in particular, substantially determined the architectonic appearance of Neues Bauen.

Based on this observation, one might ask if the early twentieth century could indeed be regarded as the century of the successful amalgamation of architecture and

hygiene, and of the successful cooperation of architects and hygienists, and to what extent architectural history in the period from 1882 until the late 1920s should in fact be rewritten as medical history.

The question with regard to the inner association of these two disciplines is neither new for the twentieth century nor for the one before. Even before the classical theories on the four temperaments and their influence on the polis, the Greek medical doctor Hippocrates' teachings on the close relationship of body with its direct environment, and the Roman builder Vitruvius' demands that an architect should have knowledge of medicine and hygiene (“medicinae non sit ignarus”) represented a central topos of the reflection on the ideal way to house a human being.

What is new, on the other hand, and here the twentieth century is fundamentally different from those that preceded it, is the all-eclipsing authority of natural science, namely of medicine. With the tremendous advances in the most recent medical branch of science, bacteriology, the view of health at the end of the nineteenth century became increasingly scientific and, along with it, the new discipline of hygiene became an authority that was no longer questioned.

The revolutionary discovery, based on bacteriology, of invisible, health-threatening micro-organisms eventually moulded an era, in which – to put it polemically – the dark house moved towards being a germ-filled box, style-eclectic excrescences pathologically deformed the face of the façade and demanded to be surgically removed, disruption of the organism's digestive system bringing with it permanent suffering to the house’s interior, and only being remedied as a result of a hygienic programme, drawn up according to the latest bacteriological knowledge.

Against the background of the complex interplay of industrialization, miserable housing conditions and economic poverty, the belief that one could escape a certain death by tuberculosis by adhering painstakingly to rules of hygiene (the integration of the healing factors, light, air, sun and cleanliness with respect to housing,

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environment and mind), turned a movement in health reform into an obsession with hygiene that characterized the epoch. In the 1920s, the inhabitant of a dark, dirty, damp, overcrowded home was transformed into the eternal patient, the cleanliness-obsessed, sun-bronzed athlete living in a tuberculosis sanatorium, sleeping in hospital beds and lighting his aseptic home with operating-theatre lamps.

Within the generic discourse of art and natural science, the interdisciplinary discourse of Neues Bauen and hygiene unfolds as a variation on this wider theme. As such, the stipulation that modern man should live as in a clinic, words put into the mouth of Robert Musil’s protagonist, Ulrich, was to find its almost complete fulfillment in the maxims of the architects of Neues Bauen. This finds its confirmation in the profusion of explicit remarks on hygiene as a determining formal factor to be found in nearly any publication of Neues Bauen, opened arbitrarily. The otherwise usually so unemotional Stuttgart architect and builder of the Waiblingen terraced hospital (1926 – 28), Richard Döcker, pronounces apodictically in his book Terrassentyp of 1929:

Our time imperiously calls for the hygienic organization of life at all levels of human society. As such, the fulfilment of the desire for light, air and sun is, as never before, the leitmotif that runs through all the architectural designs of the last twenty years. (...) Everything is subordinated to the desire for light, air and sun, and solely as a result of these demands emerge other architectural forms, other shapes.


Le Corbusier (Towards a New Architecture 1923) anxiously predicts that too many sanatoria will be needed due to the housing situation. In order to avoid being consumed by one’s house like a consumptive, he calls for strict cleanliness through the renunciation of furniture and carpets and demands insistently that children be
taught that the house was only habitable, if it had light in abundance and if the floors and walls were clean.\(^5\)

Sigfried Giedion confirms these hygienic prescriptions in *Befreites Wohnen* of 1929 with the observation that the „latest studies on the medical side of the construction of hospitals“, were definitely in conformity with „the desire that extended over the whole branch of architecture“, for even the doctor called for „the greatest possible dissolution of walls into glass and the freest possible access of light“.\(^6\)

Finally, Bruno Taut explains in his publication *Ein Wohnhaus* of 1927 that the „bodily hygiene through the use of baths and airbaths“ is expressed in the „hygiene of the rooms and of the house, which, with its clean forms wants to be nothing but what it is. Thus the rooms and the house correspond to the cleanliness of the body“\(^7\).

The corresponding counterparts to these statements on the part of doctors are no less numerous. Like Le Corbusier in *Towards a New Architecture*, the Dresden hygienist Rudolf Neubert, in his book *Der Mensch und die Wohnung* of 1925, calls for "few, smooth pieces of furniture", in order to make it easy to fight dust, and for making do without "dust trappers" such as "carpets, curtains, porches, plush cloth", and he warns\(^8\):

> Central to all questions of the furnishing, usage and care of the home is again the consideration of the person who is to live there. Every other consideration: looks appearance, presentation, representation, is unfounded and harms the proper healthy act of living.\(^9\)

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\(^8\) Rudolf Neubert, *Der Mensch und die Wohnung*, (Dresden 1925), p. 66.

\(^9\) Ibid.
As early as 1905, the art historian, Joseph August Lux, pointed out the direct connection between hygiene and aesthetics:

We have all become hygiene fanatics. We challenge the mood of our interiors with air, light, cleanliness and simplicity. And see, it works splendidly.


Neubert adds:

With regard to the furnishing of our home, we are nowadays in the almost happy situation of having made a virtue out of a necessity. The simpler the furniture and the furnishings are, and the fewer items we have, the friendlier, lighter, cleaner and therefore healthier the home is, and the nicer and more habitable it remains in the long term. (...) Here, hygiene and aesthetics once again run parallel.

Bei der Wohnungseinrichtung sind wir heute in der fast glücklichen Lage, daß wir aus der Not eine Tugend machen könnten. Je einfacher die Möbel und die Einrichtungsgegenstände sind, und je weniger wir haben, desto freundlicher, heller, sauberer und somit gesünder ist die Wohnung, desto schöner und wohnlicher bleibt sie auch auf die Dauer, (...). Hier gehen wieder einmal die Hygiene und die Ästhetik parallel.

Although the fundamental role of hygiene as an active formative factor in the formal language of Neues Bauen was often documented by 1920s commentators, it has not been given the consideration in the standard literature on the early modernist architects that the wide-reaching significance of this theme for the historical understanding of Neues Bauen demands. One of the few, who called for the research of the theme "Neues Bauen and hygiene" was Frances Stonor Saunders, who, in

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12 Rudolf Neubert, Der Mensch und die Wohnung, (Dresden 1925), p. 54.
connection with the film „Clean, White World“ directed by the architectural historian Charles Jencks and shown in 1995, formulated the following:

There has never been a sustained analysis of Modernism in terms of clean and dirty, and yet, during the 1920’s and 1930’s it was driven by this debate more perhaps, than by any other. Many of the avant-garde - and especially the architects - became obsessed with hygiene and cleanliness, and made it into a value system in their work. They sought a new Eden, a clean, white world blanched of the stains of the past. And they came up with a new aesthetic: hygiene.¹³

Subject of research, objectives and theses

The subject of this thesis is the interrelationship between hygiene and Neues Bauen in the 1920s in Germany. The identified overlap of hygienic requirements as they were drawn up at the end of the nineteenth century and the general, stylistic and theoretical principles of the buildings and publications of Neues Bauen in the 1920s, is not coincidental: in the twenties, there was a close thematic link between hygiene and Neues Bauen as well as a cooperation between hygienists and the architects of Neues Bauen. The objective of the thesis is to carry out a long-overdue analysis of the modern age in the categories clean and dirty and healthy and ill, taking their most striking aspects as examples. Essentially, two hypotheses could be derived from this:

The first hypothesis ensues as a result of the observation of a historical phenomenon, whose portrayal suggests a new interpretation of the architectural history of the modern age: the hygienic criteria originally formulated for hospitals and sanatoria, were incorporated into the architecture of Neues Bauen. As such, the architecture of Neues Bauen can partly be understood as the fulfilment of the hygienic stipulations drawn up by the hygienists of the late nineteenth century. As part of the process of integrating disease preventing factors into the architecture of Neues Bauen, hygiene advanced from the purely functional to being an aesthetic element and, in the sense of a hygiene aesthetic, finally became an integral factor of Neues Bauen. In this

development towards a hygiene aesthetic, the interrelationship of architects and hygienists is a driving force.

Simultaneously, the intersection of hygienic criteria with the formal principles of Neues Bauen was consciously exploited by both disciplines to further their own objectives. Of all arguments that were brought forward in favour of Neues Bauen, the hygiene aspect was, outside the architectural sphere that, which was easiest to convey. As a result, it was possible to hygienically legitimise the aesthetic principles by using the hygienic argument as a pretext.

The hygienists, on the other hand, discovered in the architectures of Neues Bauen comrades-in-arms who were in a position to lend an architectural form to the theoretical concept of hygiene. Together, the hygienists and the architects of Neues Bauen wanted to create a new society and a 'new man'.

State of current research and source situation

The role of hygiene as an integral element of the basic principles and later of the aesthetic of Neues Bauen is given little or no consideration in the majority of the standard literature on Neues Bauen. A few authors, among them William J. R. Curtis, present an exception here. In his Modern Architecture since 1900, he understands the emergence of modern architecture and the new town against the decisive context of the unhygienic living conditions of the late nineteenth and beginning twentieth centuries. According to him, some architects were even explicitly concerned with avoiding unhealthy conditions, as in the case of the workers' housing of the nineteenth century, and "the form language was intended to convey a sort of purgative intention". Furthermore, Curtis points to the existence of a hygiene aesthetic with regard to the architects Johannes Duikers and Bernard Bijvoets sanatorium 'Zonnestraal' in Hilversum (1926-28), talking about the "clinical forms of modern architecture", which "seemed well suited to the ethos and the social programme". Analysing the bathroom of the Villa Savoye, Curits credits Le

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15 Ibid.
Corbusier to have a "decisive interest in cleanliness and athleticism"\textsuperscript{16}. Moreover, he passes judgement on Alvar Aalto's sanatorium in Paimio (1929-32), proclaiming it as one of those cases, "where the aims of the client and the philosophy 'sanitary' philosophical and visual aspects of the new style were in accord from the beginning"\textsuperscript{17}. The sanatorium "announced its healing function through clean forms, tidy proportions, and well-lit volumes".\textsuperscript{18}

These marginal observations with respect to hygiene in Neues Bauen are, however, the exception, for both in Leonardo Benevolo's Storia dell'Architettura moderna\textsuperscript{19} and in Norbert Huse's Neues Bauen 1918-1933. Moderne Architektur in der Weimarer Republik\textsuperscript{20}, in which he specifically took pains to analyse the social aspects of Neues Bauen, the word hygiene appears not even once. The situation is not much different in Manfredo Tafuri's and Francesco Dal Co's History of World Architecture. Modern Architecture, even if they do here take into consideration sociological aspects and comprehend the emergence of Neues Bauen against the background of 19th century cities with their poor hygiene facilities.\textsuperscript{21}

We do not learn much more on the role of hygiene with Neues Bauen from Kenneth Frampton's Modern Architecture. A Critical History\textsuperscript{22}. Pars pro toto, this standard work shows how consistently the role of hygiene in Neues Bauen was overlooked: He describes the interior decoration of Neues Bauen as "cold and austere and yet at the same time scintillating", and describes how the exterior of the constructions has a similar effect; "plain rendered surfaces, steel windows, patent glazing, and metal railing were combined to create the universal sachlich syntax".\textsuperscript{23} Incidentally, like his colleagues already mentioned, Frampton then draws on the catchwords rationalization, standardization, and constructivism as explanatory terms for Neues

\textsuperscript{16} Ibid., p. 191.
\textsuperscript{17} Ibid., p. 239.
\textsuperscript{18} Ibid.
\textsuperscript{19} Leonardo Benevolo, Storia dell'Architettura moderna, (Rome 1987).
\textsuperscript{20} Norbert Huse, Neues Bauen 1918-1933. Moderne Architektur in der Weimarer Republik, (München 1975).
`Neues Bauen`, while the selected quotes offer very concrete hygiene aspects. Similarly, Hannes Meyer’s and Hans Wittwer’s project for the ‘Petersschule’ in Basle of 1926 is rated by Frampton solely as a publication of a “functionalist and anti-monumental programme”\(^{24}\). Meyer’s design shows the group’s interest in “precise calculations and social relevance, both to be made manifest through lightweight technique”\(^{25}\). In the statement from Meyer, quoted by Frampton himself, however, the former proclaims his foremost concern to be that the school itself „is raised as far as possible from the ground to a level where there is sunlight and fresh air”\(^{26}\). Surely, the fact that with these requirements Meyer was in good medical company, as these were also the criteria for the ideal location for a tuberculosis sanatorium, cannot be assumed as known. However, when, as seen in the following quote, Meyer himself alludes specifically to hygiene; “No pillared reception rooms for weary monarchs but hygienic work rooms for their busy representatives of their people”, and Frampton purely uses this quote to question “the designers objectivity” and in order to point to “a certain symbolizing intent”, the latter shows the extent, to which the hygiene aspect in Reiner Bauen was marginalized in standard literature.\(^{27}\) The same is true of the ‘biological centre’ of the Bauhaus that emerged from 1927 onwards under the leadership of Hannes Meyer and Oskar Schlemmer in Dessau, and which Birgit Sonna expounds in all its complexity in her thesis, Reiner Schlemmer: der Neue Mensch. Körperkultur und Lebensreform (Oskar Schlemmer. The New Man. Body Culture and Life Reform)\(^{28}\). In the standard works on architectural history of the early twentieth century, this element has not even been hinted at. Frampton merely comments with regard to Meyer’s leadership in Dessau that more Bauhaus designs were industrially manufactured than ever before, the emphasis now being put on “social rather than aesthetic considerations”.\(^{29}\)

\(^{23}\) Ibid., p. 137.
\(^{24}\) Ibid., p. 132.
\(^{25}\) Ibid.
\(^{26}\) Ibid.
\(^{27}\) Ibid., p. 134.
\(^{29}\) Ibid., p. 129.
In his article “The New World” of 1926, Meyer states that this separation of “social” and “aesthetic considerations” is inadmissible and that the concentration on social aspects does not by any means exclude the possibility of their manifesting themselves through a corresponding aesthetic. Here he writes about the basic social conditions of human life and their relationship to Neues Bauen:

with a swimming pool, sanatorium and home for the needy, hygiene breaks onto the scene and creates by means of water closet, ceramic wash table and bathtub, the new type of sanitary ceramics. (...) The stadium conquers the art museum and in place of beautiful illusion is bodily reality. (...) Ideally and fundamentally, our house becomes a live-in machine. Heating, sunning, natural and artificial lighting, hygiene, weather protection, automobile maintenance, cooking, radio service, unburdening of the housewife as far as possible, sex life, family life etc. are the driving forces. The house is their component (...)30

Mit Schwimmbad, Sanatorium und Bedürfnisanstalt bricht die Hygiene ins Ortsbild und schafft durch Watercloset, Fayancewaschtisch und Badewanne die neue Gattung der sanitären Töpferei. (...) Das Stadion besiegt das Kunstmuseum und an die Stelle schöner Illusionen tritt körperliche Wirklichkeit (...). Idealerweise und elementar wird unser Wohnhaus eine Wohnmaschinerie. Wärmehaltung, Besonnung, natürliche und künstliche Beleuchtung, Hygiene, Wetterschutz, Autowartung, Kochbetrieb, Radiodienst, größtmögliche Entlastung der Hausfrau, Geschlechts- und Familienleben etc. sind die wegleitenden Kraftlinien. Das Haus ist deren Komponente (...).

If Adolf Behne (1885-1948), one of the most influential critics of Neues Bauen, aphoristically put his finger on the most important aim of Neues Bauen in his preface to The Modern Functional Building (Der moderne Zweckbau), with “No longer a Façade but a House. No longer a House but a Shaped Space. No longer a Shaped Space but Designed Reality”31, Meyer specifies this “shaped reality” once again, defining it as “bodily reality”. This “bodily reality” finds its clearest and most direct expression in the visualization of hygiene. Moreover, as the expression of a new reality it is an effective method of increasing the impression of objectivity: “to build


objectively is to build socially\textsuperscript{32} concludes Adolf Behne while emphasising at other points that it is precisely the functionalist who “always appeals to the flow of organic life” as the “finest example of pure functionalism”\textsuperscript{33}. In his postdoctoral thesis \textit{Das Museum und seine Architektur} of 1992, Achim Preiß writes of Hannes Meyer’s text that what it especially makes clear is precisely that it is not a matter of the construction itself but rather “of that, which the construction wants to express, namely purity, definitely also in the sense of cleanliness”\textsuperscript{34}. According to him, the vehicles for these associations are the smooth, clear shapes, which serve as metaphors for hygiene. As perspicacious as these analyses may be with regard to certain aspects of the hygiene theme in the context of \textit{Neues Bauen}, as seen in the case of Preiß, they still represent a rare exception in the exegesis of \textit{Neues Bauen} when viewed as a whole.

In spite of this, it has been possible to fall back on a few valuable scientific contributions that provided the impetus, either directly or indirectly, for addressing the proposed theses.

With her treatise \textit{Mehr Licht, mehr Luft. Gesundheitskonzepte im Städtebau seit 1750}\textsuperscript{35} of 1988, the sociologist, Marianne Rodenstein, opens the historical discussion on hygiene. She describes in detail the development of the healthcare problematic and its incorporation into the theory and practice of town construction. She demonstrates, for example, the link between cholera and sewers, and the interrelation of tenement block construction at the turn of the nineteenth century and the concept of the garden city. In so doing, Rodenstein clearly puts the emphasis on technical aspects of the hygiene theme as related to town construction. The architectural and aesthetic plane and the suggestion of a hygienic-architectonic interrelation remain unexplored.

\begin{footnotesize}
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  \item \textsuperscript{32} Adolf Behne, \textit{Neues Wohnen - Neues Bauen}, (Leipzig 1927), p. 34.
  \item \textsuperscript{33} Adolf Behne, \textit{The Modern Functional Building}, (Santa Monica 1996), p. 121, translated by Michael Robinson.
  \item \textsuperscript{35} Marianne Rodenstein, \textit{Mehr Licht, mehr Luft. Gesundheitskonzepte im Städtebau seit 1750}, (Frankfurt-New York 1988).
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With his publication of 1992, Das Sanatorium. Entstehung eines Prototyps der modernen Architektur, for the exhibition of the GTA Zurich of the same name, Quintus Miller makes an essential contribution to the very beginning of the interrelationship of hygiene and architecture. He accurately retraces the way, in which the continuous, varied history of tuberculosis therapy over the space of almost 90 years brought about changes again and again in the nature of the sanatorium, and how the constant adaptation of the constructions to the changing requirements lead to the shaping of an autonomous, progressive type of construction. Miller illustrates the radical change in bacterial hygiene for the construction of sanatoria drawing on the example of Karl Turban's ideal sanatorium, whose detailed sketches of the interior seem to anticipate the formal principles of Neues Bauen. As Miller's research refers almost exclusively to the development of tuberculosis sanatoria in the nineteenth century, the connection with Neues Bauen is only hinted at. In his introduction, Miller mentions many of the achievements of modern hygiene; gymnastics, dance, light athletics, swimming as a people's sport, as well as healthy fashion, the modern household and the organization of leisure time in light, air and sun. He refers to these achievements as fundamental elements of the way of life of the 1920s generation and points out that in the same way, certain architectonic elements, as found in Neues Bauen, were borrowed from these clinical models. Miller does not, however, provide more detailed evidence of this. He leaves us with an allusion to Richard Döcker's Terrassentyp of 1929 and Sigfried Giedion's Befreites Wohnen of 1929, both of which propagate the ideal of Neues Bauen by means of illustrations of sanatoria.

The architectural historian, Stanislaus von Moos, goes a step further in his article "Das Sanatorium Europas" of 1992. He conjectures that the hygienists anticipated the functionalism of the 1920s and that, with respect to the tuberculosis sanatorium, a development had taken place in respect of the façade, which went from one whose décor suggested status and pleasure, to one resembling a "visualized prophylaxis".

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37 Ibid., p. 7.
According to von Moos, natural science had not just moulded the outer appearance of buildings, architecture had also become an “instrument of biological regeneration” and was presenting itself as such.\textsuperscript{39}

The development of the ‘Kurhaus’ sanatorium into the prototype of modern architecture that Miller demonstrates, and von Moos’ further elaboration of this idea, are taken up in the present piece of research in the chapter entitled “From the Sanatorium to the residential house”, which is more or less a continuation of their research. Miller’s purely tentative conjecture with respect to the connection between sanatoria and \textit{Neues Bauen} will be proven using the example of Richard Döcker, one of the most important architects of \textit{Neues Bauen}.

The intensive study of the literary estate of Richard Döcker (Stiftung Archiv der Akademie der Künste Berlin)\textsuperscript{40} drew forth no further important conclusions with regard to the question of the presence of hygiene in his work. The only secondary text available on Döcker’s oeuvre was the monograph \textit{Richard Döcker. Ein Architekt im Aufbruch zur Moderne} by Friederike Mehlau-Wiebking of 1989\textsuperscript{41}. Unfortunately, neither the personal medical influences on Döcker, nor the role of hygiene as the motivation behind his terrace style are mentioned here. In fact, Mehlau-Wiebking categorizes the terrace construction quite correctly as Döcker’s “architectonic speciality”\textsuperscript{42} but makes no further comments with respect to the motivation behind his most important contribution. The maxim demanded and implemented by Döcker himself, that all houses be constructed according to the hygienic criteria of a hospital is also not to be found in her publication, nor are Döcker’s purely medical sources and inspirations. In the present thesis, these gaps can be filled by means of retracing these sources and influences.

\textsuperscript{39} Ibid.
\textsuperscript{40} The greater part of Döcker’s estate is to be found in: Stiftung Archiv der Akademie der Künste, Berlin, Sammlung Baukunst. Ground plans and sketches are to be found in the ‘Deutsches Architekturmuseum Frankfurt am Main’.
\textsuperscript{42} Ibid., p. 131.
In their leaflet of 1988 *Friedrich Wolf. Die Jahre in Stuttgart 1927-1933*, Michael Kienzle and Dirk Mende make a valuable reference to the biographical link between Richard Döcker and the doctor Friedrich Wolf. Drafted as a short story on the ideas of the first half of the twentieth century, illustrated with the example of the Wolf family house, they refer, among other things, to the parallel between Friedrich Wolf as a ‘New Man’ and the architecture of his house in the style of *Neues Bauen*.

Birgit Sonna’s thesis, *Oskar Schlemmer: Der neue Mensch. Lebensreform und Körperkultur*, of 1992, deserves credit for showing the relationship between life reform, the ‘New Man’ and *Neues Bauen*. Sonna vividly illustrates the tendencies of the early twentieth century towards reform, seen for example in nudist culture, the myth of youth and the cult of hygiene, and their influence on the artistic work of Oskar Schlemmer. The intensive exchange between the *Bauhaus* artist Schlemmer and the doctor Friedrich Wolf is only mentioned in a footnote.

The reception of *Neues Bauen* as prototypically hygienic in Wolf’s *Die Natur als Arzt und Helfer* (Nature as Doctor and Helper) is briefly mentioned in Lew Hohmann’s *Friedrich Wolf: Bilder einer deutschen Biographie*. Here, Hohmann documents the life of Friedrich Wolf’s life by means of photographs. As Wolf was foremost a poet (and was received as such predominantly by literary critics), no separate scientific publication on his medical work *Die Natur als Arzt und Helfer* exists. Essential for the reconstruction of the sources of the chapter on architecture in his medical guide was Wolf’s estate, the whole of which is available in the *Stiftung Archiv der Akademie der Künste Berlin, Abteilung Literatur*.

On the theme of the emergence of a hygiene aesthetic, Genevieve Heller outlines the key points in her article “Weiß, strahlend, glatt” of 1985, showing how the integration of hygienic requirements through the use of hygienic, anti-microbe material (glass, enamel, plaster, ceramic), led between the wars, primarily as far as

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sanitation was concerned, to a transformation in the use of form. According to her, the rooms were literally undressed, one did without trimmings, wall hangings and knick-knacks and recommended linoleum and simple, white, easily washable curtains instead. Even the forms of the fittings were a result of following hygienic criteria: they were simple, smooth and easy to clean. Heller does not, however, touch on the further-reaching consequences of this ‘hygienization’ for architecture between the wars.

This link is not taken up again until 1994, when it appears as a central theme of Konstanze Arndt’s dissertation. In her treatise entitled Weiß, rein, klar. Hygieneverstellungen des Neuen Bauens und ihre soziale Vermittlung durch die Frau, the author concentrates to such an extent on the propagation of hygienic criteria that the fundamental question of Neues Bauen and hygiene, the question of a hygiene aesthetic or of an interrelationship between Neues Bauen and hygiene, remain largely unconsidered.

It is Preiß, in his Das Museum und seine Architektur, who addresses the concept of an aesthetic of hygiene most thoroughly. Here, he develops the idea that the formal expression of Wilhelm Kreis’ ‘Deutsches Hygiene-Museum Dresden’ of 1930 was largely influenced by the desire to symbolically transpose hygienic criteria. Furthermore, he argues that “the ambition of the modern aimed towards making building techniques, linked with sanitary supply as a built expression of a new understanding of life, the basis of design innovation, which should even then absolve the older building forms and styles, if they were not an obstacle to hygienic demands”49. Thus, Preiß as if by chance, gets to the heart of the matter: in the 1920s, hygiene had become “the expression of a new understanding of life via construction” and therewith “the basis of an innovation in form”.50

50 Ibid.
Approach towards the topic

In order to address the posed questions adequately and to illustrate the interrelationship graphically and in its entire complexity, a case study shall form the centrepiece of this investigation. The Stuttgart doctor, Friedrich Wolf, an active life reformer seeing himself as a 'new man', allows an exemplary insight into the most important aspects of the hygienic-architectonic interrelationship.

As an introduction, the historical basis is expounded in chapter 1 and 2. Chapter 1 tells how the hygienist Robert Koch's discovery of the pathogen "mycobacterium tuberculosis", the cause of the chronic infectious disease tuberculosis, in 1882, laid the foundations of an era characterized by bacteriological, hygienic science. Based on this discovery, the factors light, air, sun and cleanliness were agreed upon as ways, in which to effectively heal and prevent the housing disease, tuberculosis, and for the first time fundamentally changed the construction types that had hitherto been used for healing. At first, the introduction of hygienic criteria only applied to the hospital and sanatorium, which, for a long time, should be the ideal design for living and dwelling, and was considered to have a pedagogical effect on the infected person. Later, it was also applied to the residential house. Due to the threat posed to the economy by the increasing number of people infected with tuberculosis, there was pressure to carry these hygienic criteria over to residential construction. One of the first was the Berlin doctor, David Sarason, who in 1913 planned a construction type, his terraced ‘open air house’ that could be used equally for a hospital or for residential housing.

Following on from the introductory depiction in the first chapter of the infectious disease as the generator of hygienic construction types (hospitals and sanatoria) and of their development into the prototype of modern architecture, the second chapter takes the example of the Stuttgart architect, Richard Döcker, to illustrate the path leading from the integration of hygienic criteria into hospitals and sanatoria to their integration into the residential housing of Neues Bauen. Adolf Loos in Austria, Henry Sauvage and Charles Sarazin in France and Antonio Sant'Elia in Italy, all planned similar constructions in the first years of the twentieth century. With the exception of Loos, however, most of the architects were not primarily concerned
with purely hygienic standards. Consequently, the resulting terrace constructions and projects have no place in the context of a discourse on hygiene.

It is not until 1929, just as his terraced hospital in Waiblingen near Stuttgart is completed that Döcker sums up the essence of those constructions and projects of the 1920s that were carried out according to hygienic requirements. He reflects upon them in his book *Terrassentyp*, clearly inspired by David Sarason’s publication, he also calls for the transferral of hygienic criteria from the hospital and sanatorium to the residential house.

The ‘Werkbundsiedlung’ at the Stuttgart ‘Weißenhof’ estate that emerged during the planning phase of the Waiblingen terraced hospital, gives Döcker the opportunity, to put theory into practice. It was not just Döcker’s family residences that were clearly characterized by the factors light, air, sun and cleanliness, according to the reviews in the relevant article on the experimental housing scheme. The affinity of the houses of *Neues Bauen* to laboratories, operating theatres and sanatoria, commented on by the critics applied to the majority of the buildings and interiors of the ‘Weißenhof’ estate. As such, the ‘Weißenhof’ estate marked the point, at which, for the first time since the discovery of the cause of tuberculosis, hygienic criteria were demonstrably incorporated throughout almost the entire construction of the residential house, without the need to have to conform to client specifications.

The doctor Friedrich Wolf also sees Döcker’s houses as the virtually ideal counterpart to his concept of hygienic living. Instead of the original plan of Wolf moving directly into one of the exhibited houses, Döcker was appointed to build the Wolf family house. For the Wolf family, who submitted themselves in their daily routine to strict hygienic living standards, the house that Döcker created, and, which was later described by a friend of the Wolfs as a ‘fragment of a sanatorium’, is the ideal realization of an integrated way of life.

At the centre of a whole network of hygienic-architectonic exchange during the 1920s, Friedrich Wolf maintained intensive contact with the leading figures of *Neues Bauen*. In chapter 3, a multitude of hygienic-architectonic links are documented in the correspondence between Wolf, the already mentioned architect, Richard Döcker,
the architectural critic, Adolf Behne, and the Bauhaus artist, Oskar Schlemmer. The results of this interrelationship are presented as architectural theory in the medical reference book *Die Natur als Arzt und Helfer* of 1928. Here, Friedrich Wolf acclaims *Neues Bauen* as the ideal of hygienic architecture in a chapter on hygiene in the home. Friedrich Wolf depicts hygienic building and living with exclusive reference to buildings and publications of the protagonists of *Neues Bauen* such as Richard Döcker, Bruno Taut, Mies van der Rohe, Le Corbusier, Walter Gropius and Adolf Behne. In chapter 4, the content of this architecture chapter is presented and Wolf's most important sources are retraced.

In *Die Natur als Arzt und Helfer*, Friedrich Wolf assigns both architecture in general and, more specifically, *Neues Bauen* an eminently important role, by embedding them in a complex, self-contained system of healing. Leading on from the medieval doctor, Paracelsus, Wolf considers man and his environment as a sequence of *shells* (skin, clothing, and dwelling). Following the logic that all shells essentially determine the nature of that, which lies beneath them and eventually also the core (man), architecture as the outermost shell, directly influences all other areas of the hygienic way of life. In order to illustrate this abstract model of a „system of shells“ and the implicit way, in which this system similarly applies to the shells, skin, clothes and dwelling, the classification of architecture as such a shell will be demonstrated in chapter 5 by means of the practical interpretation of hygienists, architects and art historians. As a result of this, it becomes clear, just how close Friedrich Wolf and the architects of *Neues Bauen* were to classifying architecture as an organic, hygienic creation, in direct relationship to the human body. Moreover, this viewpoint allows drawing clear conclusions with regard to the analogy of the ‘new man’ and *Neues Bauen*.

It can be assumed that, over and above its purely functional task, the architects of *Neues Bauen* consciously advanced hygiene as a life-sustaining, and therefore indispensable, architectural element, in order to legitimise aesthetic decisions with a scientific-medical pretext. It can also be assumed that the hygienists were offered an opportunity to use, as a kind of ‘health propaganda’, the fact that their requirements were adopted by in the hygiene aesthetic of *Neues Bauen*. In chapter 6, it will be
examined, by what means and to what extent hygienists and architects made use of this portrayed overlap for their respective disciplines.
1. From the tuberculosis sanatorium to the residential house

1.1 Prologue

I, the tuberculosis bacillus, am so minute that humans are only able to perceive me with their strongest magnifying apparatus; place 5000 little rods such as myself end to end and only then would we reach the length of one millimetre. Thanks to my size I can slip anywhere I please. I can live in every organ of the human body: in the lung and the intestine, in the brain and in the bone, and yet so often my human host only becomes aware of my presence long after I have become the master of his body. I am so light that I can travel through the air on every water droplet and every speck of dust. My life is a hard one and I can fast for half a year or more; after which I enjoy the taste of human blood even more. Human weapons are only able to kill a few of my children, yet my descendants are as numerous as grains of sand on the seashore. My most hated enemy is the sun. I dread the light almost as much as I fear boiling water, because they melt away my waxy armour, which otherwise protects me so well. But many people lock the sun out of their houses, and there I can lead a comfortable existence. I am not bound to any one place. My power extends over the entire world! Every day 3000 people are sacrificed on my altar. A seventh of all humanity has fallen under me. Every hour I carry off an average of eight Germans. War is a child’s game compared with the devastation I can wreak. (...) Plague, cholera, smallpox bacilli have all been vanquished by humanity, it is only I who cannot be tamed. And thus I inspire dread like an Angel of Death. And yes, I will slay them; these foolish human beings who do not pay heed to the doctor and do not follow his advice!  

Ich, der Tuberkelbazillus, bin so winzig klein, daß mich die Menschen nur mit ihren stärksten Vergrößerungsapparaten sehen können: 5000 solcher Stäbchen, wie ich eins bin, müßten sich hintereinanderlegen und hätten dann erst die Länge eines Millimeters erreicht. Ich schlüpfe dank meiner Kleinheit überall hin. In jedem Organ des menschlichen Körpers vermag ich zu leben, in der Lunge und im Darm, im Gehirn und in den

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1.2 Infectious disease as the generator of hygienic architectural design

1.2.1. Tuberculosis

From around the middle of the nineteenth century onwards, the huge number of deaths from tuberculosis in Germany was considered to be a massive threat to society. Especially affected were twenty to forty year-olds in the prime of their working lives, whose death had a great impact upon the domestic economy. To elucidate the full extent of the problem, the term “Volksseuche” (scourge of the people) entered increasingly into public usage. Thus in the German Empire during the second half of the nineteenth century 100,000 to 120,000 people died of
‘consumption’ each year, and by the turn of the century tuberculosis had become the most common cause of death in adulthood.\textsuperscript{52}

Tuberculosis is a chronic infectious disease, whose symptoms have been documented since antiquity. In the literature and fine arts of the Romantic period in particular the disease was frequently emotively rendered under the term ‘consumption’ (Schwindsucht).\textsuperscript{53} Tuberculosis is caused by specific bacterial pathogens that is various types of ‘mycobacterium tuberculosis’, which can affect the function of all bodily organs and systems. Tuberculosis can be transmitted through inhaling infectious droplets, dust particles or the dried residue of bodily excretions, and also through ingesting milk or beef infected with the disease (fig. 1). The course of the disease is insidious; following a lingering process of suffering, which slowly wastes the body, it almost always leads to death. Hollowed cheeks, pale, translucent skin often blotched with fever, and protruding, staring eyes are the most striking traits of a diseased person (fig. 2). The most conspicuous forms of the disease are tuberculosis of the skin and of the bones, which give the sick person a particularly gruesome appearance, often condemning him to an existence on the very fringe of society. The


\textsuperscript{53} This is what the doctor, René Théophile Hyacinthe Laennec, himself suffering from lung disease, wrote in his \textit{Traité de l’auscultation médiate} (published 1826): “The ‘romantic of consumption’ was a form of suffering that related to an existential wound. The illness was simply the expression of the deepest inner truth of the consumptive that they were an ‘exceptional example’, a being, which is threatened, but which is thereby all the more special, set apart. The ethereal beauty of the consumptive is much talked of; it is very tender, pale and transparent. However, one was also fascinated by the passion consuming him. This passion expressed itself in love’s glow, but also in a particular artistic sensibility, in an awareness of all that is beautiful, creative — throughout the century there was a particular connection between tuberculosis, art and literary creation. The fever, the wasting away was therefore merely the bodily expression of a fire, which one moment was the flush of desire, the next that of the genius, which infused the paleness of the ill. The shining eyes, the red cheeks were the expression of a self-destructive fire in the soul: the tuberculosis patient’s day burned out” (Die ‘romantische Schwindsucht’ war ein Leiden, das mit einer existentiellen Verwundung zusammenhängend. Die Krankheit war nur Ausdruck der tiefsten inneren Wahrheit des Schwindsüchtigen, eine ‘Ausnahmeerscheinung’ zu sein, ein Wesen, das gefährdet, dadurch aber nur um so auserlesener ist. Man rühmte seine ätherische Schönheit, die sehr zart, blau und durchsichtig war. Aber man war auch fasziniert von der Leidenschaft, die ihn verzehrte. Diese Leidenschaft äußerte sich in der Glut der Liebe, aber auch in einem besonderen künstlerischen Empfinden, im Sinn für alles Schöne, Schöpferische – das ganze Jahrhundert lang bestand eine besondere Beziehung zwischen Tuberkulose, Kunst und literarischem Schaffen. Das Fieber, die Auszehrung waren daher nur der körperliche Ausdruck eines Feuers, das bald die Glut der Sehnsucht, bald des Genies war, das die Blässe des Kranken belebte. Die glänzenden Augen, die roten Wangen waren Ausdruck eines selbstzerstörerischen Seelenfeuers: die Tage des
most common form, however, is pulmonary tuberculosis, whose symptoms include
fever, weakness, emaciation and a chronic cough, which Thomas Mann in his *The
Magic Mountain (Der Zauberberg)* so graphically describes as a cough "that had no
conviction and gave no relief that did not even come out in paroxysms, but was just a
feeble dreadful welling up of the juices of organic dissolution".  

The outbreak of the disease and the rate of its progress are dependent on the number
and the activity of the disease-causing pathogens, as well as on the resistance put up
by the invaded organism. Therefore, the section of the population considered to be
most at threat from the disease consisted of those whose immune systems were
weakened through bad conditions, whether socio-economic or in terms of hygiene,
specifically manifested in the inadequate living and housing conditions in large cities
(fig. 3).

1.2.2. Living conditions in the late nineteenth century and early twentieth
century

The effects of the industrial revolution and advances in science caused a tremendous
population explosion during the nineteenth century. Between 1870 and 1900 the
population of most of German cities doubled. Agrarian reforms created a surplus of
rural unemployed who invaded the industrial conurbations in search of work to make
a living. However, the cities were wholly unprepared for such an onslaught of
workers. Housing and the necessary hygienic facilities were entirely lacking.
Housing was built wherever there was space, even the narrowest courtyards of old
tenement blocks were filled up with new housing. Cellars, attics and new blocks of
flats, often not having had the time to dry out properly, were also inhabited. In 1861,
for example, almost 10% of Berlin’s total population lived in cellar flats. From the
1860s onwards, tenement housing with side wings and rear wings around a narrow,
central courtyard was being built, signalling a further deterioration in living

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Lowe Porter. In his novel, *The Magic Mountain*, Thomas Mann deals with his impression and
experience of the atmosphere in the Davos Waldsanatorium, where he visited his wife, Katia, who
was ill with lung tuberculosis.

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*Tuberkulosekranken verglühten.") in: Claudine Herzlich und Janine Pierret, *Kranke gestern,
conditions as these flats had inadequate cross ventilation (Querlüftung): they could neither be sufficiently aired from the narrow courtyards, nor could the sun penetrate their walls. In winter the cellar flats were damp and cold and in summer the attic flats suffered from an extreme build up of heat. Furthermore exorbitant rents exacerbated the problem by forcing families to share the smallest possible living space. Several people would share one bed, which would then be sublet during the day to so-called “Schlafburschen”. Appalling living conditions, in which the healthy and the sick lived crammed together, poor nutrition, unhealthy work conditions and sheer exhaustion due to reckless exploitation by employers were all considered to be severely detrimental to the general health of the population. Under such conditions, epidemics such as tuberculosis seemed to find fertile ground and spread extremely rapidly. The causal relationship between slum areas and the presence of disease was quickly established. For it was principally in the overcrowded, damp and light-deprived housing – as suggested, at any rate, by countless statistics – that

55 Rodenstein demonstrates that the problem first and foremost lay not in a lack of housing, but in a lack of affordable housing for the poorest sections of society. Thus the standard bourgeois literature on the subject at the time distinguished between the general and the specific in terms of the housing problem. The general question surrounding housing was related to the rising levels of basic floor rent, and the rising house prices and rents, whereas the specific question of housing concerned the lack of small affordable housing for workers and others on low incomes. Cf. Marianne Rodenstein, Mehr Licht, mehr Luft. Gesundheitskonzepte im Städtebau seit 1750, (Frankfurt/New York 1988), pp. 110ff.

56 The term Schlafburschen describes homeless, vagabond people working on an hourly rate, who simply rent a sleeping place by the night.

57 In the Deutsche Vierteljahresschrift für Öffentliche Gesundheitspflege German Quarterly for Public Health, 1894, vol. 26, p. 17, F. Adickes writes in the article, “Verteidigung der Leitsätze über die unterschiedliche Behandlung der Bauordnungen für das Innere, die Außenbezirke und die Umgebung in den Städten” (Support for the different methods used in dealing with the inner, outer and surrounding areas of cities): “We will much rather think of housing as ideal when it enables the family that uses it to lead a life independent of others, affording adults and children alike a comfortable home and space for beneficial development. The opposite of this ideal situation seemed to him to be “the piling up of numerous flats in one building complex, even if this only comprises one block, or indeed one with side wings and further blocks extending back. Here there is no longer any individual ‘family life’: stairs, corridors, courtyard, children’s playground - everything is shared. Physical and moral ill health is spread from person to person (...)” (“Als Ideal einer Wohnung werden wir vielmehr eine Wohnung schon dann zu bezeichnen haben, wenn sie der sie benutzenden Familie ein in sich abgeschlossenes Leben ermöglicht und Kindern wie Erwachsenen ein behagliches Heim und Raum zu gedeihlicher Entwicklung gewährts.” Als das “Gegenteil des Ideals” erschien ihm die “Zusammenhäufung zahlreicher Wohnungen in einem Gebäudekomplex, mag derselbe nun nur ein Vorderhaus oder außerdem noch Seitenflügel und Hintergebäude enthalten. Hier gibt es kein gesondertes Leben der einzelnen Familie mehr, Treppen, Flure, Hof und Kinderspielplatz – alles ist gemeinsam –, körperliche und moralische Ungesundheit überträgt sich von Einem auf den Anderen (...)”). Cf. Marianne Rodenstein, Mehr Licht, mehr Luft. Gesundheitskonzepte im Städtebau seit 1750, (Frankfurt/New York 1988), pp. 146-147.
tuberculosis was rife: by around 1900 every third person living in Berlin was infected.\textsuperscript{58}

1.2.3. Discovery of the tuberculosis bacillus: breakthrough in bacteriology

Parallel to the appalling conditions in the cities and against a background of devastating infectious diseases, hygiene began to establish itself as a proper scientific discipline. As late as 1841, one of the “main tasks of hygiene” ("eine der Hauptaufgaben der Hygiene") was still deemed to be “the preservation of a peaceful, cheerful disposition” ("die Erhaltung einer ruhigen, heiteren Gemütsstimmung").\textsuperscript{59}

Only a few years later, pioneering work in the field of microscopic bacteriological research resulted in an entirely different definition of the same term.

In 1882, the hygienist Robert Koch\textsuperscript{60} (1843 - 1910) succeeded in proving that the tuberculosis bacillus was the disease-causing pathogen for tuberculosis, and his research also proved that tuberculosis is transmitted\textsuperscript{61} by infectious droplets, a fact, which had previously been in doubt. In the course of his research, Koch had isolated the paths of infection: the tuberculosis-infected cougher spreads the disease via


\textsuperscript{59} Pierers Universal Lexikon, 2nd edition, 1841.

\textsuperscript{60} As the son of a mineworker, Robert Koch was born 11th December 1843 in Clausthal-Zellerfeld (Oberharz). In 1862 he matriculated in Göttingen at the Faculty for medicine. After his doctoral examination in Göttingen in 1866 he studies in Berlin. In 1880–85, he was appointed a full member of the imperial health authority, which was created as a result of the founding of the Reich in the year 1876, and first and foremost served as collector of statistical information. In addition, he had to work on the governmental suggestions for the formulation of questions of hygiene. From 1885 to 1891 Koch worked as a full Professor of Hygiene at the Faculty of Medicine in Berlin. In 1885 the Institute for Hygiene in the Klosterstraße in Berlin, at that point the only centre for the teaching of bacterial studies in Germany, opened. From 1891–1904 he was the director of the Institute for Infectious diseases in Berlin and in 1905 Robert Koch received the Nobel Prize. On the 27th May 1910, Robert Koch died in Baden-Baden. Cf. Klaus Großgebauer, \textit{Eine kurze Geschichte der Mikroben} (München 1997) p. 439.

\textsuperscript{61} The intense argument over the real truth that is, over the real causes of the disease, lasted until the second half of the twentieth century. The actual founder of scientific hygiene, and the first professor of hygiene in a German university teaching position, Max von Pettenkofer (1818-1901), advocated the view that the germ of the disease was spread in the putrefying vapours arising from contaminated ground, i.e. spread via the air. He did not consider the human to be the source of infection. The hygienist, Rudolf Virchow (1821-1902), who coined the term 'infectious disease', comprehensively advocated the view that the disease was not transmitted via an invisible causative agent, but through diseased cells (cellular pathology). Cf. Klaus Großgebauer, \textit{Eine kurze Geschichte der Mikroben} (München 1997), p. 178.
bacteria rich phlegm (sputum), which contains the micro-organisms causing the disease; these then infected clothes, furniture, the floor: in short, the whole of the immediate environment. These infectious particles could in turn be inhaled as dust, wherever the dried sputum was disturbed. Thus, tuberculosis could be considered not only a disease transmitted via droplets, but also via dust. Moreover, Koch’s research demonstrated that the survival period of infectious particles in dust could be significantly reduced by the use of disinfecting substances. The effect of sunlight played a decisive role in the killing off of the bacteria, direct sunlight killing bacteria within a few minutes, diffused sunlight over hours to days (fig. 4). With this knowledge about the paths of infection, Koch laid down the most important foundation stone for the drawing up of exact instructions and demands for the combating of tuberculosis, as determined by bacteriology and hygiene principles. The new criteria for hygiene resulting from his research would be as follows: Light, air, sun, and cleanliness (‘Licht, Luft, Sonne und Sauberkeit’), which became a catchphrase encapsulating the basic conditions for the promotion of health, and which caught on in ordinary language usage up until the thirties stereotypically as a synonym for hygiene.

1.2.4. Housing and Tuberculosis

Soon enough, the hygiene formula, ‘Light, air, sun, and cleanliness’ became inextricably linked with the increasingly powerful protest against the prevailing appalling housing conditions, for the overcrowded, dusty and damp housing with

62 “Multiplication of pathogenic micro-organisms can only take place in damp environments. Their transition into the air can only result if the fluid is dried, if the dried residue somehow becomes transformed into dust and these organisms are carried into the air by attaching themselves to the dust particles. The main emphasis must be laid on the fact that infectious material in damp form should not be allowed to transform itself into the dry, dusty form. If this is not avoidable, then the dust must be conveyed by movement of air away from the human environment, preferably at the point of inception.” (“Die Vermehrung pathogener Mikroorganismen findet nur in feuchtem Zustande statt. Ihr Uebergang aus diesem in die Luft kann nur beim (...) Eintrocknen der Flüssigkeit dadurch erfolgen, daß der vertrocknete Rückstand (...) in irgend einer Weise in Staub verwandelt wird und diese Organismen sich, an den Staubteilchen haftend, in die Luft erheben. Das Hauptgewicht sei darauf zu legen, daß die Infektionsstoffe nicht aus dem feuchten in den trockenen, staubförmigen Zustand übergehen. Ist dies aber nicht zu vermeiden, dann muß der Staub schon möglichst im Augenblick des Entstehens aus der Umgebung des Menschen durch Luftströmungen (...) abgeführt werden.”), Robert Koch, Die Bekämpfung der Infektionskrankheiten, insbesondere die Kriegsseuchen (Berlin 1883), p. 28.
inadequate access to light and air, must have provided – as concluded from Koch’s
discovery – fertile ground for the development of the disease.

The bacteriological research had consequently identified peoples’ direct
surroundings – in other words the architectural environment – as incubators of
disease, concurrently discovering it to be an instrument of healing. The relationship
between bad housing and tuberculosis could, previously no more than conjectural,
now be scientifically substantiated, and also be conclusively described, on the
medical front, as a ‘typical housing disease’ (fig. 5). 63

Even though the results of this bacteriological research did not yet lead directly to a
cure in terms of medicine – the triumph of science, and with it the drastic reduction
of tuberculosis first came with the introduction of antibiotic therapy using the drug
Streptomycin by Selman Waksman in 194464 - the knowledge of the paths of
infection meant it was at least possible to trace the factors, which had a positive or
negative effect on the disease. Widely disparate as opinions on the cause of
tuberculosis were before, with Koch’s discovery of the myco-bacillus, he facilitated a
breakthrough of the infection-theory. 65 This meant the silencing, at least in the first
successful phase of bacteriology, of those who believed in the hereditary nature of
the disease (disposition- and hereditary theory). Those not to be silenced were the
social reformers. They were able to refer to the fact that deaths from tuberculosis
diminished with the improvement of the social position of the working class, and had

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63 Ferdinand Hüppe, “Morbidität und Mortalität. Tuberkulose als Wohnungskrankheit”, in: Theodor

64 The treatment of the disease in Germany by penicillin has, since at the latest the nineteen-seventies,
conclusively brought fear of the disease to an end. The sanatoria for tuberculosis sufferers were
already by the 50’s and 60’s being closed one by one. In other countries, the disease does indeed
break out now and again, or is more endemic, yet the awareness of these outbreaks has not yet led
to new anxiety about tuberculosis. That could change with the increasing spread of a new, as yet
antibiotic resistant, tuberculosis germ, which largely appears in the USA. There, the majority of
those to contract the disease are “people who suffer from a damaged immune system or who have
lived under difficult hygienic or socio-economic conditions: Aids patients, the young homeless
and people who are crowded in together.” (“Menschen, die an einer Abwehrschwäche litten oder
unter ungünstigen hygienischen oder sozioökonomischen Bedingungen lebten: bei Aidspatienten,
jungen Obdachlosen und Menschen, die räumlich eingeengt sind.”), in: “Tuberculosis is coming
back” (“Die Tuberkulose kehrt zurück”), Frankfurter Allgemeine Zeitung, 27.07.1994, p. 1, quoted
in: Hans Wilderotter und Michael Dorrman, Das große Sterben. Seuchen machen Geschichte,

65 Christoph Gradmann, “Auf Collegen, zum fröhlichen Krieg. Popularisierte Bakteriologie im
done so a good while before Koch’s discovery of the causative agent. However, according to Sylvelyn Hähner-Rombach in her *Social History of Tuberculosis*, the bacteriologists engendered considerably more support. Her claim is that the bacteriologists accommodated states reluctant for reforms, for, according to their perspective, ‘the outbreak of scourges’ no longer demanded any ‘necessity of questioning social conditions’ and therefore a purely medical combating of the disease was considerably ‘simpler, more cost-effective and politically favourable to fulfil than the demands made by the social reformers, social democrats and unions. At the time, these were: an eight hour working day, promotion of social house building programmes, implementation of trade inspectors, housing supervision, wage raises and cheap food stuffs’. She ends her hypothesis with the conclusion: “a more plausible, so to speak, scientific argument for the rejection of social demands could hardly be desired by states”.

However, this point of view is only partially legitimate; for it was precisely this knowledge about the path of infection that enabled housing to now be declared scientifically and unquestionably a pathological element. Housing and social reformers could now, with medical legitimacy, improve the living standards of the socially deprived classes: the motivation behind the integration of light, air, sun and cleanliness could equally be hygienic-bacteriological or social and life reformist, for the consequences of a thorough improvement of hygiene standards was always also an improvement in living standards. Mosse and Tugendreichs’ *Krankheit und Soziale Lage* (1913), the standard work on this topic, delineates this:

Tuberculosis is first and foremost a dwelling disease, according to the best hygienists in every country, in Germany above all Rob. Koch and Rubner. This agreement between Koch and the main advocates of the Pettenkofer line on hygiene is not only welcome in itself, because it


67 Ibid.


70 Ibid., p. 24.
shows us that the main modus of the tuberculosis infection that is that of dwelling, is generally recognised, but also because henceforth the instances now to be taken into consideration in the fight against tuberculosis can be tackled in a unified manner, above all through housing welfare.  

Die Tuberkulose ist in allererster Linie eine Wohnungskrankheit, so äussern sich die ersten Hygieniker aller Länder, in Deutschland vor allen Rob. Koch und Rubner. Diese Übereinstimmung des Hauptvertreters der Pettenkoferschen Richtung in der Hygiene mit Koch ist nicht nur an sich erfreulich, weil sie uns zeigt, dass der hauptsächlichste Ansteckungsmodus der Tuberkulose, nämlich der der Wohnung, allgemein erkannt ist, sondern weil nunmehr seitens der in Betracht kommenden Instanzen im Kampfe gegen die Tuberkulose einheitlich vor allen durch Wohnungsfürsorge vorgegangen werden kann.

Numerous statistical analyses, principally printed in reference guides on hygiene, were supposed to verify this relationship between housing and tuberculosis. The study of published statistics is however disappointing, since it shows that in most cases the numbers filling the tables cannot prove the connection between housing and tuberculosis. The most vocal critic of this idea is the hygienist, Carl Flügge, who primarily makes the thought-provoking point that the lingering nature of the disease renders the tuberculosis sufferer unable to work long before his death, and that therefore the ill are forced to move into cheap and therefore unhygienic housing, and that this fact alone makes any statistical proof of housing's harmful effect on the health of its inhabitants impossible. In his critical investigation, *Großstadtwohnungen und Kleinhaussiedelungen in ihrer Einwirkung auf die Volksgesundheit* (City housing and small housing estates, and their effect on the health of the people, 1916), Flügge certainly recognises the housing situation as portrayed by the Berlin health authority report, as untenable; nevertheless he argues


72 „We must, through these investigations, come to the conviction that there is in large German cities an exceedingly narrow crowding of housing onto the space allotted for it. Thus stone ‘reservoirs’ of enormous capacity come into being, which in high Summer retain the heat of the day, and in Winter collect between them fumes from thousands of meals. The business of innumerable people flooding in and out of the houses takes place in the street, by means of the greatest variety of forms of transport, which brings with it noise, smells and dangers. In the courtyard industries and trades are set up and fill them with noises that disturb and unpleasant fumes. The air in the streets and courtyards give those that are not used to it breathing difficulties, and the restlessness of the traffic and noise is enervating. Only occasionally do trees or areas of grass break up the sea of houses.
decisively against uncritical generalizations in relation to the connection between the
type of housing (tenement or small house) and tuberculosis. He writes:

On the few occasions that proof is cited, it consists of all sorts of impressively compiled statistical lists, or makes do with always quoting the most recent catchphrases. These are, for example: "The most important diseases, which sap our substance the most, find a breeding ground in the wretched housing conditions of big cities", or "the big city as the real centre of the worsening of the race", or a Rousseausesque phrase will be cited: "Fragility of the body, just as burdening of the soul, as the unfailling consequence of too intensive amassing of people". – This way of handling the housing question has even become the norm not only for popular speeches and pamphlets, but also for scientific treatises. Even in these, numerous unproven claims are put forward and compilations of statistics are used too uncritically. Given the enormous importance in reform of our way of living, it is difficult to understand why the science of hygiene should have made so little effort in this area to formulate questions precisely and produce incontrovertible evidence.73


And it is only after the surmounting of several flights of stairs and long pathways that many families are able to reach the open air, and enjoy nature." ("Wir müssen durch diese Erhebungen zu der Überzeugung kommen, daß in den deutschen Großstädten ein überaus enges Zusammenrängen der Häuser auf dem zur Verfügung stehenden Raum stattfindet. Es entstehen so Steinreservoir von ungeheuern Umfang, die im Hochsommer die Hitze des Tages speichern, im Winter den Rauch aus Tausenden von Essen zwischen sich sammeln; der Verkehr der zahllosen aus den Häusern heraus und in diese hineinflutenden Menschen vollzieht sich in den Straßen unter Benutzung der verschiedensten Verkehrsmittel, die Lärm, Gerüche und Gefahren mit sich bringen; in den Höfen sind Handwerk und Industrie etabliert und erfüllen diese mit störenden Geräuschen und übelen Dünsten. Die Luft in Straßen und Höfen wirkt auf nicht daran gewöhnte Menschen atembeklem mend, die Unruhe des Verkehrs und der Lärm nervenreizend. Nur selten unterbrechen Bäume oder Rasenflächen das Häusermeer; und erst unter Überwindung mehrerer Treppen und weiter Wege gelingt es vielen Familien ins Freie zu gelangen und sich an der Natur zu erfreuen."), in: Carl Flügge, Großstadtwohnungen und Kleinhaussiedlungen in ihrer Einwirkung auf die Volksge sundheit. Eine kritische Erörterung für Ärzte, Verwaltungsbeamte und Baumeister (Jena 1916), pp. 6f.

73 Ibid., pp. 1-2.
According to Flügge, it is primarily housing density and the frequency of being outdoors that are the decisive factors in the health of inhabitants. For him, the enjoyment of light, air and sun is almost more relevant outside the home than inside. He further argues that too much importance in bacterial terms is attached to cleanliness.

At this point it is not possible to adopt an unambiguous position with regard to how harmful unhygienic living conditions or different types of housing were. All that can be established is that evaluations regarding the influence of housing on the health of the inhabitant diverged right from the early years of the twentieth century and that even today\(^74\) there is no certainty as to what might explain the reduction in deaths from tuberculosis from the last third of the nineteenth century onwards:

Social reformers emphasized the improvement in the lot of the lower classes; hygienists the redevelopment of the cities; bacteriologists the prophylaxis and isolation; sanatorium doctors the treatments given.\(^75\)

Although the exact relationship between housing and tuberculosis cannot be verified, the image of unhygienic housing, in particular that of the tenement block, is reinforced as a synonym for tuberculosis and social injustice. The extreme contrast between the stucco glory of the façade and the misery behind were seen as an expression of the double standards of capitalist society. Tenement housing (in


\(^75\) Sylvelyn Hähner-Rombach, ibid., p. 75.
German derogatorily called “Mietskaserne”) now also stood symbolically for the living circumstances of the workers and lowly-paid office workers. The concept of the “Mietskaserne”, housing misery and disease merged into one single notion. Tenement housing, as a pathological manifestation, was continuously cited as the symbolic decay of society. Nevertheless, criticism was mostly limited to the lack of light and air. Exploitative rental conditions, working conditions and wage conditions of the workers and minor employees, were thus forced into the background. Even more, the impression grew that simple architectural change would put an end to the misery. The tenement house remained a symbol of misanthropic architecture, right into the 1930s.  

Social reformers who, like Mosse and Tugendreich, conducted investigations into the relationship between social situation and disease, described tuberculosis furthermore as a disease of the proletariat and called for an improvement in the situation of the working classes and the building of hygienic housing of a small and affordable size. They received support from critical artists such as the painter Heinrich Zille (1858–1929), who aphorised the relationship between housing and disease in the much quoted slogan: ‘You can kill a man with a flat as easily as with an axe!’ (‘Man kann mit einer Wohnung einen Menschen genausogut töten wie mit einer Axt!’).

Astonishingly, the obsession with hygiene, which was universally related specifically to housing, developed against the background of a sinking tuberculosis mortality rate (fig. 6) and against the background of an assumed interdependence of housing and tuberculosis, which through Koch’s discovery was indeed logically comprehensible but nevertheless remained unproven.

One possible explanation for this development might be the fact that World War I dealt a blow to the implementation and creation of hygienic living conditions, leading to a desperate mobilization of all means and measures available to prevent further infections. Even in 1926, Otto Roepke writes under the heading “Volksgesundheit in Trümmern. Stirb und Werde” (The Health of the Population among the Wreckage. Die and Become):

76 Cf. Werner Hegemann, Das steinerne Berlin. Geschichte der größten Mietskasernenstadt der Welt,
In the world war, Germany sustained 1.8 million dead out of the most healthy and able-bodied section of a population of 65 million. Of around 4.25 million wounded and diseased, a large proportion sustained long term damage to their health. The fall in births due to the war is equivalent to not a single child being born for a whole year and a half. The youth that were born during the war are in part physically inferior. Rickets with permanent crippling as a result, pollution diseases, sinus catarrh, and scrofulosis have shown a large increase. (...) In particular among older schoolchildren, even in the year 1925, rather a decline in development may be evinced.  


Thus, the war putting the hygienic movement on a hold, certainly acted as the driving force to put major efforts in any promising project combating infectious diseases – even before the background of a generally sinking tuberculosis mortality rate. Although this is difficult to prove, it might also be true that hygienists saw their influence declining and therefore became all the more determined to make themselves indispensible.

Nevertheless, the promotion of the way of tuberculosis infection, even if only pseudo-scientifically authorized, led to new hygienic directions in relation to architecture. At least in theory, by the end of the nineteenth century, these hygiene factors began to be integrated into the building of hospitals. In the section (Berlin 1930).

78 For the role of hygiene in British hospital design (ventilation, southern exposure and other hygiene requirements) in the 18th and 19th century cf. Christine Stevenson, Medicine and Magnificence. British Hospital and Asylum Architecture 1650-1820, (New Haven, London 2000). For further
“hospitals” of the Handbuch der Architektur (Architecture Handbook) of 1897, the following demands are made for rooms for the ill on the basis of Koch’s discovery: prevention of dust accumulation by way of avoiding three-dimensional surfaces, corners, and dust producing materials, i.e. those, which were porous. Stone, iron and glass were favoured as anti-microbial building materials. The window, as a means certain to fulfil the demand for sunlight and air, took on an important role, alongside the designing of the building to face south. A light coating on the walls and fully washable inner furnishings with smooth surfaces would supposedly ensure the obligatory cleanliness.

The long process of integrating these hygienic criteria into housing and house architecture will be presented in the following sections. The sanatorium – as a kind of amalgamation of house and hospital – should hence function as a prototype of hygienic building. As is clear from the caricatures of Thomas Theodor Heine (1867–1948), already by the early years of the twentieth century, the sanatorium, as a kind of “better housing”, represented the first escape from wretched and unhygienic living conditions. Consumptive children with skeletal frames are comforted by their parents with the phrase, “when you’re older, it’ll be the better for you. Then you’ll be allowed into the lung sanatorium” (fig. 7).

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information on development of German hospital design cf. Axel Hinrich Murken, Geschichte der Krankenhaushygiene, (Herzogenrath 1990).


80 “Today the window, as provider of light and air, is regarded as one of the most essential elements in the sick-room, and gives it the position, size and shape such that it can fulfil this purpose”, (“Heute hält man das Fenster als Spender von Luft und Licht für eines der wesentlichsten Elemente des Krankenraumes und gibt ihm eine solche Lage, Größe und Form, daß es diesen Zweck erfüllen kann.”), in: Oswald Kuhn, ibid., p. 358.

81 Thomas Theodor Heine, caricature: Berliner Wohnungsleidend – “Wenn ihr groß seid, kriegt ihr es um so schöner. Dann dürft ihr ins Lungensanatorium.“ (Berlin’s wretched living conditions – “When you’re older, it’ll be the better for you. Then you’ll be allowed into the lung sanatorium.”), in: Simplicissimus, year 17, Nr. 11, 10th of June 1912.
1.3. The sanatorium as a hygienic architectural type

Up until Koch’s discovery, tuberculosis therapy had largely been derived from empirical methods such as the open air cure (Freiluftkur), open air rest cure (Freiluftliegekur), high altitude cure (Höhenkur) and heliotherapy (Heliotherapie). In the middle of the nineteenth century, the German doctor Hermann Brehmer (1826-1889) introduced the open air cure, thereby laying the foundation stone for the first promising tuberculosis treatment. He claimed to improve the bodily condition of his patients through a combination of a healthy diet and lots of fresh air. After prolonged negotiations with the authorities and with the support of Alexander von Humboldt, the building of the first large sanatorium began in 1863 in Görbersdorf (Schlesien). This entailed the creation of a set of basic principles for healing. Brehmer’s pupil and later the leader of Falkenstein (in Taunus), the first German ‘Volksheilstätte’ (people’s cure centre), Peter Dettweiler (1837-1904) developed the idea of the open air rest cure further. He had a rest hall built at the south end of the main building of his clinic. There his patients were made to lie on woven loungers for up to ten hours a day in the open air. This type of cure helped control the patients, since only an open air rest cure taken following exact instructions could carry any hope of success. The basic principles of the “Brehmer-Dettweiler” rest cure formed the basis of every tuberculosis therapy in a sanatorium until well into the twentieth century, and even though further elements were gradually incorporated into the treatment, the rest cure always remained an integral part.

The Swiss doctor Alexander Spengler, practising in Davos, also made an important contribution to modern tuberculosis therapy. He noticed that the climate at high altitude often led to a rapid recovery from tuberculosis. From 1865, patients were treated in his care even during the winter months. The basic attributes of the high altitude cure were similar to Hermann Brehmer’s cure. Therapy methods were based on an ample supply of

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82 Brehmer believed amongst other things in the effects of the “immune place”: in a place, in which tuberculosis could not exist, the disease must also be curable. Cf. Quintus Miller, Das Sanatorium. Entstehung eines Prototyps der modernen Architektur, Exhibition Catalogue GTA Zürich, (Zürich 1992), p. 9.

sunlight, fresh air and good nutrition.84 No substantial architectural changes were necessary to carry out these treatments and most sanatoria were scarcely different from a spa or hotel. After the breakthrough in bacteriology by Robert Koch in 1882, the existing empirical concepts for therapy were, around the turn of the century, widened to include elements of the science of bacteriology, which at the time was still in its infancy. Hospital hygiene came to the fore in the building of centres for healing. Direct access to sun and air from all rooms, fittings that could be cleaned and disinfected and furniture with a like design, were decisive factors in the architecture. The example of the medical doctor Karl Turban practicing in Karlsruhe is a graphic depiction of this relationship. He was one of the first to make the link between the criteria for hygiene in hospitals and prevailing tuberculosis therapy methods, and to implement them practically as well as theoretically.

1.3.1. Karl Turban: Concept for the building of a tuberculosis sanatorium in England (1903)

Director of his own tuberculosis sanatorium in Davos Platz since 1888, Turban had gathered experience in the field of tuberculosis therapy, and work in Robert Koch’s Institute in Berlin gave him a greater understanding of the role of bacteriology in hospital hygiene. Turban extended the concept of open air cures carried out in specially constructed rest halls, to include the fledgling science of bacteriology and therein placed primary emphasis on the bacteriological aspect in tuberculosis therapy and the building of sanatoria.85

He presented the core ideas to emerge from the results of hygiene research in his 1893 work Normalien für die Erstellung von Lungenheilstätten in der Schweiz (Norms for the construction of pulmonary tuberculosis sanatoria in Switzerland).86 In this work, he mainly discusses the ‘choice of location’, the ‘concept of the arrangement of the sanatorium’ and the ‘way of daily operation’. Turban considered

85 Ibid., p. 10-14.
the high altitude of the Swiss Alps to be the most essential component of a therapy. For its most complete realization, a sanatorium should only be built on a sunny plateau or in a mountain valley, free from mist and open to the south but protected by the mountainous terrain on all other sides. Furthermore, a dry subsoil and proximity to a good water source were of importance. The main house frontage must face south, although after a careful study of local sun and wind conditions, a slight angle towards southwest or southeast should not be ruled out. Turban agreed with the general practice of most sanatoria at the time that the most important instrument in an open air cure was the rest hall. This was the patients’ day room, in which they would spend up to twelve hours a day, and so its main function was to afford protection against wind and weather and present a sunny, south-facing aspect. The bedrooms must be planned, according to Turban, to allow at least a few hours of direct sunlight a day. Turban did not, however, recommend balconies in front of each bedroom because he considered the rest hall would entirely replace the need for these. He demanded doors extending to the ground to replace ordinary windows in order to allow increased airflow. Additional top-hung windows, which could be tipped open over a horizontal axis, should be present in every room. On the subject of interior furnishing he writes:

Walls, ceilings, doors and windows must be as smooth as possible, avoiding all decoration, hollow moulding etc.; in place of sharp edges and corners in the walls, blunt or rounded ones should be set. All walls, ceilings and floors should be painted with an oil paint or washable varnish, and if the means be there, then floors should be covered in linoleum, foremost in the bedrooms. 87

87 Ibid., p. 239.
Turban then discusses making all furniture easily washable by using varnish or oil paint and as far as possible removing all curtains, carpets and other textiles. Finally, he draws attention to the necessity of a strict cleaning of the rooms and, on the part of the doctors, the constant supervision and education of the patients in this matter. Assimilation of a proper, hygienic way of life was, in Turban’s view, an integral factor in the therapy. Thus, eleven years after Koch’s discovery, Turban’s treatise was the first to draw up guidelines for the construction of an architectural type, which would be capable of integrating the essential elements in tuberculosis treatment: light, air, sun and cleanliness.

Three years after Turban, the Viennese architect Otto Wagner (1841-1918) expresses these ideas similarly in his publication *Modern Architecture* - in relation to the contemporary aesthetic not of hospitals, but of housing. He writes:

There are two conditions, demanded by modern man that can be considered to be criteria: **THE GREATEST POSSIBLE CONVENIENCE AND THE GREATEST POSSIBLE CLEANLINESS.** All attempts that do not take these postulates into consideration can only lead to something of no value, and all artistic productions that are not consistent with those rules will prove incapable of living. Examples of this are legion. Inconvenient staircases; everything unmanageable, impractical, hard to clean; everything structurally wrong; all objects that are difficult to manufacture, in which, therefore, the appearance does not correspond to the cost of production; all furnishings insufficiently hygienic, furniture with sharp corners, chairs that do not fit the human form and the specific use of reading, eating, smoking or entertaining, all impractical objects of “applied art”, even if born of the greatest masters, and so many other things fall into this category. It does not matter in this regard whether these objects are created for the palace or the simplest middle-class dwelling. 88

Zwei Bedingungen sind es, welche als Kriterien zu gelten haben und welche die moderne Menschheit fordert: **GRÖSSTMÖGLICHE BEQUEMLICHKEIT UND GRÖSSTMÖGLICHE REINLICHKEIT.** Alle Versuche, diese Postulate nicht zu berücksichtigen, bleiben erfolglos und alle Kunsterzeugnisse, welche diesen Regeln nicht entsprechen, tragen den Todeskeim in sich. Beispiele hierfür sind Legion. Unbequeme

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88 Otto Wagner, *Modern Architecture*, (Vienna 1902), p. 116. Translated by Harry Frances Mallgrave, Santa Monica 1988. Unfortunately, in the Mallgrave translation, the German “Todeskeim” (germ of death) translates into “something of no value”. This is particularly unfortunate since it is very likely that with “Todeskeim” Wagner refers to the tuberculosis bacillus.
In Wagner's architectural work the issue of hygiene plays an important role. This is particularly evident in his buildings and plans for the Lupus Sanatorium (1910-13) the Höhen- und Sonnenheilstätte (high altitude and sun sanatorium) Palmschloss near Brixen (1914) and the mental hospital Am Steinhof with its church St. Leopold. With the design of latter Wagner went as far as to provide the stoup with running water to avoid infections. For easy cleaning he lowered the floor towards the altar. On the Vienna Jubilee Exhibition of 1898, Wagner payed tribute to the cult of cleanliness by presenting a bathroom with a transluscent bath tub made of glass.

Turban’s attempts to establish an architectural type that would entirely support the process of treatment of the tuberculosis patient, becomes even more evident in his competition entry for the design of a tuberculosis sanatorium in Midhurst, England in 1901. The Concept for the building of a tuberculosis sanatorium in England (Entwurf für die Errichtung eines Tuberkulose-Sanatorium in England) was published in the paper ‘Tuberculosis’. Together with the Zurich hotel architect Jacques Gros, Turban presented a forward-looking project, in which he demonstrates how

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91 “The competition task was to construct a sanatorium for 100 patients: 50 male and 50 female, 12 well-to-do and 88 without means. Every patient would have his own room, the well-to-do would expect to meet with a greater degree of comfort; the location of the sanatorium was yet to be decided.” (“Im Preisausschreiben war die Aufgabe gestellt, eine Anstalt für 100 Kranke, 50 Männer und Frauen, 12 Wohlhabende und 88 Unbemittelte, zu konstruieren. Jeder Kranke sollte sein eigenes Schlafzimmer haben, für die Wohlhabenden sollte ein größerer Komfort in Aussicht genommen werden; der Platz für die Anstalt war noch nicht gewählt.”) Karl Turban, ‘Entwurf für die Errichtung eines Tuberkulose-Sanatoriums in England’, published in Tuberkulosearbeiten aus Turbans Sanatorium (Davos 1909), where Turban published this competition entry for a second time in; pp. 245-267. For the first time, Turban’s concept was published in: Tuberkulosis, Vol. LI, no. 7, 1903.
92 Cf. Karl Turban, Tuberkulosearbeiten aus Turbans Sanatorium, (Davos 1909).
hygienic criteria determine an emerging architectural type (fig. 8a-d). Whilst retaining the general principles documented in his Norms of 1893, an almost revolutionary new element has been added, which primarily concerns the living rooms and bedrooms of the patient. Although these were of relatively small importance in the Norms, by 1901 he comments:

Air and light must have the greatest imaginable access to the living rooms and bedrooms, and for this reason in all these rooms the south-facing wall in its entire length consists of moveable glass walls, which, when necessary except for several narrow, vertical iron rails, to which they are firmly attached, can be entirely removed: in the ground floor rooms through sinking into the basement, in the bedrooms through opening back onto the side walls.\(^93\)


Owing to this system (fig. 9), the whole room can be transformed into an open veranda and the problem of shadowy rooms due to a balcony placed in front of the above window can be wholly circumvented. A transom situated above the door and giving onto the corridor, guarantees effective cross ventilation of the rooms even when the door is shut. The refectory also has a moveable, south facing glass wall, which can sink into the floor. The rest halls, which are now fitted with an angling device so they may be turned according to the direction of the sun, remain the central place for the patients’ cure.

The increased importance of the actual sickroom is underlined by Turban’s exceptionally detailed sketch in the competition entry design. Noticeably modern elements are the white varnished, washable, steel-tube furniture. Door and window handles are left undecorated and formed out of smooth metal so that, according to

\(^{93}\) Ibid., p. 248.
Turban, absolutely every interior design object is "characterized by its smooth, simple, yet beautiful form":

[The furniture] should be both hygienic and comfortable. Tables, washstands and bedside tables are topped by a sheet of glass; drawers, which are difficult to keep clean, must if possible be dispensed with; only beneath the sheet of glass of the wash-stand and the bedside table there is a small glass drawer. In place of a chest of drawers, there are shelves in the wardrobe, which can be removed for cleaning. 94

[Die Möbel] sollen zugleich hygienisch und komfortabel sein. Tische, Waschtische und Nachttische haben Glasplatten; Schubladen, die schwer rein zu halten sind, müssen möglichst vermieden werden, nur unter der Glasplatte des Waschtisches und des Nachttisches befindet sich eine kleine offen laufende gläserne Schublade. An Stelle der Kommodenschubladen treten offene Fächer im Kleiderschrank, die zur Reinigung herausgenommen werden können.

To enable easy cleaning and sufficient circulation of air, all pieces of furniture stand on tall legs. The bed is so formed that the patient never lies in direct proximity to the wall; Turban emphasizes that in this way neither dirt nor other 'unclean things' can accumulate (fig. 10).

This ideal project, entirely consistent with Turban's therapeutic requirements, was never carried out. However, the publication of the design vividly illustrates the persisting influence of hygienic criteria on the architecture of the sanatorium. And finally light, air, sun and cleanliness had become the determining factors in the architecture of the sanatorium. 95 However, in the case of Turban, there is a paradoxon: Inspite of incorporating hygienic criteria, the overall asthetic remains oldfashioned concerning both, the interior design (drawing by Hofmöbelbabrikanter A. Dietler, Freiburg im Breisgau) and the exterior by the Swiss architect Jacques Gros (1858-1922). Based in Zurich, Gros was one of the most typical architects of hotels96,

95 Cf. Quintus Miller's catalogue to the exhibition 'Das Sanatorium', GTA Zürich (Zürich 1992). Using the example of the Schatzalp Sanatorium in Davos, Miller describes the emergence of the prototype of modern architecture.
96 His most famous architectural work is the Grand Hotel Dolder (1897-1899) in Zurich, which still exists today. Cf. Hochbauamt d. Stadt Zürich (ed.), Historismus. „Nostalgie des 19.
country houses and chalets built in the historistic "Schweizer Holzbaustil". His
estate holds architectural drawings that pay more attention to decorative motives than
to the actual architectural project. All this hints to the fact that Karl Turban did not
consider it necessary to visually strengthen the integration of hygienic criteria by
means of a certain architectural style. The question of hygiene had not yet become a
question of style. And yet, in the context of the early twentieth century, the 'hygiene
doctrine' used in the architecture promoted by Turban and his contemporaries hailed
a new sensibility towards the integration of health matters into the field of
architecture. This gradually developed into its own aesthetic, demonstrated in
exaggerated form by Turban's design for a hygienic staircase (fig. 11) and the
introduction of a three-pronged, easy to clean fork. Gradually hygiene itself would
become a stylistic factor used to represent cleanliness and modernity by evoking the
incorporation of the latest scientific and medical research.

Turban's example was repeated hundreds of times in Germany, and from the turn of
the century sanatoria sprang up everywhere (cf. images reproduced in Deutsche
Lungenheilstätten, fig. 12a-f). Incredibly, this occurred despite the knowledge that
although in a few, individual cases there was some successful treatment, no general
recovery from tuberculosis was achieved. Even studies undertaken by doctors and
sanatorium sponsors to statistically prove the efficiency of the cures, could not
remove doubt as to the effectiveness of the treatment. Robert Koch too, believed
therapeutic treatment in a sanatorium to have little effect. He instead pleaded the case
for an early isolation of the patient. However, there was no real alternative to the
sanatorium and one reason for the prevailing ignorance about the actual chances of
success of a sanatorium cure may simply lie in a general helplessness in the face of a

99 Karl Turban, "Entwurf für die Errichtung eines Tuberkulose-Sanatoriums in England", in:
100 Cf. F. Prinzining, Handbuch der medizinischen Statistik, 2nd fully revised edition, (Jena 1931),
pp. 478-480, quoted in: Flurin Condrau, Lungenheilanstalt und Patientenschicksal, (Göttingen
2000).
lethal infectious disease. On the other hand, the insurance companies who were usually the main sponsors of the sanatoria, had a vested interest in delaying the death of the insured person for as long as possible, so as to avoid having to pay an early pension to the survivors, or if the patient could not be healed, then in at least making sure that he would be well enough to return to work in as short a time as possible.\textsuperscript{101}

The most important reason for the continuing survival of the sanatorium as sole therapeutic method despite such limited success in treatment right into the 1940s, was that it fulfilled its role in popularising a hygienic culture as part of a modern health system. The educational function belonged to the basic conception of the sanatorium. One part of this was teaching necessary changes in personal behaviour to prevent epidemics and reduce the risk of transmission. Another part was teaching a lesson in general hygiene to both the patient and his next of kin. The sanatorium served the purpose not only of allowing the doctor direct access to the body of the patient, but also to his morals:

If the sanatoria are to reach their educational goal, in which patients in their care return to the family and function as apostles of a healthy way of life, then it is time that in first place the public insurance institutions (Landesversicherungsanstalten) make their choice of patients for the sanatoria not only along medical lines, but at the same time according to their moral standing.\textsuperscript{102}

Darum wäre es an der Zeit, dass in erster Linie die Landesversicherungsanstalten die Auslese der Kranken für die Heilstätte nicht allein nach medizinischen, sondern gleichzeitig auch nach moralischen Gesichtspunkten treffen, sollen die Heilstätten ihr pädagogisches Ziel erreichen, dass ihre Pfleglinge als Apostel einer gesundheitsgemässen Lebensweise in Familie und Beruf zurückkehren.

The methodical teaching of patients included education in domestic and clothing hygiene, healthy nutrition, cleanliness, regularity and order. Everything pertaining to the conveyance of a hygienic way of life was frankly declared to be the job of the sanatorium. In some places the medical aspect of hygiene was neglected in favour of

relevant everyday knowledge, as in the example of the “Krankenheim Görbersdorf”, founded in 1894 by Dr. Weicker. In this sanatorium a resident teacher was employed to teach far more than merely how hygienic behaviour serves as a prophylaxis against infection:

The little positive knowledge and ability the sanatorium impart to a patient during an average stay of 13 weeks, is at the same time a means to the end of affecting thought, sense and will, which should exert an educational influence on his entire personality. Every experienced person knows that in order to bring about a decisive influence on an existence a single strong impression, often over a period of but a few minutes, suffices. Who would maintain that this could not happen during a stay at a sanatorium, where in any case suffering renders the patient more susceptible to repent and mend his ways?

It was no longer so important whether the treatment actually had a healing effect. If “thought, sense and will” were successfully influenced during the stay in the sanatorium, then the task of treatment was deemed to be fulfilled. The battle against tuberculosis took over a very effective and central role in general education about hygiene.

The transition of this seemingly specific educational content to a general and comprehensive education of patients in a bourgeois, hygienic way of life took place fluidly. Following the discovery of the tuberculosis pathogen, it was possible to identify the ‘bacillus carrier’, which often became an expression of blame. A lack of


hygiene, alcohol consumption, and in general a lacking 'sensible' i.e. 'bourgeois' way of life were seen as the cause for an outbreak or worsening of the disease. The sanatorium transported the socio-political education of society's underclass into the realm of bourgeois morality.

1.4. From the sanatorium to the residential house

During the period from Koch's initial discovery of the tuberculosis pathogen until the late 1920s, a progression in the understanding of the concept of hygiene can be clearly noted. Hygiene increasingly shifted away from the province of medical and microbiological specialization into the sphere of simplified, popular science, capable of being understood by the general population. In architecture, this development was characterized by the transfer of those hygienic design criteria, which were originally purely called for in hospital and sanatorium architecture, also to residential housing. Although hygienists such as Flügge, Dammer and Weber had drawn up detailed guidelines on hygiene in the home as early as 1889, these were at first only implemented in sanatorium architecture. The change began in the years preceding the First World War. The number of tuberculosis sufferers had increased so dramatically that the German Empire, already drastically weakened in its domestic economy, was forced to search for purely economic reasons for an alternative to the sanatoria, which were only able to absorb a limited number of patients.

Not only was it impossible to treat all tuberculosis sufferers in sanatoria, but also the realization that the return of the successfully treated patient into his unhygienic, daily environment would remove all the successes of the therapy, drew attention to the residential house. The daily living environment of the individual increasingly came

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104 C. Flügge, Grundriss der Hygiene, (Leipzig 1889); O. Dammer, Handwörterbuch der Gesundheitspflege, (Stuttgart 1891); Th. Wheyl, Handbuch der Hygiene, vol. 1, (Leipzig 1912); L. Weber, Handbuch der Hygiene, vol. 4, (Jena 1896). These guidelines closely resemble those required in the architecture of the sanatorium: plenty of light, air and sun, large windows, roof terraces, balconies, in short every conceivable way of spending time outdoors, aiding cooling, a place for disposing of dust created through work or simply a place, which makes the daily sunbathe possible. In reference to the interior room, the same criteria apply as with Turban: antimicrobial materials, removal of textiles and a light varnish of all furniture, walls and ceilings. And
to be designed and equipped so as to comply with advancing clinical requirements from a hygienic point of view. In 1913, E. Wernecke made the following demands under the title: “Housing and its influence on disease and fatality”:

And however important a role sanatoria play in the battle against the epidemic, they do not target the core and true source of the evil of the spread of tuberculosis. Why the biggest, perhaps even the only danger of contagion is presented by the sufferer with tuberculosis cough in the advanced stage of the disease, who mostly dwells in one miserable room with all his family members and lodgers (Schlafburschen) and is constantly spraying them all with contagious particles. (...) Robert Koch pointed in particular to the elimination of this great danger and demanded that the main tuberculosis carriers should be taken out of their living quarters and be placed into hospitals, and if possible into tuberculosis hospitals. But their number is so great, how can so many hospitals be found? And before these sufferers go to the hospital, they have had months and years to infect all their fellow living companions. For this reason Rubner’s words contain great truth: “The hope of the future does not lie in the never ending construction of hospitals, but in the construction of houses for the healthy.”


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not least of all, hygienists lay a lot of value on personal hygiene, from bodily hygiene and sanitary fittings to the public bath.

The publication “Das Freilufthaus – Ein neues Bausystem für Krankenanstalten und Wohngebäude” (The ‘Open Air House’ – A new architectural system for sanatoria and housing) came into circulation in the same year. In publishing this paper, the author, a Berlin doctor called David Sarason, thus underscored the moment, at which the medical faction explicitly began to demand the adoption of the hygienic measures used in hospital and sanatorium architecture into the architecture of residential housing.

1.4.1. David Sarason: The Open Air House (1913)

David Sarason\textsuperscript{106} was a pupil of Robert Koch and Rudolf Virchow,\textsuperscript{107} and from the very beginning of his studies he had been concerned with hospital hygiene and tuberculosis therapeutic methods. He was one of the first students of medicine to come into contact with bacteriological hygiene, a branch of science that was just beginning to establish itself at the time. In 1890, he submitted his doctorate on the subject: \textit{Über die Funktion der Haut} (The Functions of the Skin)\textsuperscript{108}. Out of this study came the realization that the air in a chemical relation to the body is not the decisive factor in a person’s health, but rather the movement of air around the body\textsuperscript{109}. He

\begin{flushleft}
\textsuperscript{106} David Sarason, born 28.2.1868 in Schubin, Posen, son of Jacob Sarason, cantor and teacher of religion in the Jewish community in Stettin. (dates taken from David Sarason’s curriculum vitae in his dissertation \textit{Über die Funktion der Haut} (The Functions of the Skin), (Berlin 1890).

\textsuperscript{107} Rudolf Virchow (1821-1902). The liberal social hygienist and committed Bismarck opponent was a member of the German Reichstag at the time of Sarason’s studies (1880-1893). Virchow’s political engagement is honoured by Arnold Bauer in \textit{Rudolf Virchow, der politische Arzt} (Rudolf Virchow, the political doctor), (Berlin 1982). He writes: “His basic postulate in communal politics was the protection of the right of the individual citizen to live a ‘healthy existence’”. Virchow’s main goal was to make Berlin a clean and healthy city. His political health demands, which he repeatedly brought before the city parliament and the magistrate can be summarized in the following words he always used: “Light, air, water, housing, schools, education, prosperity and freedom for every citizen”.

\textsuperscript{108} David Sarason, \textit{Über die Funktion der Haut}, (Berlin 1890).

\textsuperscript{109} “I wish to briefly refer to the fact that the new hygienic direction, based on these studies, is contrary to the fairly well spread general impression that the value of fresh air is identical to its chemical purity and oxygen content. The new hygienic direction does not see the reason for our contentedness in the open air in these factors, but in the factor of the cooling of the body (...), which is a result of the movement of the external air” (“Ich will nur ganz kurz andeuten, daß die auf diesen Studien beruhende neuere hygienische Richtung, im Gegensatz zu der heute noch ziemlich allgemein verbreiteten Vorstellung, daß der Wert der Frischluft mit ihrer chemischen Reinheit und ihrem Sauerstoffgehalt identisch sei, den Grund unseres Wohlbefindens in der freien Atmosphäre nicht in diesen Faktoren erblickt, sondern nur in der Entwärmung des Körpers (...) infolge der Bewegtheit der Außenluft.”); in: David Sarason, \textit{Freilufthaus}, (Munich 1913), p. 14.
\end{flushleft}
converted this discovery into architectural practice with the help of Berlin architect, Gustav Bähr. The immediate cause for his intensive involvement with architecture as an instrument of healing was the competition to design the King Edward Sanatorium in Midhurst, the same competition, which had inspired Karl Turban in designing his ideal type.

At the time of his initial design for the tuberculosis sanatorium in England, Sarason’s dual training in the fields of hygiene and medicine and his experience as medical director of the Thiergarten Sanatorium in Berlin, reveal him to be an experienced tuberculosis doctor, who is entirely convinced with value of the healing powers of sun, light and air on the human organism. Unlike Turban, whose particular emphasis is on direct sunlight striking the tuberculosis patient, Sarason’s emphasis is, as mentioned before, on the effect of moving air over the skin of the patient. For this reason, Sarason postulates an outdoor therapy, which can be taken whilst remaining in direct contact with the sickroom. Diverging from Turban, who transforms the whole sickroom into a type of loggia by using glass walls that can sink into the floor, Sarason uses his specialist knowledge not only to require interior rooms to fulfil an hygienically impeccable standard, but also to call for the creation of exterior rooms attached to every storey of the house. These requirements create a many storied, terraced building type that is staggered from floor to floor, which Sarason develops with the architect Gustav Bähr. Each storey should be set back from the one below by 1 to 1.5 metres, and on the terrace areas, which are thereby created, the balcony overhang should be extended by a further metre. In this way, the entry of light and circulation of air in the rooms below is in no way compromised, and in addition, 2 to 2.5 metre deep exterior rooms are created. On each storey at least half the floor area is exposed to the open sky. According to Sarason, only a system designed in this way

110 This information is taken from David Sarason’s publication: Über Wasserkuren im Rahmen der wissenschaftlichen Heilkunde, (Berlin 1901).

111 The name of the architect only appears on the plans for the terraced houses. Sarason himself does not mention him.
can “really guarantee a proper open air cure” immediately adjacent to the sickroom.¹¹²

Sarason comments that the competition entry, which was subsequently submitted in England in 1901, was still incomplete so that no prize could be awarded to it. However, the architect who was then given the job of building the sanatorium adopted Sarason’s terrace type:

(...), without however emphasizing and crediting the fundamentally new element of the terrace house in the detailed, printed description lying in front of him, yes, without even imagining its true significance and labelling it as something especially essential and extraordinary.¹¹³

(...), ohne freilich in seiner ausführlichen, gedruckt vorliegenden Beschreibung des Baues das fundamental Neue des Terrassenhauses gebührend in den Vordergrund zu stellen, ja ohne überhaupt nur seine Bedeutung zu ahnen und es als etwas besonders Wesentliches und Außergewöhnliches zu kennzeichnen.

In the period between 1901 and 1913, Sarason worked relentlessly on perfecting his system and took every opportunity of displaying his purely architectural plans and models to a jury consisting predominantly of doctors. In 1902, for example, he presented his architectural concept as a ‘terrace system’ (Terrassensystem) at the “1st International Tuberculosis Conference” in Berlin. Five years later, Sarason spread his ideas in the form of a lecture at the “7th International Congress for Hygiene and Demography” in Berlin.¹¹⁴ With an improved system and the new name ‘Freilufthaus’ (‘Open Air House’), a name more suited to its proper function, his plans were awarded the gold medal in 1908 at the “International Tuberculosis Conference” in Washington D.C. Furthermore, Sarason is named as an exhibitor in the section ‘Settlement and Housing’ of the “International Exhibition of Hygiene, Dresden” in 1911, and at the subsequent “3rd International Congress for Housing

¹¹³ David Sarason, *Das Freilufthaus*, (Munich 1913), p. 117.
Hygiene", Sarason’s design was paid tribute to as a ‘revolutionary reform idea’. His statements in the subsequently published congress report concerning the use and construction of the ‘open air house’ anticipated, albeit in truncated form, the contents of the final publication in 1913. This was the year of the tuberculosis conference in Berlin and for the first time, Sarason revealed his by now perfected system to a wider public, using the title “Das Freiluflhaus. Ein neues Baussystem für Krankenanstalten und Wohngebäude” (The ‘Open Air House. A new architectural system for sanatoria and residential houses’), the doctor delivered, over 122 pages, a comprehensive justification for his architectural system on hygienic, tectonic and economic grounds (Fig. 13).

An expert on housing hygiene, Hans Christian Nußbaum, supported him in this undertaking with his contribution “Construction and Design of the open air house” (Bauliche Gestaltung und Ausstattung der Freiluflhauses). The structural engineer Heinrich Becher clarified the technical details, and the authority concerned with the practical implementation of the project, tuberculosis doctor, Bardswell, director of the King Edward Sanatorium that was also constructed in the terrace style, reported from his experience with this particular architectural type. The latter also explained the medical foundation of Sarason’s system.

As is already clear from the subheading “A new architectural system for sanatoria and residential houses” (Ein neues Bausystem für Krankenanstalten und Wohngebäude), Sarason makes the decisive step of transposing the founding principles of sanatorium architecture to the housing requirements of daily life. His plans, moreover, contain designs on the basis of the basic type of the ‘hospital’, in

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115 Stadtrat Friedrich Eugen Hopf (ed.), *Bericht über den III Internationalen Kongreß für Wohnungshygiene in Dresden*, (Dresden 1912), from 2nd to the 7th Oktober, pp. 242-246. The opening meeting took place in the presence of King Friedrich August III. of Saxony. The honorary committee included: Theodor Fischer (Technische Hochschule Munich), Karl Flügge (Director of the Hygiene Institute of the University of Berlin), Hans Christian Nußbaum (Technische Hochschule Hannover), Bernhard Kampfmeyer (Director of the German Garden Society, Berlin), Geheimer Oberbaurat Josef Stübben, Berlin, Geheimer Medzinialrat Max Rubner, Berlin.

116 Cf. “A certain and at the same time practical means to housing hygiene for the masses” (“Ein sicherer und zugleich gangbarer Weg zur Wohnhygiene der Massen”), in: ibid., pp. 243-246.

117 Hans Christian Nußbaum was the Professor of Hygiene at the Technische Hochschule Hannover in 1913. He published the following in the field of housing hygiene: *Die Hygiene des Wohnungswesens*, (Leipzig 1907); *Das Wohnhaus und seine Hygiene*, (Leipzig 1909).
which the same hygienic criteria underlie both the sanatorium and the residential house (fig. 14 a-e).

According to Sarason, his terrace system produces smaller-sized flats, which represent the ideal hygienic and economic compromise between the heavily disputed system of tenement housing and the economically nearly unviable principle of the family house.\textsuperscript{118} The staggering of the individual storeys would enable the construction of multi-storied housing, which would yet display all the advantages of the single storied house. Furthermore, the sloping cubic form would make far greater sun and air penetration possible, remaining unhindered by the upper storeys and by the houses opposite.\textsuperscript{119}

Sarason’s design for a five storey residential workers’ block includes a front wing of fifteen residential flats (three per floor) and a side wing of twenty flats (four per floor). The flats are each equipped with kitchen (with direct access on to a balcony or terrace), ventilated storage room, toilet\textsuperscript{120}, corridor and one to three rooms. Most of the exterior walls consist of windows. Windows to both sides of the flat enable the cross ventilation (Querlüftung) demanded by architects and hygienists of the 1920s. Eight of the flats in the front wing have both a balcony \textit{and} terrace. As a result of the staggering of levels, the difference in size of the individual flats is up to 18 square

\begin{itemize}
\item \textsuperscript{118} David Sarason, \textit{Das Freilufthaus}, (Munich 1913), p. 37.
\item \textsuperscript{119} "There is no room for plots of garden at the front of the house due to the larger surface area of the ground floor, the terrace balconies should replace these with hanging gardens. The staggering of the higher storeys of the house automatically reduces the prescribed smallest permitted distance between opposite houses (in the case of the ‘Freilufthaus’ with a building height of ca. 23 metres, the distance between the front wing and the side wing in the courtyard is 12 metres and 18 metres at the fifth storey). This in turn would, according to Sarason, make the building of narrower residential streets possible and therefore land could be used more profitably", ("Für Vorgärten bleibt aufgrund der größeren Grundfläche des Erdgeschosses kein Platz, die Terrassenbalkone sollen diese durch hängende Gärten ersetzen. Durch die zurückgesetzten Obergeschosse der Häuser vermindert sich automatisch der vorgeschriebene Mindestabstand der gegenüberliegenden Häuser (bei einer Gebäudehöhe von ca. 23 Metern beträgt beim Freilufthaus der Abstand zwischen Vorderhaus und Quergebäude im Hof 12 Meter und in der fünften Etage 18 Meter). Dies wiederum, so Sarason, begünstige der Erbauung schmaler Wohnstraßen und die Erschließung des Geländes würde dadurch bedeutend ertragreicher."). in: David Sarason, \textit{Das Freilufthaus}, (Munich 1913), p. 38.
\item \textsuperscript{120} No ventilation evident in the plan.
\end{itemize}
metres. The smallest flat in the side building is a one room flat of 45 square metres, in which the exterior room adds another 18 square metres to its dimensions. Although the relatively large terrace compensates for the loss of interior space during the warmer months, in winter, this signifies a considerable loss of space. The flat is therefore too expensive in proportion to the area of living space usable all year round. Sarason, however, calculates every exterior room of the terrace balcony to be part of the “usable living space”, as only in this way is a reduction in building costs in proportion to other houses possible. He justifies the loss of area by pointing out the ease and speed of cleaning of such a small flat. This is the basis for saving time, money and effort on the part of the inhabitant. Finally, he interrelates the phenomenon of the small flat into the seemingly causal interrelation “housing hygiene, minimum of space, cleanliness, money” (“Wohnungshygiene, Minimum an Raum, Sauberkeit, Geld”).

Sarason’s co-author, Dr. Bardswell, (who claims successes in treatment as a result of the terrace system), also viewed the introduction of this system into residential housing as essential. As the tuberculosis problem was still proving intractable at the time, he demanded that every house be made into a sanatorium. In view of the fact that in Germany in 1913, three quarters of a million people were suffering from tuberculosis and costly treatment in a sanatorium was not always possible, the demand for treatment in the home was only logical. Bardswell writes:

The task, which must here be faced, is one of making sure that these unlucky people are easily able to carry out an open-air treatment. (...) In America, many very sensible experiments have been carried out in countering this difficulty, e.g. by erecting tents on the roofs of houses, or by pushing the head of the bed to the window so that the sufferer’s head

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121 This is true for the front wing marked in blue on the plan: parterre approx. 105m (balcony 9m); 1st storey approx. 97m (terrace 10m); 2nd storey approx. 92m (terrace 10m); 3rd storey approx. 87m (terrace 10m); 4th storey approx. 87m (terrace 10m).

122 “If one ignores the 12% of patients who cannot be traced, 93.4% are currently known to be healthy or alive. From the patients of group II, who have been in treatment since the opening of the sanatorium, at present 73% are healthy or alive” (“wenn man von den 12% dieser Patienten absieht, von denen nichts mehr in Erfahrung gebracht werden konnte, sind 93,4% gegenwärtig als gesund oder am Leben bekannt. Von den Patienten Gruppe II, die seit Eröffnung des Sanatoriums in Behandlung waren, sind gegenwärtig 73% gesund oder am Leben.”), cf. N. Bardswell, “Ein Freiluftsanatorium im Betriebe”, in: David Sarason, Das Freilufthaus, (Munich 1913), pp. 117-122.
is in the open air. Such solutions, however, remain greatly lacking and are not in all cases possible to carry out. If instead of this, terraces were to be built onto the houses, then every difficulty of this sort would be conquered. Every house could act as a sanatorium and treatment according to the principles of the sanatorium would be made considerably easier.123


Sarason’s open air house is not, however, only designed to make the treatment of sufferers easier to carry out; it is particularly designed to prevent the very inception of the disease. In this context, Sarason takes up a position, for example, on the much debated health problem of the high infant mortality rate during the summer.124 In contrast to over-heated urban housing, which was cited as the cause of infant mortality, the terrace balcony cools the flat:

Due to their stepped form, [terrace houses] definitely offer a much greater surface area and therefore enable (...) much greater dispersal of heat than the compact cube structure of other houses, and therefore guarantee a much quicker and more substantial cooling of the interior rooms, which can be further increased by the garden-like extension of terraces, which at the same time make the entrance of heat and dust more difficult.125

125 Cf. David Sarason, *Terrassenhaus*, (Munich 1913), p. 33. The increased dispersal of heat is problematic in architectural physics. It creates increased heating costs in winter. The argument can thus be used in reverse.
[Die Terrassenhäuser] bieten durch ihre Treppenform in jedem Falle eine größere Oberfläche dar, ermöglichen also, (...) eine größere Wärmeabgabe, als der kompakte Kubus sonstiger Häuser, verbürgen daher eine raschere und ausgiebigere Entwärmung der Innenräume, was durch gartenartige Ausbildung der Terrassen, die gleichzeitig den Eintritt von Hitze und Staub erschweren, noch gesteigert werden kann.

Sarason believed that he had found an effective and cost-efficient¹²⁶ means of guarding against disease in the form of his terrace balcony. After all, the additional exterior room not only allows sufferers to be pushed outside in their beds, but also enables work, play, eating and sleeping in the light, sun and fresh air. The tired worker upon returning home, or the petit bourgeois active in the household, would not even have to leave the house, let alone descend any steps, to reach a courtyard or a roof garden. He would only have to open the window to reach the open sky directly from his room and could

(... ) do bodily exercise, air- and sunbathing, in short, live outdoors (...) If you place the opportunity of this continuous enjoyment of air and sun 'in front of people's noses', then the general use of such exterior rooms is certain, by even the most lazy of folk.¹²⁷

...Körperübungen zu machen, eventuell sogar Luft- und Sonnenbäder zu nehmen, kurz im Freien zu leben, (...) Wenn man den Leuten die Gelegenheit zu andauerndem Genuß von Luft und Sonne derartig 'vor die Nase setzt', dann darf man einer allgemeinen Benutzung solcher Außenräume selbst durch die Trägsten sicher sein.

Frequent use of the exterior room would also lead to an increased sensitivity of the inhabitant in respect to the care of the interior room, as the strong contrast between interior and exterior would defeat the "blunting of the sensitivity of the lower classes against the bad atmosphere of their rooms"¹²⁸. Sarason believed that this increased sensitivity was a prerequisite not only for hygienic housing but also for hygienic living standards. Therefore, regular and thorough enjoyment of the open air outdoors was seen as the surest way to educate the masses in increased hygienic practice in the

¹²⁶ A critic of Sarason's design on the cost front was Magistratbaurat Hans Winterstein, in his article: "Die Verbilligung der Krankenhausbauten und die Vorschläge der Herren Dr. med. Krohne, Dosquet und Sarason", in: Die Hygiene, 1914, issue 3, pp. 56-61.
¹²⁷ David Sarason, Das Freilufthaus, (Munich 1913), p. 32.
home. Fresh air would suffice as a stimulus to counteract the “run down”, “stuffy” and “unhygienic” workers’ housing:

The physical, spiritual and moral consequences, which would result from the possibility that from childhood, in particular the lower classes, with their (...) neglect of bodily care and the often unbearable atmosphere of their living quarters for the untrained person, can at any minute rescue themselves out of this stuffiness into the open air (...), to bathe their naked body perhaps for hours in the open air and sun, - these consequences would with all pressing necessity reveal themselves to be so far-reaching and influential in all walks of life that a new form of social welfare would be created (...).129

Die körperlichen, geistigen und sittlichen Folgen, welche sich aus der Möglichkeit ergeben würden, daß gerade die unbemittelten Klassen, schon von Kindheit an, bei ihrer (...) vernachlässigten Körperpflege und dem für Nichttrainierte gewöhnlich unerträglichen Zustand ihrer Zimmeratmosphäre, sich jeden Moment aus ihrer Stickluft unter freien Himmel hinausretten (...), um ihren nackten Körper eventuell stundenlang in freier Luft und Sonne zu baden, - diese Folgen würden mit zwingender Notwendigkeit sich als so überaus weiträgige und alle Lebensverhältnisse durchdringend erweisen, daß hiermit eine neue Form sozialer Fürsorge geschaffen wäre (...).

The open air house should therefore be effective as an educational instrument of social hygiene. Sarason is convinced that guiding housing inhabitants towards working to create a healthy atmosphere in the home would make a very important contribution to ‘domestic life’. Frequent visits to the public house would thereby be contained and alcohol and criminality rates would also be reduced. The importance of such a ‘stabilized’ family lay in turn in its function as the nucleus and production cell of the healthy, ‘living capacity for strength’ of the population. In this sense, Sarason believed his system to have importance for the domestic economy, due to an increased productive capacity of its inhabitants.130

128 Ibid.
129 Ibid., p. 27. With the given social conditions of the worker (16 hour day), many hours of sunbathing is not a realistic notion, let alone sport and exercises performed of his own free will. Here Sarason is projecting a bourgeois standard of life on to the daily life of the worker.
130 With this, Sarason adopts a position amongst social hygienists that was very popular at the time. Cf. the social hygienist Gottstein: “Neither claptrap about humanity, nor the celebrated social conscience, but rather sober reflection causes more cautious care of the ever fewer offspring and
However, despite all proffered economic, hygienic and social arguments, designed to underline the advantages and ultimately the desperate necessity of building his designs, Sarason is aware that his system does not combat the problem at its social roots, but rather at its pathological symptom: tuberculosis. In places, however, Sarason’s comments more resemble a depiction of a social utopia, than make a factual case for the use of the open air house. He justifies, for example, the biggest deficit of the open air house (the decrease in living area because of the terrace balconies) with a supposed educational effect: the reduced living space makes cleaning quicker and easier. Anticipating the discussion of the early twenties on the “minimum existence level”, Sarason calls for a “minimum of space” in ‘consideration’ of the lack of time and money amongst the lower classes. Although within a period of twelve years the committed doctor did not miss a single opportunity, neither an exhibition, nor a congress, to display his designs to the public, there are no indications that Sarason’s architectural system was ever constructed.

the protection of the living from exhaustion at an early age, in order to be able to command the situation with numerous, powerful hands in peaceful and in wartime competition at the present and in the future” (“Nicht ,Humanitätsduselei‘ oder das berühmte soziale Empfinden, sondern nüchterne Rechnung veranlaßt die sorgsamere Wartung des spärlicher werdenden Nachwuchses und den Schutz der Lebenden vor verfrühter Abnutzung, um über zahlreiche und kräftige Hände im friedlichen, wie im kriegerischen Wettbewerb in Gegenwart und Zukunft zu gebieten.”), Zeitschrift für Medizin und Soziales, 1907, pp. 134-135.
2. The residential house of *Neues Bauen* as a tuberculosis sanatorium

2.1. Richard Döcker: *Terrassentyp* (1929) - Projections and Reflections

Other designs involving terraced houses were being developed parallel to the development of Sarason's open air house. Examples include the 1909 plans for a 'Terraced house with workers flats' by Henry Sauvage and Charles Sarazin (fig. 15), or the design for a 'Terraced high-rise housing block with external elevator' by the Italian architect Antonio Sant'Elia in 1914 (fig. 16). In the course of the following fifteen years, various attempts were made by architects to design, and in some cases even construct the hygienic and largely also terraced, architectural type. A prominent example in this context is Adolf Loos, who had been working with terraced architecture since 1912. On the occasion of the planned Hotel Babylon in...

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131 Cf. G. Favretti, *La casa e la sinistra in Italia (1888-1923)*, thesis, Istituto Universitario di Architettura, (Venice 1982), in: Vittorio Magnago Lampugnani (ed.), *Antonio Sant'Elia, Gezeichnete Architektur*, (Munich 1992), p. 69. The author Favretti assumes that Sant'Elia followed the discussion on health and housing politics through the editions of magazines such as "Critica sociale", "La nuova antologia", or "La riforma sociale". However, it may be assumed that the young Futurist was in fact more concerned with the monumental effect of the narrow high-rise blocks as they represented a powerful aesthetic medium.

132 Cf. Heinrich Kulka (ed.), *Adolf Loos. Das Werk des Architekten*, (Wien 1931), republished 1979, p. 39: "Years ago I built a villa for Dr. Gustav Scheu (1912) in Hietzing, Vienna. It was greeted with much shaking of heads. It was claimed that this type of building may have its place in Algiers, but not in Vienna. I hadn't even thought of the Orient when designing the house. I merely thought that it would be very pleasant to be able to walk on to a large, common terrace from the bedrooms, which were to be found on the first floor. Anywhere, in Algiers as well as in Vienna: another terrace, repeated on the second floor of a lodging house that was the unusual and special element" ("Vor Jahren baute ich die Villa des Dr. Gustav Scheu (1912) in Hietzing, Wien. Sie erregte allgemeines Kopfschütteln. Man meinte, daß eine solche Bauweise wohl in Algier am Platze wäre, nicht aber in Wien. Ich hatte bei dem Entwurf dieses Hauses nicht im entferntesten an den Orient gedacht. Ich meinte nur, daß es von großer Annäherlichkeit wäre, von den Schlafräumen, die sich im ersten Stockwerke befanden, eine große, gemeinschaftliche Terrasse betreten zu können. Überall, sowohl in Algier als in Wien. Also eine Terrasse, die sich im zweiten..."
1923, he formulated his motivation for working so intensively with this architectural type (fig. 17, 18)

It was always my desire to build such a terraced house containing workers' flats. The fate of the proletarian child from his first year of life until he enters school concerns me especially. The common terrace, which enables a neighbourly supervision, should open the dungeon of his living quarters for the child, locked within the flat by his parents.¹³³

However, it was not only the social aspect of the terraced house that interested Loos, but also its economic aspect. This caused Loos to turn from designing workers' housing to design a terraced hotel:

(...) Dark rooms giving onto the courtyard have to be rented for cheap prices, even in the most luxurious of hotels. The terraced hotel does not have a single courtyard room, but only exterior rooms. Furthermore, it is extended by a traverse type of construction along the sun facing, easterly and westerly fronts. The most important thing, however, is that every room has a terrace in front of it. Only the vertical north wing does not.¹³⁴


For Loos, as for most architects of the time, the concern for purely hygienic criteria in architecture was not foremost or even central in his work. The resulting terraced buildings and projects were therefore not located in the context of hygienic

¹³³ Ibid., p. 39.
¹³⁴ Ibid.
discourse. In this respect, no universal place was created for hygienic discourse within this architectural development.

It was not until 1929 that the Stuttgart architect Richard Döcker\textsuperscript{135} made a summary of all the buildings and projects actually carried out according to hygienic criteria, and depicted these in his book *Terrassentyp* (The terraced type) (fig. 19).\textsuperscript{136} Published shortly after the completion of his terraced hospital in Waiblingen near Stuttgart in 1928, Döcker’s book represents a general summary of the practical usage of the principles of terracing. He shows how this system has been implemented in a similar way in hospitals, rest homes, hotels, offices, family houses, housing estate houses and lodging houses. Using examples of numerous projects and actual buildings, which fulfil entirely different roles, completed by architects of various different nations, Döcker intends to prove with health related arguments, the general universality and necessity of the terraced type. He writes:

If as an architect you look around you, then it becomes clear during such an investigation that those buildings, which are remarkable in the development of building and living are proof of a united front in this direction. This unity holds even more worth and validity, as the similarity in principle, blueprint and architectural location surprisingly includes the most varied of authors of all nations, who independent from one another, have come to the same and therefore assuredly essential results in their planning and execution.\textsuperscript{137}

\textsuperscript{135} Richard Döcker was born on the 13th of June 1894 in Weilheim-Teck and died on the 9th of November 1968 in Stuttgart. In 1912, he began his architectural studies at the Technische Hochschule Stuttgart. In 1921, he completed his Town Planning examination. He worked in government office and as a freelancer for Paul Bonatz. In 1923 he finished his dissertation on the subject: *Typenpläne für Kleinwohnungen* and worked as a freelance architect in Stuttgart. Already a member of the German Werkbund, in 1926 he joined the architects’ association “Der Ring”. Later he cooperates with CIAM (International Congress for Modern Architecture) and travels to England, Holland, and the Soviet Union. Forced by the employment ban of the National Socialists, from 1939-1941 Döcker studied biology with a subsequent doctoral dissertation. In 1946 he was appointment Generalbaudirektor (Head of City Planing) of Stuttgart. In 1947 Döcker was called to be professor at the Technische Hochschule Stuttgart, chair of town planning and design. In 1958 he was appointment Dr. Ing. h.c. by the Faculty for Construction of the Technische Hochschule Karlsruhe. For the last ten years of his life, döcker had a Cooperation with his partner Jürgen Brenner.

\textsuperscript{136} Richard Döcker, *Terrassentyp. Krankenhaus, Erholungsheim, Hotel, Bürohaus, Einfamilienhaus, Siedlungshaus, Miethaus und die Stadt*, (Stuttgart 1929).

\textsuperscript{137} Richard Döcker, *Terrassentyp*, (Stuttgart 1929), p. 3.
Wenn man als Architekt Umschau hält, so ist bei einer solchen Untersuchung eindeutig bei den für die Entwicklung des Bauens und Wohnens bemerkenswerten Bauten der Nachweis einer Einheitlichkeit in dieser Richtung fest zu stellen, deren Vorhandensein umsovielmehr an Wert und Gültigkeit besitzt, als diese Gleichartigkeit der prinzipiellen, grundrüsslichen und architektonischen Anlage überraschend zahlreich und vielseitig die verschiedensten Verfasser aller Nationen umfaßt, die unabhängig voneinander zu denselben und wahrscheinlich damit eben lebensnotwendigen Ergebnissen in Planung und Ausführung gekommen sind.

The formulation of this theory follows an exposition of both executed and planned terraced buildings, which Döcker illustrates with more than 200 photographs and graphics. Using the example of his own hospital in Waiblingen, he first emphasizes the medical view and then proceeds to the constructional and economic preconditions that caused him to develop the terraced building type. Following on from this he interjects little commentary whilst taking the reader on a visual excursion that begins with the hospital and the sanatorium, continues via the hotel and the office building, to finally end up at the lodging house, the housing estate house and the family house.

Amongst other examples, Döcker presents the Zonnestraal Sanatorium in Hilversum (1926-27) by Johannes Duiker138 and Bernhard Bijvoet, the children’s clinic of the Rittberg House in Berlin by Otto Bartning, the tuberculosis and child sanatorium in Harzgerode (1928) by Karl Krayl, a multi-storey hospital in America and the planned Hotel Babylon (1923) by Loos (fig. 20-23).

Döcker uses two pictorial examples of hotel buildings in Switzerland to illustrate a parallel second discourse. In this discourse, Döcker is concerned with showing that a consideration of hygienic criteria must inevitably lead to the banishment of “atrocious stylistic architecture”. Yet, he claims, sanatorium design still orientates itself along the lines of classical hotel architecture, simply in order to satisfy the desire for monumentality and the need for decoration. He writes:

138 Johannes Duiker, born 1890 in the Hague, died 1935 in Amsterdam, is a figure on the edge of Dutch rationalism. His best known architectural work is the Zonnestraal Sanatorium in Hilversum, Holland, a symmetrically designed building, already announcing its determination to catch sunlight through its structure; the geometric harshness is softened by connected rounded plastic architectural bodies. With its generous areas of glass and powerfully prominent terraced roofs the design had an influence on Alvar Aalto’s Sanatorium in Paimio, Finland. Afterwards Duiker built an open air school in Amsterdam (1928-39), a five storey complex with terraces for the open air lessons.
A hospital is no palace or castle, neither should it be a village school house in the old sense and must do without the attempt to impress and be representative. The exterior should be a simple functional building on the basis of the organization of its design and its position. It should result from the logical fulfilment of its purpose and the need for sun, light, air, and incorporate hygienic and medical criteria, which are crucial in a complex of this kind, and not from more or less chance architectural conception and the opinion of whoever commissions it, corresponding to some style epoch!139

Ein Krankenhaus ist kein Palast oder Schloß, auch kein Dorfschulhaus im alten Sinne es soll und muß ohne den Versuch zu imponieren, repräsentieren auskommen. Das Äußere soll reiner Zweckbau auf Grund seiner Grundrißorganisation und Anlage sein. Es ergibt sich aus logischer Erfüllung des Zwecks und der Bedürfnisse nach Sonne, Licht, Luft und den hygienischen und medizinischen Forderungen, die an eine solche Anlage gestellt werden müssen und nicht aus der mehr oder weniger zufälligen architektonischen Auffassung und Einstellung irgendeines Erbauers zu irgendeiner Stilepoche!

Döcker is not only the first person to theoretically compile and summarize the development and effects of the terraced architectural type and to introduce this topic into public debate. He is above all the first architect not to view the terraced architectural type as an isolated experiment, but to demand that the integration of hygienic criteria in residential housing be raised to a programmatic principle. It is not surprising that the hygienic conception of housing increasingly took on an additional aesthetic dimension, since the uncompromising extension of the hygienic criteria of hospital and sanatorium architecture to housing had to date almost exclusively been demanded by doctors. In this context, the question arises as to whether the aesthetic of Neues Bauen was the first to contain an adequate formal expression for the

139 Richard Döcker, Terrassentyp, (Stuttgart 1929), p. 14. Compare with the following quote from the Festschrift Kongreß für Hygiene und Demographie, (Berlin 1907). “In this respect the architect is also a practical hygienist when he builds hospitals, schools and public baths, as he wishes to contribute all that he can to ensure that those who seek these buildings, are bodily and mentally assisted by them. For this reason, he no longer sees the purely practical necessities as obstacles in his work. (...) With this opinion, the artistic and the practical are no longer opposites, instead, the artistic seems the most perfect form of the practical with the advantage of finding favour” (“Insofern ist der Architekt also, wenn er Krankenhäuser, Schulen, Badeanstalten baut, auch praktischer Hygieniker, denn er will, was er kann dazu beitragen, daß sie denen, die sie aufsuchen, körperlich und seelisch wohl tun. Deßhalb empfindet er auch die rein praktischen Notwendigkeiten nicht mehr als Hindernisse für seine eigentliche Arbeit. (...) Bei dieser Auffassung sind Künstlerisch und Praktisch nicht mehr Gegensätze, sondern das Künstlerische erscheint als die vollkommenste Form des Praktischen mit einem Plus von Gefälligkeit.”).
execution of the hygienic architectural type; indeed, the failure of earlier attempts to create a terraced, hygienic residential house (see Sarason’s open air house), may have been due to the lack of a bold and simple visualization of hygiene.

In a further sequence of illustrations, Döcker shows the ‘Kurgau-Schaffhausen’ Sanatorium of Davos (1907) by Pfleghard and Häfeli and the hotel ‘Alpina und Edelweiß’ built by Arnold Itten in Mürren, Switzerland (1927-1928). Döcker comments on the latter: “No ‘stylistic’ architecture in the alpine landscape. Balconies and terraces for the guestrooms. Lots of light and air!”. Following this, are Döcker’s projects for airports, rest homes and warehouses and projects like ‘Haus der Freundschaft’ by Hans Poelzig in Constantinople (1917) and the comprehensive school Berlin-Neukölln by Bruno Taut. The names of the architects, which Döcker cites as good examples for estate houses and family houses range from Ernst May with the example of the ‘Siedlung Bruchfeldstraße’ in Frankfurt140, via J.J.P. Oud and his workers’ housing in Hoek van Holland, to Peter Behrens, Adolf Rading, Hans Scharoun and Josef Frank, whose houses were exhibited at the Stuttgart Werkbund exhibition in Weissenhof in 1927 (fig. 24a-f). Döcker, too, built two terraced houses on the ‘Weissenhof’ Estate, which are discussed in detail in his book, as they triklingly justify the call for the integration of hygienic criteria into residential-housing.

2.2. Richard Döcker’s hospital in Waiblingen (1926-28) as a prototype for hygienic residential housing

Döcker’s first house in Plüdershausen (1920) was already a two-storey terrace construction. Against all convention, living rooms and bedrooms face south and have access on to a terrace, directly joined on to the living room, which then extends further into a garden. Döcker exploits the topographical possibilities of the site by placing exterior rooms on the front of his constructions, which are then subdivided

140 Richard Döcker writes on Siedlung Bruchfeldstraße: “Staggering of the body of the building in the aspect plan in order to attain better views, ventilation and sun. Construction of roof terraces in every house”, (“Staffelung der Hauskörper im Lageplan der besser Aussicht, besseren Belüftung
into terraces. The aim of creating an open construction, open to the light, air and sun, and at the same time dissolving the divide between interior and exterior, is a pattern, which reoccurs through all his designs of the 1920s: estate housing, lodging houses or even school houses and administrative buildings. Döcker’s roots are in the early ‘Stuttgart School’, which was founded by Theodor Fischer in 1901, where he studied from 1912-1916 under Fischer’s successor Paul Bonatz. Döcker, however, did not concentrate on the works of the ‘Stuttgart School’, but instead focussed on the Avant-garde of the Cologne ‘Werkbund’ exhibitions of 1914-1920. He especially admired Erich Mendelssohn, the Viennese architects Adolf Loos and Josef Frank with their terrace buildings and in particular Frank Lloyd Wright.141

During the 1920’s, Döcker increasingly moved the focus of his work towards a systematic conception of hygienic building. The high point of this development was marked by his 1926 competition entry for the building of the aforementioned Waiblingen District Hospital, which Döcker won from the conservative architect Paul Schmitthenner (1884-1972)142 of the ‘Stuttgart School’ (fig. 25a, b; fig. 26a, b).

That it should have been in conservative Stuttgart of all places that Neues Bauen won out over the ‘Stuttgart School’ is no coincidence, since in contrast to the designs of Paul Schmitthenner, Döcker’s hospital design specifically visualised the presence of hygiene, and it was precisely to this purpose that Neues Bauen (for reasons that will be described in the next chapter) was so much more specifically suited.


142 Paul Schmitthenner, born 1884 in Lauterburg, died 1972 in Munich, worked from 1909 in the office of Richard Riemerschmid in Munich, became the main architect of the garden city Carlowitz near Breslau in 1911. From 1914-17, he planned and built, under contract from the Reich authorities of the interior, the experimental estate ‘Staaken’ near Spandau, Plaue near Brandenburg and Forstfeld near Kassel, which made him so well known as housing reformer and estate architect that in 1918 he was called to the technical university in Stuttgart. There, he turned the ‘Stuttgart School’ into the most important German centre for architectural training of the twenties and thirties. In numerous buildings in Stuttgart, such as his own house (1922), the Roser house (1925), or the general school in Zuffenhausen (1927-30), he developed a regionalist-traditionalist modernism out of the tradition of the German ‘Werkbund’, which brought him, in spite of greater recognition, increasingly into polemical conflict with the radical advocates of Neues Bauen. In 1928, he therefore participated in the architect’s union, ‘Der Block’. In 1933, national socialist propaganda created a project antagonistic to the Weissenhof estate, out of an architecture exhibition at Kochenhof, Stuttgart, he was running. Cf. Vittorio Magnago
Doctors, architects and Döcker himself, considered the building a milestone in the development of hygienic building types. According to Döcker, this was the first time that the “a system of terracing the storeys one above the other, in other words the construction of terraces in front of each room with moveable glass walls lying behind along the south front, in front of every room of every storey”, had been carried out to this extent (fig. 27, 28).

This could be the only way to ensure the presence of sun-exposed verandas, leading directly from every room that was so essential for the heliotherapy of ‘surgical tuberculosis’ patients in Waiblingen. Surgical treatment of tuberculosis was less time intensive than the rest cure, but unfortunately, it was common that the patient ended up physically handicapped. In 1899, a discovery was made by Dr. Oscar Bernhard of St Moritz, which pointed to the fact that the high altitude climate could also be useful in the treatment of these forms of the disease. He tested the antiseptic properties of air and sun on living tissue.

He placed patients bearing fresh operation wounds into the winter sun and found that not only was wound granulation much improved, but even wounds of substantial size gained a new layer of skin rapidly. Initially, Bernhard restricted himself to sunbathing the diseased area, but eventually his theory came to involve a complete sunbathe. At a later stage, Dr. Auguste Rollier made heliotherapy more popular and brought it wider recognition. He exposed his patients according to an exact plan of sunlight. Depending on the type of disease, they were laid on specially developed metal beds with plaster casts or stretching apparatus. The added therapeutic possibilities, which came with the wider introduction of heliotherapy, initially had little effect on the architectural expression of the sanatorium, but decisive changes began to make themselves felt after 1915. The rest halls, which used to be built in

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143 Richard Döcker, Terrassentyp, (Stuttgart 1929), p. 2. „System der Terrassierung der Geschosse unter sich, also die Anlage vorgelagerter Terrassen mit dahinterliegenden Glasschiebewänden der Südfront für jeden Raum aller Geschosse“.

144 Bone and joint tuberculosis was an even more prolific form of the disease. It was often called “surgical tuberculosis” because unlike pulmonary tuberculosis, it could theoretically be operated on.
front of the main edifice, now began to be built directly in front of each bedroom.

According to these specific demands, Döcker writes in his *Terrassentyp*:

In every storey, exterior rooms are added to the interior rooms, directly adjacent to these. Mobile and invalid patients, those with fever and the recently operated can be easily brought into the open air. (...) Not only the ‘open terrace’, but also the south wall of the sick room fulfils this demand to the greatest degree, in consisting merely of windows from floor to ceiling. 145


With the construction of the terraced hospital in 1928, Döcker had created one of the most progressive health buildings of the Weimar Republic, and this brought him both recognition from the academic world and more generally, an international reputation (fig. 29c-g).

The Waiblingen terrace hospital is a self-contained construction, which extends to two storeys with an entirely south-facing façade. The staggering of the storeys occurs on each floor for the width of the terrace (2.5 - 3m), the depth of the room is 5m on the first storey and 4.15m on the second. In addition to the terrace balcony, the use of skylights and a balustrade consisting of a loose-knit wire mesh enable the free entry of light, air and sun (fig. 29a, b).

Richard Poehlmann, the medical director of Waiblingen Hospital, explains in detail in Döcker’s publication over 25 pages, how the architectural type created by Döcker is both a prerequisite and an ideal instrument for successful therapy and treatment. He details the therapeutic uses of the various architectural elements under the individual aspects of the therapy. Under the title “Air and sun, healing sources in the hospital”, he deals with the influence of light and sun on the healing of fresh operation wounds (a consequence of ‘surgical tuberculosis’), the antibacterial effect

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of direct sunlight not only on the skin, but also on the bedroom, furniture and clothing. Poehlmann especially discusses the importance of immediate contact of the skin to air and sunlight, and in particular, the benefits of temperature differences, movements of air and radiation procedures on the venal and neural network of the skin. In conclusion he writes:

Enough of the reasons, why we can justify a maximum exploitation of sun and air for healing purposes in the building of a hospital. In addition, there are certain demands, which must be made by the doctor: firstly, one wall of the room must be wholly dispensed with, preferably the south-facing wall, because then we achieve the lengthiest period of direct sunlight. Terraces should be erected in front of the rooms, so that the patients can be brought into the open air without further ado, because, as we have learnt from the physicist Dorno, covered rest halls open to one side only allow a fourteenth of that light and air energy to be put into effect, than is present under the open sky.146


Last but not least, with the integration of these criteria into hospital construction, Döcker, in perfected form implements the requirements first laid down by Karl Turban and David Sarason. Turban’s planned removal of the south wall of the sickroom is as well taken up by Döcker, as is Sarason’s demand for a terrace directly adjacent to the rooms. Furthermore, the combination of the dissolved south wall and the addition of the terraced balcony also takes care of the question of natural ventilation. Döcker writes:

The more the surface area of a building comes directly into contact with the open air, the quicker and more complete its ventilation may be. It is known that the entry of natural air refreshes the organism, reviving it and making it stronger in the combating of disease. Long years of experience should also prove that the type of air bears less relevance in chemical relation, compared with the factor of bathing the body in continuously moving air.\textsuperscript{147}


An exact analysis of this extract shows that the implementation of their requirements (at least in the case of those of David Sarason) is not at all incidental. The first sentence of the above quote is an exact word for word formulation by Sarason, which Döcker has taken from the 1913 publication ‘Open Air House’ without crediting the paper.\textsuperscript{148}

It is only in a caption to a single illustration under one of the many sketches of terraced houses in Döcker’s \textit{Terrassentyp} that the name David Sarason, who so obviously inspired him in the building of his hospital, surfaces. In this illustration, Döcker shows a schematic cross section of his Waiblingen Hospital in critical comparison to earlier designs of the same architectural type, amongst others, Sarason’s three-storey open air edifice. Döcker explains in small print:

Apart from not allowing an adequate supply of sun and light, this cross section has above all the disadvantage (which is also proof that it is not suitable for practical use) that the rooms of the underlying storeys are very low and the upper ones become insufficiently narrow.\textsuperscript{149}

\textsuperscript{147} Richard Döcker, \textit{Terrassentyp}, (Stuttgart 1929), p. 16.
\textsuperscript{149} Richard Döcker, \textit{Terrassentyp}, (Stuttgart 1929), p. 60.
Neben der nicht einwandfreien Besonnung und Belichtung hat dieser Schnitt vor allem den Nachteil (und damit auch den Nachweis der Nichtanwendbarkeit), dass die Räume der unteren Geschosse sehr tief und die oberen ungenügend schmal werden.

Döcker goes on to write that in the case of a four-storey building, (also proposed by Sarason), the depth of the ground floor rooms would only measure 8.5m. Resulting from only being able to use part of the total living space on the above storeys, this depth is insufficient and the usable area bears no relation to the costs of building.

Despite all the criticism of Sarason’s variation of the ‘terraced type’, it remains clear that Döcker’s perfected system essentially represents a progression on the basic concept developed by Sarason 16 years earlier. For the architect, as for the doctor, the hospital as a “prototypical healthy building” ("eigentlich gesunde Bauanlage") gives additional impetus to concern themselves intensively with everyday hygienic living conditions. On a background of the hospital and the sanatorium as actual prototypes of healthy architectural practice, Döcker also propagates the introduction of hygienic criteria into the ordinary dwelling of healthy people, as Sarason did before him from a medical standpoint:

The Waiblingen Hospital is not only an example of the consistent implementation of the recognition of the importance of sun and light for health and well-being of the sick and of the healthy individual. At the same time it forces a comparison and consideration of those buildings, which otherwise serve the purpose of relaxation and rest, for work and

150 In this connection, it should be noted that the medical doctor Oscar Bernhard, the founder of heliotherapy, also points to the staggered architectural type. In 1917, he published the results of more than fifteen years work entitled Normalien für die Sonnenkuranstalten, in which he lays down guidelines for the building of a treatment clinic: “Heliotherapy requires a particular way of building. If possible, each and every ray of sun to come from the sky must be exploited. A sun clinic should be built in a position free from wind and dust, with its full frontage facing south, preferably on an incline. (...) By locating it on an incline, a more intensive exposure to sun can be achieved and the terracing of the rest halls and balconies becomes a more simple matter; as these should be laid out so that one does not take any light away from another. This therefore demands a type of stepped construction.” (“Die Heliotherapie bedingt eine eigene Bauweise. Jeder Lichtstrahl, den uns der Himmel spendet, sollte, wenn immer möglich, ausgenutzt werden können. Eine Sonnenklinik soll in möglichst windgeschützter, staubfreier Lage, mit voller Front gegen Süden, am besten an einem Abhang gebaut werden. (...) Durch die Placierung an einem Abhang erreicht man eine intensivere Insolation und erleichtert die Terrassierung der Liegehallen und Balkone; denn dieselben sollen so angelegt werden, daß keine der anderen Licht wegnimmt. Dies bedingt mitunter einen treppenartigen Aufbau.”), Oscar Bernhard, Sonnenlichtbehandlung in der Chirurgie, (Stuttgart 1917), p. 179.

for living purposes in general: the rest home, the hotel, the office building, public buildings such as schools, baths and so on, and above all the lodging house and the estate house (...)\textsuperscript{152}

Das Krankenhaus Waiblingen als konsequente Durchführung der Erkenntnis der Bedeutung von Sonne und Luft für die Gesundheit und das Wohlbefinden des kranken wie gesunden Menschen zwingt gleichzeitig zum Vergleich und Betrachtung vor allem auch der Bauten, die den Menschen sonst zur Erholung, zur Arbeit und zum Wohnen und Leben überhaupt dienen wie: Das Erholungsheim, das Hotel, das Büro- und Geschäftshaus, die öffentlichen Gebäude wie Schulen, Bäder und so weiter, und vor allem das Wohn- und Siedlungshaus (...)

Almost contemporaneously with the commencement of building of the Waiblingen Hospital (1926-1927), Döcker put his demands to transfer the hygienic criteria of the hospital to housing, as described in his Terrassentyp, into practice. The Werkbund Estate in Stuttgart, \textsuperscript{153} regarded as the most important ensemble of Neues Bauen, opened in 1927, offered Döcker an ideal forum for the practical demonstration of his hygienic concepts (fig. 30).

2.3. The residential house: “fragment of a sanatorium”

2.3.1. Richard Döcker’s houses in the Stuttgart Werkbund Exhibition 1927

The area of ground (in the Stuttgart Werkbund Estate of 1927) at Döcker’s disposal is enclosed by the upper Bruckmannweg and the lower Rathenaustraße, and demands a staggered type of building simply because of the discrepancy in height of the building ground of about 4-5m. The roofs and terraces of his two flat roofed houses (no. 21 and 22) lie on two slightly misaligned levels (fig. 31, 32). The living rooms,

\textsuperscript{152} Ibid., p. 3.

\textsuperscript{153} Seventeen representatives of the international Avant-garde designed a total of 21 single family houses and larger houses here, under the general artistic direction of Mies van der Rohe, with the aim of constructing a monument to the ‘Neues Bauen’. The on-site director of construction was Richard Döcker. Amongst the elite invited to take part were the Swiss-French architect Le Corbusier, the Dutch J.J.P. Oud and Mart Stam, the Belgian Vistor Bourgeois, the Austrian Josef Frank, and also the German architects, mostly united in the ‘Ring’ association: Walter Gropius, Ludwig Hilbersheimer, Bruno and Max Taut, Hans Pölzig, Adolf Rading, Peter Behrens, Hans Scharoun, and the only other architect from Stuttgart except for Döcker, Adolf Schneck.
bathrooms and at least one of the bedrooms, as well as the large terraces are consistently aligned to face south or south-west (fig. 33, 34). The work rooms face northwest or northeast. The kitchens are entirely furnished with fitted furniture, a hatch and a ventilated larder. Along a corridor extending towards the street, lit by a horizontal band of windows, one reaches a generously proportioned bathroom with a wash table and basins, as well as the bedrooms that are also equipped with fitted furniture, which is space-saving and easy to keep clean. However, the most obvious proof that the houses are designed to comply with the criteria of a hygienic way of life, is their consistent alignment towards the sun. By using three-paned glass doors and numerous large windows, Döcker opens the southwest façades to such an extent that the walls almost become a kind of membrane, permeable to light, air and sun. Döcker extends the living room, which as a result is flooded with light, even further into the landscape by using generous terraces, which lead directly from the room (fig. 35). Döcker writes about his houses in a publication devoted to the houses of the Werkbund Estate:

Living today, more than ever before, is adapted to interaction with light, sun, air. The house thus receives large windows, thin pillars, and heat-retaining walls. The living room has largely direct access to the outdoors, in order to attain an immediate relation, an opening outwards in contrast to the self-closure against the outside world found in the old type of house.¹⁵⁴

Döcker dissolves the border between interior and exterior in favour of a hygienic way of life. Complementary to the interior room, which displays an ample amount of light, air and sun, due to Döcker’s hygiene-specific architecture, he also gives the ‘exterior’ an architectural frame. By means of a white textile curtain fixed to a metal construction, Döcker limits and defines a natural area of light, air and sun. Thus, the

terrace can be used as an extended bathroom, as an open-air gym and a place for undisturbed sunbathing. Although Döcker specifically points out that the bathroom, lying directly behind the terrace, is sufficiently large to also use as a gymnasium, he invites the inhabitant to partake of sporting activities in the fresh air by means of exterior wall bars. For the purposes of cooling down and the obligatory bodily cleansing, a shower is placed in close proximity (fig. 36a, 36b, 37). Almost all of the designs exhibited in the Weissenhof Estate share the same vision, and this is clearly manifest in Döcker’s houses: the strengthening of the human body becomes an integral part of the architecture. Increasingly, the house becomes an instrument for administering to and caring for the human body. Döcker’s conception even leads one to believe that from the outset, he is designing architecture by which the individual can regenerate himself. Döcker demonstrates the close connection between architecture and bodily care with a photograph (appended to his explanation of the houses), which he also includes in his book Terrassentyp. In this photograph, a young, muscular woman dressed only in a bathing costume exercises on the wall bars on the half-covered terrace. The athlete stretches up her arms and executes a supple backwards bend, whilst next to her an window-like opening cut into the wall gives way to the view over the expanse of the Stuttgart landscape (fig. 36c). This is the spirit in which Döcker, in the introduction to his Terrassentyp, “imperiously demands a hygienic way of life for all levels of human society”\textsuperscript{155}. Döcker claims that as never before, the search for fulfilment of the desire for light, air and sun is a leitmotif in all architectural designs of the last twenty years. The otherwise sober and rational architect continues emphatically:

The traditional, standard block of an entirely closed constructive skeleton is successfully exploded, the closed world within the house must stop, and it pushes outwards into the light, to the sun and searches for communion with nature and the landscape. The divide between house and garden, between interior and exterior disappears. Everything is subordinated to the desire for light, air, sun and simply from this demand, other house frames, other forms are created. Living space is no longer

\textsuperscript{155} Richard Döcker, Terrassentyp, (Stuttgart 1929), p. 1. (“Unsere Zeit stellt gebieterisch die Forderung nach hygienischer Gestaltung des Lebens aller Schichten der menschlichen Gesellschaft.”)
contented with its four walls and two or three windows in its frontage. (...) living and dwelling longs to push itself into the free air – freedom! 156


If Döcker is strident in portraying his hygienic conception, he is, however, not the only architect to use the Weissenhof Estate as a platform for placing a hygienic conception of architecture in to the foreground of architectural practice.

A cross between an open-air bathroom and an outdoor gymnasium can also be found in the terrace by the Stuttgart architect Adolf Schneck (fig. 38). 157 Tiling continues uninterrupted from the interior to the exterior, and is only separated by a large glass door, which can be fully opened outwards, enabling the terrace to also serve as a gymnasium and a sun-room. As with Döcker’s design, curtains also create an architectural border for the room (also compare to Gropius’ house: fig. 39). In this way, both Stuttgart architects fulfil Le Corbusier’s demand, which he sets out in Towards a New Architecture. In this he writes:

Demand a bathroom looking south, one of the largest rooms in the house or flat, the old drawing-room for instance. One wall to be entirely glazed, opening if possible on to a balcony, for sun baths; the most up-to-date fittings with a shower-bath and gymnastic appliances. 158

Le Corbusier himself does not manage to incorporate his own maxim in to the Werkbund Estate. However, in all houses the bathroom adopts a “preferred postion”, according to commentary by various critics; “particularly light and airily constructed” it replaces “a good piece of nature” and leads the inhabitant of even the

156 Ibid.
most modest flat to a “life led in affinity with light and water”. However, hygienic references are not only made in connection to the bathroom and gymnasium. Adolf Rading and Josef Frank also exhibited terraced houses, and Peter Behrens unmistakably implies that the motivation behind his design of a terraced house, realized in the Werkbund Estate, was a purely medical one. He writes:

The biggest disaster in architecture consists in the mass tenement blocks of large cities constructed up until today. The miserable conditions are well documented: five-storey houses with deep side and rear wings around narrow courtyards. It is no wonder that such flats constitute veritable breeding-grounds of disease. (...) Even many years ago, I tried to construct a storied house that could be suitable in preventing the main epidemics or improving conditions for their healing. To be effective against tuberculosis, it seems necessary that every flat, even in the multi-storey apartment house, has a larger open-air space outdoors added on.  


Behrens’ type of a terraced house represents a conglomerate of single-storey, two-storey, three-storey and four-storey houses, which are fitted into one another so as to enable the flat roof of the lower house to form the terrace for the higher house immediately behind it (fig. 40a-b, 41, 42a-b).

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161 Peter Behrens comments: “Every flat on the ground floor has a free space in a front garden, which is separated from the one next door by a wall. The first floor has 2m deep balconies extended on concrete slabs, the second floor has terraces of the size of the rooms lying below in that the front wall springs back the distance of the depth of the room below. On the third floor however, only a part of the room of the second floor becomes a terrace for the third. Over the third floor of the
Through the construction of such houses, (...) the three great enemies of the people’s health could be combated: firstly, a lengthy stay in the fresh air on the terraces by day and by night would have a healing effect for tuberculosis sufferers and those with a predisposition to the disease; secondly, bringing infants and children outdoors in to the free spaces next to the flats would work to combat infant mortality during the hot months; and thirdly, dividing individual sleeping places by means of temporary room dividers would prevent the risk of contagion, which the city traffic unfortunately tends to bring with it.\textsuperscript{162}

Durch die Anlage solcher Häuser (...) würde den drei großen Feinden der Volksgesundheit entgegengewirkt werden können: erstens soll durch den dauernden Aufenthalt bei Tag und bei Nacht in frischer Luft auf den Terrassen den an Tuberkulose leidenden oder dazu neigenden Personen ein Heilmittel zugeführt werden, zweitens soll durch das Hinausbringen der Säuglinge und Kinder auf neben der Wohnung gelegene Freiplätze der Kindersterblichkeit in den heißen Monaten entgegengearbeitet werden, und drittens sollen durch das Abtrennen der einzelnen Schlafstellen mittels Scheerwänden Ansteckungsgefahren, die der großstädtische Verkehr leider mit sich zu bringen pflegt, vermieden werden.

The call for housing to follow the example of the sanatorium gradually infiltrated the entire architectural discourse of the time and was in particular a topic of discussion in the context of the Werkbund Estate. Hygienic criteria have travelled a long way from the hospital, via the sanatorium, to finally arrive at the architecture of housing, and to enter the realm of broadly based public debate. The \textit{Bauzeitung}, for example, reports the demand by the Head Town Planner in Frankfurt, Ernst May that “with the current exhausting working conditions, the house must almost become a sanatorium”,\textsuperscript{163} and in the magazine \textit{Das ideale Heim}, an architect demands that through pumping fresh

\begin{quote}
middle wing, a large roof garden of around 144 square metres is extended, on which plantings and play areas are planned in the centre of the city, designed to offer all the advantages that one desires from city parks” (“Sämtliche Wohnungen des Erdgeschosses haben ihre Freiplätze in einem durch eine Mauer vom nächstliegenden abgetrennten Vorgarten. Das erste Obergeschoss erhält 2m Tiefe, auf Betonplatten ausladende Balkons, das zweite Obergeschoss erhält seine Terrassen in Größe der darunter liegenden Zimmer dadurch, daß die Frontmauer um die darunter liegende Zimmertiefe zurückspringt. Im dritten Obergeschoss bleibt wiederum ein Teil der Zimmer des zweiten Obergeschosses als Terrassen liegen. Über dem dritten Obergeschoss des Mitteltraktes dehnt sich ein großer Dachgarten aus von ungefähr 144qm, der durch Pflanzung und Anlage von Spielflächen in der inneren Stadt einen Ersatz für Vorteile, die man von städtischen Freiplätzen erhofft, bietet.”), ibid., pp. 17-19.
\end{quote}

air into the cities, cleansing the air, and adding ozone and a special quartz glass in the home, daily life becomes as far as possible identical to life in a sanatorium:

All of a sudden, we are sitting all our lives in our rooms like in a sanatorium of light, a bath of light (...) and for this reason we want to make our cities into spa towns, and our homes into baths of air and light.\textsuperscript{164}

So sitzen wir auf einmal unser Leben lang in unseren Zimmern wie in einem Lichtsanatorium, einem Lichtbad (...) und darum wollen wir aus unseren Städten Badestädte machen, und Luft-Licht-Badestätten aus unseren Heimen.

Many contemporary critics attest to the fact that the integration of health-promoting elements into the architecture of the house is a general phenomenon of the Werkbund Estate\textsuperscript{165}. A “new, increased sense of air, light, colour, mechanics and sport”\textsuperscript{166} is not the only thing to be documented. In interior design, not only the exhibiting architects themselves but also the critics repeatedly make comparisons, rhetorically comparing different details of the designs with the hospital, the sanatorium and the doctor’s surgery. However, it was precisely these negative associations with Neue Sachlichkeit on which the critics of Neues Bauen – which first came to light to such a

\textsuperscript{163} Max Grempe, “Der Garten auf dem Hause“, in: Die Bauzeitung, year 24, issue 19, 12th May 1928, p. 185.


\textsuperscript{165} Occasionally, these demands for a life led according to these hygienic standards have appeared as early as 1911. In his article “Wohnungskunst und Hygiene”, in: Die Hygiene, Vol. 17, 1911, p. 389, life reformist Heinrich Pudor writes: “Thus we see that in the modern dwelling the importance of clean air, (...) for light and direct sun, for the elimination of dust, dirt and bacteria and finally for the cleansing of the human body has been widely taken into consideration. Concerning bodily hygiene, yet another important addition to the hygienic dwelling is about to be implemented on a large scale: \öthe addition of a special room for gymnastics, situated right behind the bathroom and built in such a way that the side walls, according to the waether, can be pushed aside like in a Japanese house. In this way the human body can live freely in light and air. “

(“So sehen wir, daß in der modernen Wohnung allerorten die Sorge vorwaltet für reine Luft (…), für Licht und Sonnenbestrahlung, für Unschädlichmachung und Beseitigung von Staub, Schmutz und Bakterien und endlich für die Reinigung des menschlichen Körpers. In letzterer Beziehung ist eine weitere wichtige Ergänzung des Wohnhauses im Anzuge, nämlich die Hinzufügung eines besonderen Raumes für Gymnastik, anschließend an den Baderaum so eingerichtet, daß je nach der Witterung die Wände beiseite geschoben werden können, wie in einem japanischen Hause, so daß sich der Körper frei in Luft und Licht ausleben kann.”)

great extent in the context of the Werkbund Estate - became fixated. One critic
cynically writes of his impression of Walter Gropius' house (fig. 43 in comparison to
fig. 44, compare also fig. 45 to 46 and 47 to 48):

One can certainly imagine that a person would wish this constructive Sachlichkeit for
a room. He just should not be deterred by memories of dentists’ visits and operating
theatres.167

Man kann sich schon denken, daß ein Mensch diese konstruktive
Sachlichkeit für einen Raum wünscht. Nur vor Erinnerungen an
Zahnärzte und Operationssäle darf er sich dann nicht graulen.

The Austrian architect Josef Frank168, also moving in this rhetorical context, seems to
answer this provocation:

Not even in a dream would it occur to the kitsch laden petit bourgeois to
visit an estate in the style of Neues Bauen, because already the façade
alone will make him flee and he, at home in his Makart-upholstered
home, in his art nouveau feather padded armchair next to a decorated
cabinet with a shell-formed display shelf on top, playing a trump card,
would be more scared by a Bauhaus chair than he would by an operating
chair in the Charité (...).169

Der verkitschte Spießer läßt es sich ja nicht mal im Traum einfallen, eine
neusachliche Siedlung sich anzusehen, weil ihn schon die Fassade allein
in die Flucht schlägt und ihm, in seinem makartgepolsterten Heim im
jugendverstilten Daunenklubsessel neben dem Muschelaufsatzvertiko
einen Atout ausspielend, ein Bauhaussessel einen viel größeren Schreck
einjagt als ein Operationsstuhl in der Charité (...).

In the Bauzeitung, the official town planner, Oscar Heinitz, writes about the interior
design in the houses of Walter Gropius, Mies van der Rohe and Mart Stam,170 who

167 Konrad Düssel, Deutsche Kunst und Dekoration, 21st Year, vol. 1, October 1927, p. 96.
168 During the 1920’s the architect Josef Frank became increasingly disillusioned with the modernist
dogma and between 1927 and 1932 was one of the most outspoken critics of Neues Bauen. He
attacked the modernists claim to universal design principles and the belief that only through a
complete break with the past a modern aesthetic could be achieved. Cf. Nina Stritzler-Levine,
170 The plan of Stam’s house already shows where his priorities lie. He sacrifices one of the living
rooms, which lies without windows in the interior of the house, in favour of a room for
furnished his flat with Breuer's steel tube furniture and with real hospital beds (fig. 49, see also fig 50, 53, and compare fig. 51 to 52):

The furniture is baffling, in that it tries to convey the precision of the laboratory and the hygiene of the sanatorium in the residential house...

Alle diese Möbel wirken verblüffend, indem sie die Präzision des Laboratoriums und die Hygiene des Sanatoriums auf den Wohnhausbau zu übertragen suchen...

That the new houses seemed "light and stark like hospital rooms" is a contemporary criticism made not only by the philosopher Ernst Bloch, but also by the art historian Richard Hamann in his Geschichte der Kunst, first edited in 1932. With an undertone that is unmistakeably melancholic, he writes wistfully of Le Corbusier's show house on the Werkbund Estate in Stuttgart:

What is, however, most important, is that one now approaches the villa, the detached residential house, the estate buildings (Ernst May) with these principles; and the residential house, which until now was the strongest refuge ever personified in architecture, and above all home of all cosiness possible. One uses this house purely as a receptacle, cubic, rectangular, without order and balancing principles of up and down, it becomes a dwelling box. One opens the walls with large windows like those of an operating theatre or a studio and drives out all atmosphere and twilight, all places to dream, with bright light that penetrates everywhere, down to the least crevice. One fits it out with apparatus and machines and the beds and chairs, which used to stand open-armed, embracing us, which indeed themselves had a kind of humanity and spread cosiness around them, are now made of steel tubing and apparatus, which one can fold together or open out, which no longer have any demands to make on our space as fellow occupant... If we take a look at these rooms, it is unmistakeable that they have exchanged their


meaning of homeliness and cosiness by rooms dominated by apparatus and bright light, and which are thus reminiscent of a dentist’s surgery.¹⁷³

Das wichtigste aber ist, daß man mit diesen Prinzipien jetzt auch an die Villa, das Einzelwohnhaus, den Siedlungsbau (Ernst May) herangeht; an das Wohnhaus, das bisher der stärkste Hort aller Personifizierung in der Architektur war, Hort vor allem aller Gemütlichkeit. Dieses Haus behandelt man als reinen Behälter, würfelig, rechteckig, ohne Glieder und Gewichtsverhältnisse des Oben und Unten, es wird zur Wohnkiste. Man öffnet die Wände mit großen Fenstern wie die eines Operationssaales oder eines Ateliers und verjagt mit dem hellen, bis in die letzten Winkel dringenden Licht alle Stimmungen und Dämmerungen, alle Orte zum Träumen. Man stattet es aus mit Apparaten und Maschinen und gibt den Betten, den Stühlen, die früher standen, die Arme öffneten, uns empfingen, die also selber eine Art von Humanität besaßen und Gemütlichkeit um sich herum verbreiteten, mit Stahlröhren und Apparaten, die man auf- und niederklappen kann, die keinen Platz mehr zu beanspruchen haben als Mitbewohner (...). Übersehen wir diese Räume, so ist unverkennbar, daß sie die Bedeutung der ‘guten Stube’ und des gemütlichen Interieurs an Räume abgetreten haben, die mit ihren Apparaten, ihrer Helligkeit an ein Atelier eines Zahnarztes (...) erinner[n].

Thus, the integration of hygienic criteria into residential architecture, called for by Döcker in his publication Terrassentyp had already become common practice by the time of its publication in 1929.

The motivation for Döcker’s publication does not, therefore, merely lie in the simple desire to take stock of a closed chapter of architectural history. Moreover, it is remarkable that at the same time as illustrating architecture that already exists, he stresses the demand for a world, which therefore does not as yet exist.¹⁷⁴ One can conclude that his publication, which at first has the appearance of a sober reference work on terraced building and its main protagonists, more resembles a manifesto for a new architectural type, based on the founding principles of hygiene, and thereby represents the theoretical foundation stone for a new society to be formed by hygienic architecture. Döcker writes:

¹⁷⁴ Richard Döcker, Terrassentyp, (Stuttgart 1929), p. 139.
The New is a result of necessity, the Previous was mostly a result of personal taste and the stance of the individual on the old architecture of traditions, of styles. The realization of a changing task stands at the fore and the central idea in an architect’s education today is not the How of architectural form, but in these days - the social architectural culture, the healthy ground plan of a maximum suitability and the fulfilment of the needs of today’s human society as a social entity. That technology, traffic, and the machine are today always given as proof of the New, is simply an external reason; they all are suitable means of forming that world, which is about to come into existence.\textsuperscript{175}


It is precisely the rational hygiene theme that makes Döcker a utopianist, who not only wants architecture to heal, but also ensure the “building of a happy and healthy future”.\textsuperscript{176} “The social and healthy”, which Döcker sees as an “essential characteristic”\textsuperscript{177} of his time, becomes the content of a new architectural programme aimed to “equip a beautiful world for a healthy human race”.\textsuperscript{178} The vision of being able to achieve a better world and a more just society by following without compromise the hygienic ideals above all manifest in architecture, links the architect Richard Döcker with the doctor and writer Friedrich Wolf (1888-1953).

\textsuperscript{175} Ibid.
\textsuperscript{176} Ibid., p. 139.
\textsuperscript{177} Ibid., p. 136.
\textsuperscript{178} Ibid., p. 17.
2.3.2. Richard Döcker's house for the medical doctor Friedrich Wolf, 1928

A few weeks before the official opening, Döcker, building supervisor of the Weissenhof project, showed the writer and doctor Friedrich Wolf (fig. 54) around the Werkbund Estate. Wolf was fascinated by this new type of housing and was, in particular, deeply impressed by Döcker's residential houses, as they corresponded exactly to his concept of healthy living. Since comprehensive work on his principal medical thesis Die Natur als Arzt und Helfer (Nature as Doctor and Helper) already necessitated a move from Hechingen to Stuttgart (home of the Deutsche Verlagsanstalt, editor of his medical advice book), Wolf exerted every effort to move into one of Döcker's houses in the Weissenhof Estate. Immediately following his appointment with Döcker to view the houses, he enthusiastically wrote to his wife, Else:

Early this morning I was with Dr. Döcker at the show estate of the Stuttgart architectural exhibition and have reserved our new house, built by Döcker, adjacent to others by Gropius, Le Corbusier, Taut, high overlooking Stuttgart! Döcker is in charge of construction and hopes very much to be able to let me have his house; furniture according to his design is already inside, warm water heating, bathroom, veranda, children’s playroom and exercise room... magnificent! Cross your fingers! Afterwards I ate with Döcker and his young wife; we took pictures of Wolf-Döcker

Heut früh war ich mit Dr. Döcker in der Mustersiedlung der Stuttgarter Bauausstellung und habe unser neues Haus belegt, von Döcker gebaut, daneben eines von Gropius, von Corbusier, von Taut, hoch über Stuttgart! Döcker hat die Oberbauleitung und hofft sehr, mich in dieses sein Haus hereinzubringen; Möbel nach seinen Entwürfen sind drin, Warmwasserheizung, Bad, Veranda, Spielkinderturnzimmer... fabelhaft! Halte den Daumen! Dann aß ich bei ihm und seiner jungen Frau; wir haben noch Photos von Wolf-Döcker gemacht

Despite numerous efforts, the decision by the appropriate town authorities in Stuttgart took time to come through, so that Wolf, put under pressure by the final work to be done on Die Natur als Arzt und Helfer, was forced to change his plans before a decision came. In October 1927, he moved to Stuttgart and lived at first with
a family in a small flat for employees of the Deutsche Verlagsanstalt: "I had had enough of the lottery game of the Weissenhof estate." However, Wolf retained the wish to live in a house designed by Döcker and in April 1928, he commissioned the architect to build the Wolf family home. Only a few months later, a roomy house with garden and generous exterior rooms was built on a sunny piece of land with an area of almost 700 square metres on the heights of the West of Stuttgart (fig. 55a,b). During the planning and building stage, Wolf writes to his wife:

It is likely that within this year we will be able to build a house and thus will be able to lead an outdoor-life!

Es wäre möglich, dass wir noch dieses Jahr zum Bauen und Draußenwohnen kommen!

Döcker fulfilled this wish. Punctually in July 1928, family Wolf moved house (fig. 56). Just like Döcker’s own house in the Hermann-Kurz-Straße, the Wolf house was reduced to the most important elements and built according to hygienic criteria. According to the poet Sergej Tretjakow, a friend of Wolf, even the name of the street was part of the hygiene concept. He writes:

The house – a white cube. A fragment of a sanatorium. And the name of the street consisting of aluminium, light and air – Zeppelinstraße.


Not only the ground plan (fig. 57) and the building materials, but also the interior designs submit to the shared hygienic ideals required by Döcker and Wolf. In this

179 Letter from Friedrich Wolf to his wife Else, June, 13th, 1927, Friedrich Wolf Archiv, Berlin, hereafter known as FWA.
180 Letter from Friedrich Wolf to Emil Gemeinder, September 1927, FWA.
181 The history of the Wolf family home from its construction to the emigration of the family under the national socialist regime is published in a short volume and offers a valuable basis for this chapter., in: Michael Kienzle and Dirk Mende, Friedrich Wolf – Die Jahre in Stuttgart, 1927-1933, (Stuttgart 1988).
182 Letter from Friedrich Wolf to his wife Else, 18th April 1928, FWA.
way, Döcker fulfilled Wolf's demand, formulated in his recently completed natural health guide *Die Natur als Arzt und Helfer* that tuberculosis and rickets be "combated at the root" with "healthy, airy, light and roomy living quarters!"

Although most doctors generally agree on this, according to Wolf, they still continue to "immunize, inject and send people off to sanatoria". Following these requirements, he laid particular emphasis in planning the house on the hygienically correct design of the kitchen, bathroom, and WC. Furnishings are Spartan: fitted furniture designed to save space, un-upholstered chairs, wooden loungers with woollen blankets and no pillows, water-based paint and oil varnish in place of wallpaper, linoleum, wooden or composition floors in place of carpets, which are painted red in the case of the Wolf house. Apart from that: no pictures, no hanging lamps and central heating instead of single stoves and as many windows as possible guarantee a good through draft.

Döcker's design advanced in particular the concept of hygienic way of life postulated by Wolf, in other words, hygienic operation in all matters of daily life. Bedrooms and children's rooms lie on the sunny side and two terraces form exterior rooms directly joined on to the house (fig. 58). Central to the concept was the upper air terrace, guarded from view by red and white awnings, in front of the parental bedroom, representing a place of fluid transition between the inside and outside. There, morning gymnastic exercises may take place, as well as sunbathing with or without loincloth, and cold showers in the Felke185 bathtub (fig. 59). The aforementioned writer Tretjakow describes a houseguest's view of the most prevalent aspects of a hygienic way of life in the Wolf family. His ironic comments perfectly illustrate the prevailing atmosphere:

I am a guest in the house cube. Immediately after waking, I crawled out from under the shaken out feather bed, which in Germany replaces the blanket. In the house cube everything is perfectly clean, nothing superfluous hangs on the walls. In the house cube it is absolutely still. Only one room gives a morning concert. This consists of scrubbing, human grunting and the sound of splashing water. A man glowing red is

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185 The 'felke bathtub' was a low rimmed metal bath tub, which was part of Pastor Emanuel Felke's (1856-1926) naturopathic concept of healing.
crouched in the tub and pours ice-cold winter water over his thighs. Up to a hundred times. Then he pours the same over his shoulders. He lets himself fall swiftly backwards into the water and then stands up again. He stretches to his full height and scrubs his back, neck and whole body with two brushes, in the same manner in which a shoe-cleaner scrubs boots. “This type of cleansing oneself”, he quotes, “precludes any chance of catching a cold. Intestines gases are extruded during the process. Often defecation occurs immediately after drying the body.” This type of light athlete, as if moulded out of copper, pleases me. (...) The play of his muscles is readily apparent, nowhere has a layer of calming fat found a place between the muscles and the skin. The shower roars. I say: “Good morning my host. I like the way you are built, comrade Wolf.” I hit the bulls eye in mentioning the favourite work of my host – himself. (...) The laws of this house are as strict as with the ancient fathers. (...) The food on the table is not simply a progression of food – burning conviction underlies it, a strict dogma. This table seems to be raised high above all the world, the carrot agitates with excited voice, and the Leipzig mixed vegetable dish dramatically holds forth, ready to sacrifice itself on Golgotha, simply to release mankind from the burden of the mouldering nonsense within it... 186


Leipziger Allerlei, bereit selbst ein Golgotha auf sich zu nehmen, nur um den Menschen von dem in ihm faulenden Unrat zu entlasten...

In this way, the ideal of a holistic, hygienic way of life becomes reality for family Wolf in the architectural framework design by Döcker (fig. 60-63). That this cross-disciplinary thinking was not only true of architects and medical doctors in Germany, can be demonstrated by the most widely known building designed by the Austrian architect Richard Neutra\(^\text{187}\) (1892-1970), for the medical doctor Philip Lovell – the so-called ‘Lovell Health House’ (1927-29) in California (fig. 64), built at almost exactly the same time as Döcker’s house for Wolf.\(^\text{188}\)

Two like-minded thinkers had come together and the ideal client had found his ideal architect: the young, exuberant and committed Neutra, who, excited by Frank Lloyd Wright’s prairie houses and their asymmetrical, fluid ground plans, recognised nature as the life elixir of the people and from then on had drawn on biology in his architectural thinking – and the doctor, Philip Lovell, who through his flourishing health institute, called the ‘Physical Culture Center’, and in an exceptionally successful column in the Los Angeles Times, propagated the notion of health and body care by natural means. Lovell hoped to achieve the improvement of human well-being with better housing rather than medicine.

The so white building raises two storeys above the swimming pool. On the first floor are the living rooms, with library, dining space, kitchen, guest rooms and verandas, on the second, living rooms with their open verandas for sleeping. The entirely open – both literally and metaphorically – ground plan corresponded precisely with the ideology of the health apostle Lovell and his exotic lifestyle. His home life – or the popular image thereof presented to the outside world – illustrated his message just as did his medical works, and indeed the house was opened to the public for particular

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\(^\text{188}\) Richard Döcker, working in the Berlin studio of Erich Mendelsohn when he was absent to stay with Frank Lloyd Wright in America, got to know Richard Neutra, who also worked in this studio at the time. Cf. Richard Döcker, *Architektur und Wohnform*, (Stuttgart/Darmstadt 1953/54), p. 41. The two architects must have met in the time between 1920 and 1923, since according to the biography of Manfred Sack on Neutra, he did not live in Berlin before 1920 and already moved to the USA in 1923 (where he eventually worked for Frank Lloyd Wright).
periods. Nor did it reflect Neutra’s architectural intentions any less. The Lovell house
became his manifesto of ‘bio-realism’, by which architecture would serve the needs
of the human nervous system through providing it with an optimally favourable
environment. In all, the Lovell house emphasised Neutra’s requirements for
architecture, which resulted from his psychological, physiological, biological and
ecological perspective.¹⁸⁹

The American architectural historian, Kenneth Frampton, emphasizes the importance
of the ‘Lovell Health House’ for the international style in America, when he
describes it as the “apotheosis of the international style”.¹⁹⁰ Frampton’s estimation is
supported by the invitation extended to Neutra to exhibit his synthesis of medical
criteria and formal architectural methods as part of the epochal exhibition of the
Museum of Modern Art in New York (1932), the exhibition, which formulated the
concept of the International Style.

The examples of the houses of the architects Döcker and Neutra for the doctors Wolf
and Lovell make evident how closely aligned the living ideals of architects and
medical doctors had become. This can be seen as the concluding step in the
development of an architecture increasingly characterised by medical concerns,
which took as its point of departure the discovery of bacterial causes of epidemics
and diseases and the demands made on architecture in relation to their treatment and
— above all — their prevention. That Wolf regarded even those houses by architect
Richard Döcker (Weissenhof estate), which weren’t planned according to explicit
medical stipulations, as essentially corresponding ideally to his vision of hygienic
housing, marks both a conclusive stage and the beginning of an architectural style,
which of itself, without specific demands being made by the client, carried within it
the basic requirements for hygiene. It is therefore to be assumed that the essential
hygienic potential of this architectural style presented one of the most important
motivating factors for doctors such as Wolf and Lovell, in allowing advocates of

¹⁸⁹ For the aspect of psychic hygiene in Neutra’s work cf. Sylvia Lavin, “Open the Box. Richard
Neutra and the Psychology of the Domestic Environment”, Assemblage, no. 40, Dec. 1999, p. 7-
25.
Neues Bauen such as Döcker and Neutra to transmute their ideal vision of hygiene into architectural form.

That the boundaries between the two disciplines became increasingly blurred is shown by, among other things, the close affinity of architects and medical doctors to the others’ profession respectively. In a letter to Wolf, Döcker, who later was not allowed to work under the National Socialist regime writes:

...I went on to study three semesters of biology and would have liked to have become a doctor, I was advised not to do it, right then in '33 and yet – I should have done it...191

...ich habe noch 3 Semester Biologie studiert, am liebsten wäre ich Arzt geworden, man hat mir aber davon abgeraten, gleich 33 und doch - ich hätte es machen sollen...

In turn, Wolf in his Die Natur als Arzt und Helfer (1928) denotes architecture as one of the central methods for healing and accords it, exclusively illustrated by the example of Neues Bauen, a more than equal position alongside more established older prophylactic practices against disease. In his publication, Friedrich Wolf goes so far as to conceptualise Neues Bauen as prototypically hygienic. This merging of the interests of medicine and architecture paved the way for the later intentional blurring of cause and effect of medical and architectural interests. For this reason, the following sections of this thesis shall examine to what extent doctors and architects utilised the qualities of each others’ disciplines to legitimise their own interests. The main focus of the following observations therefore shall be on Friedrich Wolf’s view on and utilization of Neues Bauen, taking him as a perfect example of a doctor entirely committed to social and hygiene issues.

3. Biographical interaction between hygienists and architects in Friedrich Wolf’s sphere of influence

3.1. Friedrich Wolf: doctor, life reformer, poet, politician

"Dr. Friedrich Wolf, doctor in Stuttgart and the author of “Cyankali”, spoke as a guest of the Vegetarian Society in Berlin on the use of the modern art of healing for the new human race and demonstrated with slides the advances of hygiene from 1900 to the present day. He added his support to the requirements of light, air, sun, water, gymnastics, massage, dietary treatment, vegetarian nutrition, bathing meadows near to the city, gardens in estate developments. One was able to trace in pictures the development of women’s fashion from the former, unhygienic, heavy clothing to the short, light penetrable and breathable modern clothing, but one also saw not only clinics with many verandas where light and air can easily access, but also hospitals with proudly decorated façades and dark rooms. Dr. Wolf demanded that large companies, the state and local authorities should build a health school for the people, whose various classes, quiet rooms, sun classes, housing in tents, sports fields, should benefit those needing to convalesce and, depending on their stage of recovery, also sick people."193


192 The term *life reform* is a literal translation from the German *Lebensreform*, which describes a holistic approach to cope with degeneration of man caused by civilization.

193 Newspaper article, no proof of source, probably *Stuttgarter Tageblatt*, 19th November 1929, FWA 298/6.

As the above review of a lecture from 1929 serves to show, the years in which the Wolf family lived in Döcker’s specially designed house, were particularly productive years for Friedrich Wolf. Wolf’s manifold efforts to save the degenerate, modern world from the “self-subversion of humanity” by means of hygienic regeneration of the individual, to lead each human being back to a natural, original way of life, meant that he became more and more well-known not only as a doctor and life reformer, but also as an author, dramatist and politician and one of the most versatile and influential personalities of the Weimar Republic.

Wolf used all channels of communication and disciplines standing at his disposal to help realise his vision of a new, simpler and healthier world. While continuing to practise as a doctor, he wrote popular-science health pamphlets with titles such as “Your stomach is no pleasure park” (Dein Magen, kein Vergnügungslokal), or “Despite Speed 1000 ... Healthy,” (Trotz Tempo 1000 ... gesund!), took a stand on political health matters in newspaper articles and was the driving force of the ‘Association of Socialist Doctors’ (Verein sozialistischer Ärzte), and held lectures for shift workers, (sometimes even at one o’clock in the morning), on sexual hygiene, housing hygiene or the Soviet Union. Since his early youth he had participated in almost every area of life reform. Later, he was particularly active in natural health care, nutritional reform, clothing reform and naturopathy as well as holding leading positions in the youth movement, ‘Wandervogel’ movement and workers’ movement. Politically, Wolf dedicated himself to the large left-wing currents (USPD sympathiser, then local SPD representative, and finally member of


195 The Wandervogel movement came into being in 1896 in Berlin. As part of the German youth movement, the Wandervogel movement longed for self-education in a youth community, hiking in light clothing and living outdoors in camps.
the KPD\textsuperscript{196}). As an active member of the ‘German Workers’ Theatre Federation’ (Arbeiter-Theater-Bund-Deutschland), he held a lecture entitled “Art is a weapon!” (Kunst ist Waffe!) in 1928, which made him one of the most quoted exponents of the workers’ cultural movement. As a member of the literary avant-garde (including expressionism, social realism, agitprop movement), he spread his ideas on social reform by means of the theatre and mass media such as film and radio. He worked together with artists such as Ernst Busch, Bertold Brecht, Erwin Piscator, Lion Feuchtwanger, John Heartfield, Oskar Schlemmer and Konrad Felixmüller. Wolf's name finally really became a synonym for a socially engaged author throughout the whole of Germany, thanks to his drama against the abortion paragraph (§ 218 of the German Penal Code), which carried the title \textit{Cyankali}. There were nationwide protests, which led to the creation of solidarity committees following his incarceration in 1931 due of behaviour contravening § 218.

While Wolf’s revolutionary optimism remained unwavering, the political climate was gradually darkening. As a card-carrying communist and anti-fascist and not least because of his Jewish heritage, Wolf was forced to go into exile in 1933\textsuperscript{197}.

Friedrich Wolf was born in 1888, into an era, which particularly in Germany was wholly characterised by radical change and social upheaval.

The modernization of the nineteenth century (industrialization, urbanization, the beginnings of the mass society, advances in science and technology) was not the only thing responsible for an all-encompassing shake-up in the basic economic structure of society. These processes also left their mark on the human consciousness and contributed to a feeling of general social disorientation to an almost unimaginable extent. At the same time, a trend towards secularising and rationalising man’s existence was developing, and was interpreted by many as a symptom of the deficiency and depravation of individual existence. Body, mind and soul were all

\textsuperscript{196} USPD: Unabhängige Sozialdemokratische Partei Deutschlands; SPD: Sozialdemokratische Partei Deutschlands; KPD: Kommunistische Partei Deutschlands

\textsuperscript{197} Wolf first goes from Austria via Switzerland to Sanary-sur-Mer in France (1933), later to the Soviet Union (1934-1937), and back to France (1938-1940).
deemed to be deeply traumatised to an equal extent.\textsuperscript{198} The goal of all of Friedrich Wolf’s work was to restore man to his original state in which body, mind and soul are completely in harmony, and his original impetus was the life reform movement.

In Germany, the term \textit{life reform} came into being in the middle of the 1890s. As a movement it sought a comprehensive renewal of an entire way of life, in order to counter the advancing decline in the health of modern man brought about by the damages of civilization\textsuperscript{199} Although the different areas of life reform were all very closely linked and Friedrich Wolf praises almost every one of these different areas in \textit{Die Natur als Arzt und Helfer}, the parts that captured his special interest were those, which go under the name of self reform in secondary literature. Above all, these included the naturopathy movement, clothing reform, naturism, nutritional reform, vegetarianism, the anti-alcohol movement, the youth movement and sexual reform.

Despite his training in traditional medicine, Friedrich Wolf saw himself as a doctor of the natural healing arts, and in this role he understood diseases to be the consequence of negative environmental factors and a false way of life that had turned away from nature. In diametric opposition to the crowded masses dwelling in the tenement blocks of cities, to the poor quarters, to the everyday routine of life in the factory, in short, to the deformations of an advanced society, he saw nature as one of the most crucial sources of renewal. Thus, Wolf saw natural health, both as a prophylactic measure and as a form of regeneration by means of the natural healing impulses of light, air and sun, as the only way to counteract the negative developments of the modern, which he interpreted as manifestations of decay. Within this scheme, damage was never interpreted locally, but always holistically, even environmentally: not certain limbs or the body alone, but rather the whole person and his immediate environment must be considered by the natural health doctor.

Since the essence and true nature of man can only be seen in the naked man, the goals of naturopathy were very close to those of the movement of naturism, which


principally recommended the natural state of nudity as a means of healing the
aforementioned social evil.

This movement was clearly not concerned with the after-life, but with the human
body in this life, and was seen by many as a new, secular religion. It had its roots in
Friedrich Nietzsche (1844-1900), Richard Wagner (1813-1883), the social reformer
and painter Karl Wilhelm Diefenbach (1851-1913) and the Swiss natural health
practitioner Arnold Rikli (1823-1904), who founded a sun-healing sanatorium in
1854, in which he also recommended nudity as a form of therapy. During the 1890s
in Germany, the first “light and air baths” following this model were opened. And in
1906, these institutions were united in Berlin under the title of “German Air-Bathing
Society”.

The pictures and sketches by the artist Fidus (Hugo Höppener, 1868-1948),
particularly those from around 1894, give visual expression to the body concept of
the life reformer, which later heavily influenced the ‘Wandervogel’ movement, the
nudity and naturism movements, expressional dance and nude photography. Heinrich
Pudor (1865-1941) compiled a collection of aphorisms, Naked People - Hail the
Future from 1891 to 1893: a combination of health tips, clothing reform,
vegetarianism, anti-modernism and anti-Semitism, and in the years that followed,
many people imitated this model.

The pure aesthetic of the naked body, with a simultaneous negation of any sexual
implication, also played a large role in the ‘Wandervogel’ movement. Fidus’ picture
“prayer to light” (“Lichtgebet”) (fig. 65, compare to fig. 66), portraying a naked,
androgynous youth from behind, was an icon for the earlier youth movement, and the
subject of numerous photographs copying this pose. One of the most important
representatives of nude culture in the Weimar Republic was Hans Surén (1885-
1972), the former commander of the ‘Army School for Physical Education’, whose
books such as Man and Sun (1924) (fig. 67a-b) sold several hundred thousand
copies. Surén’s approach was to reach the apogee of self-discipline and self-
awareness by means of the strict care and training of the body. He referred back to
models from Greek antiquity and recommended naked sport and naked gymnastics,
performed with an oiled body. His ideas were very popular, especially amongst young men.

Friedrich Wolf, the youthful ‘Wandervogel’ adherent also liked to have his ideal, muscular physique photographed in dramatic poses, for example as a naked spear thrower (fig. 68-70) and was a model for illustrations in August Froriep’s Anatomy for Artists (1913) (fig. 71, 72a-c). As a school student he was very active in physical education and rowing clubs, as a medical student he distinguished himself with his athletic achievements, and in 1911, he took part in the pentathlon at the German athletics festival in Nuremberg.

Like all ‘Wandervogel’ adherents, Wolf also favoured outdoor physical training in nature, wearing shorts, walking shoes or sandals (the key accessory of the clothing reform movement), and practising sports, gymnastics and naturism. At the big ‘Wandervogel’ meetings on the Hoher Meißner Mountain in 1913, Wolf was one of the leading speakers. Two police fines, which Wolf received because of “loud cheering and shouting at night” and bathing “without bathing-trunks”200 show that the Wandervogel, youth and naturism movements also served as protest movements. Returning to the essence of life through nakedness and vigorous hikes in nature was also intended as a criticism of the civilized world in which progress is the only thing of importance. In a society destabilised by identity crises and characterised by radical change, the concept of ‘youth’ had reached mythical proportions for the ‘Wandervogel’ movement. Youth in itself was seen as the epitome of the future, a breaking-away to greener pastures, and the overcoming of an inherently sick and decrepit system. Stefan Zweig describes the euphoria in radical change and renewal that was present in the youth movement, and which characterizes Friedrich Wolf’s behaviour throughout his life. He writes:

And not only the cities, but also the people became more beautiful and healthier thanks to sport, improved nutrition, shorter working hours and a closer connection to nature. Winter, formerly a time of monotony, which people disposed of morosely in card games in drinking places or discontentedly in overheated parlours, was re-discovered in the

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mountains as nectar for the lungs, as the sensuality of the blood racing beneath the skin. (...) On Sundays, everyone raced down the snowy slopes on skis and toboggans in bright sports jackets in their thousands and ten thousands, sports palaces and swimming pools sprang up everywhere. And you were particularly aware of the change in the swimming pool; whereas during my youth, a really well-proportioned man would be remarkable amongst all the jowls, potbellies and sunken chests, physically supple, sun-tanned and sportily-toned figures now compete with each other in antique style and joyful competition. Nobody apart from the very poor now stayed at home on a Sunday, the entire youth population hiked, climbed and fought, trained in all forms of sport; (...). An entire generation decided to become more youthful and in opposition to my parents' world, everyone was proud of being young; suddenly the beards disappeared amongst the younger ones, then the older ones began to copy this, so as not to seem old. Being young, vital and no longer behaving in a dignified manner, was the word of the day. Women threw away the corsets that restricted their chests, they did without parasols and veils, because they no longer scorned the air and sun, they shortened their skirts, to be able to move their legs when playing tennis and were no longer ashamed of letting their shapeliness be visible. The world had become not only more beautiful, but also more free. 201

Aber nicht nur die Städte, auch die Menschen selbst wurden schöner und gesünder dank des Sports, der besseren Ernährung, der verkürzten Arbeitszeit und der innigeren Bindung an die Natur. Die Winter, früher eine Zeit der Öde, von den Menschen müßmutig bei Kartenspielen in Wirtshäusern und gelangweilt in überheizten Stuben vertan, war auf den Bergen entdeckt worden als Nektar für die Lungen, als Wollust der blutdurchjagten Haut. (...) Sonntags sausten alle in grellen Sportjacken auf Skier und Rodeln Tausende und Zehntausende die Schneehalden hinab, überall entstanden Sportpaläste und Schwimmbäder. Und gerade im Schwimmbad konnte man die Verwandlung deutlich gewahren; während in meinen Jugendjahren ein wirklich wohl gewachsener Mann auffiel inmitten der Dickhälse, Schmerbäuche und eingefallenen Brüste, wetteifern jetzt miteinander turnerisch gelenkige, von Sonne gebräunte, von Sport gestraffte Gestalten im antikisch heiteren Wettkampf. Niemand außer den allerärmsten blieb Sonntags mehr zu Hause, die ganze Jugend wanderte, kletterte und kämpfte, in allen Sportarten geschult; .... Die Ganze Generation entschloss sich, jugendlicher zu werden, jeder war im Gegensatz zu meiner Eltern Welt stolz darauf, jung zu sein; plötzlich verschwanden zuerst bei den jüngeren die Bärte, dann ahmten ihnen die Älteren nach, um nicht als zu alt zu gelten. Jungsein, Frischsein und nicht mehr würdig tun, war die Parole. Die Frauen warfen die Korsette weg, die ihnen die Brüste eingeengt, sie verzichteten auf die Sonnenschirme

und Schleier, weil sie Luft und Sonne nicht mehr scheuten, sie kürzten die Röcke, um beim Tennis die Beine, regen zu können und zeigten keine Scham mehr, die wohlgewachsenen sichtbar werden zu lassen. Die Welt war nicht nur schöner, sondern auch freier geworden.

The casting-off of heavy, multi-layered, representative, uncomfortable and unhygienic clothing and beards, hats and corsets, the reaction against dusky, dark, lightless Makart interiors and the refusal of heavy, opulent and meaty food: all this was ultimately seen as cultural opposition to the reactionary, capitalist, consumer bourgeoisie that, as Wolf believed, had given rise to social inequality in the first place.202

However, healing in a strictly medical sense was not enough for man. As a secularised religion, life reform also called for the healing of the soul, its redemption. This goal was announced most strongly by the vegetarians, the representatives of nude culture and of natural health. Friedrich Wolf, who had a religious up-bringing as the son of Jewish textiles merchants and originally was meant to become a rabbi before deciding to study medicine, can be seen as a paradigm for the epochal renunciation of transcendental, religious traditions in favour of physical redemption in this world.

The world view of life reform consisted in essence of gnostic, eschatological teachings of redemption, built up on the trinity: paradise, the fall into sin, redemption. Within this scheme, renunciation of the natural basis of existence was

202 Cf. letter from Friedrich Wolf to Emil Gemeinder: In my mind, today’s youth movement is not a movement as such, not a point detached from the otherwise hard, cruel, brutal life burning around us, it is no island of the blessed and no holy grail. It is much more a part in the midst of the plight of the creature, who is pulverised for ten hours a day by the grinding of machines to become the proletariat, who is bred in bank offices and jewellery departments to become the alienated, dried up and truly unhappy contemporary, as we see him shuddering before us. The cry for useful work, the cry for the housing estate, our old ‘Wandervogel’ cry for nature, it is today, whether we want to hear it or not, the cry for help of many of our best factory workers., 14th January 1925, FWA, M. 383; „Die heutige Jugendbewegung ist für mich keine Bewegung an sich, kein Punkt losgelöst vom übrigen harten, grausamen, brutalen, um uns brandenden Leben, sie ist keine Insel der Seeligen und keine Gralsburg. Sie ist viel mehr ein Teil mitten aus der Not der Kreatur, die zehn Stunden täglich im Mahlgang der Maschinen zum Proletariat verschrotet wird, die in Bankbürös und Bijouterieabteilungen zu dem entfremdeten, ausgedörrten und wahrhaft unglücklichen Zeitgenossen herangezüchtet wird, wie wir ihn schaudernd jetzt vor uns sehen. Der Ruf zur Wertarbeit, der Ruf zur Siedlung, unser alter Wandervogelruf zur Natur, der ist heute, ob wir es hören wollen oder nicht, der Hilfeschrei vieler, gerade der besten Fabrikarbeiter.”
seen as being the fundamental point, at which mankind fell into sin.\textsuperscript{203} The belief in creating an earthly Elysium through nudity and closeness to nature can be seen in Wolf's sketches for health schools and health parks. Like in Ovid's 'golden age', Wolf envisioned paradisical life to take place in a health park:

The harmless novice, who enters the health park for the first time, will probably experience several surprises. He comes through the reception, through the track alongside the enclosing fir hedge and suddenly finds himself in front of a large grassy area (...). There, in the case of the men's side, - a double row of small block houses organized like a chessboard, "air huts", in front of which naked people relax on the grass, breathe, play, do their exercises, massage each other on plank beds or let themselves be thoroughly kneaded by the chief masseur. Not an unusual picture.\textsuperscript{204}

Abandoning hope in redemption in the afterlife brought with it an associated drive to change society and optimise human living and social conditions in this life. Following the religious model, life reform movements sought to change the individual, in order to ultimately effect a re-modelling of society as a whole that was in line with their ideas, by the simple method of multiplication. The social light-air-sun-state as an earthly programme for redemption and Wolf's euphorically


proclaimed “new brightness”\textsuperscript{205} as a progressive attitude of mind, should bring forth a paradise on earth. According to Wolf, “the new belief” will grow from the total reality of life, from the simple and yet immeasurable plight of the everyday! The new belief in a new, classless, brotherly human collective must be a strong one, I will even say, utopian one! This new belief must also be able to move mountains, it must be messianic, it must contain eternal human yearning within it, no matter whether it writes reign of the messiah or “sun state” on its banner!\textsuperscript{206}

aus der Gesamtwirklichkeit des Lebens, aus der simplen und doch unermeßlichen Not des Alltags heraus erwachsen! Auch der neue Glaube an eine neue, klassenlose, brüderliche Menschengemeinschaft muß ein gewaltiger, - ich scheue nicht utopischer sein! Auch dieser neue Glaube muß Berge versetzen können, er muß ein messianischer sein, muß ewigstes Menschensehnen in sich schließen, ob es nun das Messiasreich oder den „Sonnenstaat“ auf sein Banner schreibt!

During Wolf’s employment as a town doctor in Remscheid (1920), he came into contact with the industrial proletariat, and was thus able to develop himself from the leader of a youth movement that was strongly characterised by its sporting activities, to one of the leaders of the workers’ movement. The confrontation with the plight of the workers in the Rhine industrial area strengthened his opinion that disease stems from poor hygiene and poor social conditions, which are brought about by a capitalist, industrial society. Poor working conditions, low wages and in particular housing that was injurious to health were responsible in his view for such a sweeping decline in the people’s health. In Wolf’s mind, an intense relationship with nature becomes a pivotal healing method for people, who are weakened and whose health is in danger through the ever-increasing struggle against the “man-eating machine”\textsuperscript{207} and the “man-eating sea of houses”\textsuperscript{208}. A weakened physical constitution as well as a weakened will could be strengthened through constructing a new relationship with nature. Like a cry to battle, Wolf declaims in a lecture on “sun schools”:


\textsuperscript{206}Friedrich Wolf, “Der neue Glaube oder die Religiöse Frage und die wirtschaftliche Antwort”, undated manuscript, FWA M. 383.
Joy in natural living, becoming healthy, winning a new feeling for the earth, for the ground, for the air, for the sun. The elemental cry of our youth: return to the earth!

Freude am Naturleben, Gesunden, neues Gefühl für Erde, zum Boden, zur Luft, zur Sonne gewinnen. Der elementare Ruf unserer Jugend: zurück zur Erde!

In Remscheid, Wolf's political, artistic and medical goals merge with each other. Wolf leads a sanitary support centre during the May riots, holds public speeches during the general strike, works as part of an action comittee, in his role as a welfare doctor he puts through socio-political reforms (bathing meadows, playing grounds) and even finds time to hold lectures at local adult education centres. In a letter to his mother he writes:

From the investigation of infants to young criminals, the town prostitutes to school children, housing hygiene, tuberculosis welfare, all of that is my department. And then I also teach 1 hour a week in the local lyceum on social medicine for the higher classes...phew!

Von der Untersuchung der Säuglinge bis zu den jugendlichen Verbrechern, der Stadtdirnen bis zu den Schulkindern, Wohnungshygiene, Tuberkulosefürsorge, das alles ist mein Ressort. Dann dociere ich wöchentlich 1 Stunde im hies. Lyceum über sociale Medicin für die höheren Töchter...uff!

In his 1921 play The Black Sun, Wolf's intention of turning his back on the city, on civilization and its degeneration is already visible. On a quest for the 'pure', the 'naked' and the 'new', and disappointed by conventional forms of living and

207 Letter from Friedrich Wolf to Emil Gemeinder, 14th January 1925. FWA M. 383.
208 Ibid.
209 Friedrich Wolf, Sonnenschulen, handwritten lecture manuscript, (Remscheid 1921), FWA 158/1.
210 Letter from Friedrich Wolf to his mother Ida Wolf, 8th February 1920, FWA.
211 Cf. letter from Friedrich Wolf to Director Wiecke: "Here, feeling for life stands contrary to feeling for life. Either you are able to feel the decay of the western world and technology to the very last patented folding collar button, or you're not able to feel it! Either you can feel the new life that is simultaneously forcing itself through the decay and is already invisibly present in a wholly new form, in all its wonderful purity and nakedness, or you cannot feel it." ("Hier steht Lebensgefühl gegen Lebensgefühl. Entweder man spürt den Verfall des Abendlandes und der Technik bis in den letzten Patentklappkragenknopf, oder man spürt ihn nicht! Entweder man spürt das neue Leben,"
working together, Wolf and his family joined the painter Heinrich Vogeler’s colony at the Worpswede Barkenhoff in 1921 (fig. 73). There he lived a tough, bare communal life with like-minded painters, architects, writers, life reformers and social reformers as a self-sufficient smallholder. Looking back Wolf writes:

"I gave up my position as town doctor of Remscheid and went to the Barkenhoff near Bremen as a smallholder and turf worker. It was a smallholder cell of communist and syndicalist war-damaged manual and intellectual workers (...). We wanted communism in essence, in a nutshell, as pure culture, under a glass bell-jar, ‘with no compromise’. (...) In the confusion of the years 1920/21, we wanted to be a support centre for the Bremen working class; but the Bremen workers, who came out to us every Saturday and Sunday in droves, stared at us – with justification – like exotic animals, like a cabinet of waxworks. We worked like Negroes for twelve to fourteen hours a day in the field and on the moor; at the time, we wanted to enforce the ‘cell’ without violence (...); but we isolated ourselves more and more."²¹²

"Ich gab meine Stelle als Stadtarzt von Remscheid auf und ging als Siedler und Torfarbeiter auf den Barkenhoff bei Bremen. Es war dies eine Siedlungszelle von kommunistischen und syndikalistischen Kriegsbeschädigten Hand- und Kopfarbeitern (...). Wir wollten einen Kommunismus in nuce, in der Nußschale, in Reinkultur, unter der Glasglocke, „ohne Kompromisse“. (...) Wir wollten in dem Wirrwarr der Jahre 1920/21 ein Stützpunkt für die Bremer Arbeiterchaft sein; aber die Bremer Arbeiter, die jeden Samstag und Sonntag in Scharen zu uns hinauskamen, bestaunten uns – mit Recht – wie exotische Tiere, wie ein Panoptikum. Wir schufteten wie die Neger täglich zwölf bis vierzehn Stunden im Feld und Moor; wir wollten damals gewaltlos die „Zelle“ erzwingen (...); aber wir isolierten uns immer mehr."

After the failure of this experiment and following a short interlude as a doctor in Hechingen, Wolf worked for many years as a doctor amongst the poor farmers on the ‘Rauhen Alb’ in South Germany. There, in 1926, shortly before his move to Stuttgart, he began to make preparations for writing his natural medical home guide. It was finally published in late 1928 by the Deutsche Verlagsanstalt in Stuttgart under the title Die Natur als Arzt und Helfer.

The years 1926 to 1929 are also the years that mark the pinnacle of Friedrich Wolf's converging spheres of political agitation, artistic creativity and medical engagement. On a journey from Höllsteig, where at the time Wolf was working on the manuscript of *Die Natur als Arzt und Helfer*, to Berlin in March 1927, Wolf both personally encountered activist artists and enjoyed formative artistic experiences. Amongst others, these included the Soviet film *The Mother* by Maxim Gorki (1868-1936) and Erwin Piscator's (1893-1966) production of Ehm Welk's *Storm over Gotland*. These productions and his friendship with progressive artists and representatives of the Agitation and Propaganda Movement (agitprop movement) strengthened his understanding of art as a weapon in a political struggle.

In 1928, Friedrich Wolf joined the German Communist Party (KPD) and from then on he put his artistic skills entirely at the service of the Party. Friedrich Wolf's literary activities for the KPD culminated in his famous speech "Art as a Weapon", which he delivered in 1928 at the 10th annual meeting of the German Workers' Theatre Alliance, and which is one of the essential cultural political documents of the KPD (fig. 74). The following excerpt perfectly reproduces the powerful, activist character of the manifesto:

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214 Ehm Welk's (1884-1966) play *Gewitter über Gotland* was premiered on 23rd March 1927 in Berlin was premiered in a production by Erwin Piscator, cf. Konrad Reich, *Ehm Welk. Stationen eines Lebens*, (Rostock 1976). The song of the revolutionary Vitalianer in this play is as follows: "Brothers, take up your weapons, the day rises a bloody red! / With merchant, duke and priest / break the ignominy of mankind / poor man hear the roaring sound / soon you will be avenged / the red brothers will exchange / masters with the knave. / Triumphant flies our banner / death to tyranny. / The brotherhood of Vitalianer, make all replete and free.”, p. 150); "Brüder, auf zu den Waffen, blutig rot steht der Tag! / Mit Händler, Fürst und Pfaffen / zerbricht der Menschen Schmach / Armer Mann hör es rauschen / bald bist du gerächt / die roten Brüder tauschen / die Herren und die Knecht. / Siegreich fliegt unser Banner / in den Tod Tyrannei. / Der Bund der Vitalianer, macht alle satt und frei.“.

215 The term "Agitpropkunst" describes an art form, which was especially created as part of the revolutionary struggle of the working classes. In 1923 the Russian writer Sergej Tretjakow (1892-1939) describes "Agitationskunst" as the "use of art works for the practical goals of persuasion, education and admonition.". Sergej Tretjakow, *Die Kunst in der Revolution und die Revolution in der Kunst*, in: Tretjakow/Boehnke, *Die Arbeit des Schriftstellers. Aufsätze, Reportagen, Portraits*, (Hamburg 1972), p. 12.

"Reading newspapers?" As material for a drama? The culture vultures turn up their noses. They do not know, or do not want to know that there are more important things for us today (...). They do not know that according to a report by the city social welfare authority of Berlin in the year 1922, of those openly infected with tuberculosis 34% had no bed of their own, so every third coughing and spluttering tuberculosis patient has no choice but to share a bed with a healthy person! Please do not turn away in disgust and turn back to "Iphigenie" or flee to the grandeur of Gothic cathedrals! In London 8 people on average lived in one house, in Paris 38 people, in Berlin 76 people. What use is William Tell to us now? The poet of today, who portrays on the stage the need, struggles, belief, and downfall of the man of the street, of rear courtyard housing, factories and mines, he cannot come in kid gloves, with sweet promises of the beyond; his thoughts, his words must necessarily be attack and weapon!"217

,,Zeitungslektüre?“ Als Stoff für ein Drama? Die Kunstpäpste rümpfen die Nase. Sie wissen nicht, oder wollen nicht wissen, daß es für uns heute wichtigere Dinge gibt (...).Sie wissen nicht, daß nach Bericht der städtischen Fürsorgestelle Berlin im Jahre 1922 von den offenen Tuberkulosekranken 34% kein eigenes Bett hatten, also jeder dritte spuckende Tuberkulosekranke mit einem Gesunden aus Not in einem


Wolf’s appeal to artists’ socio-political consciences had great resonance. In the same year, the critic Adolf Behne, much quoted in the architectural chapter of Die Natur als Arzt und Helfer, published an article with the similar title “Kunst als Waffe”. Behne, however, was primarily concerned with warning political artists not to let the artistic element of art disappear into the background in their passion for social criticism. And thus Behne investigates the relationship between successfully imparting political values whilst maintaining artistic integrity, using the example of the Russian revolutionary film, Battleship Potemkin (1925) by Sergej Eisenstein (1898-1948). He turns his back on the view, which disposes of art as an “expired, bourgeois-aesthetic object”, whilst at the same time using it “as a weapon” in a political struggle: “The tendentious revolutionary film “Potemkin” was an incredible success, even with its political opponents. It delivered its tendentious revolutionary message to all classes, into all circles, and what carried it? Its artistic qualities. (...) The artistic work is not carried by the tendency, but rather the tendency by the artistic work. (...) Political conviction is something that we demand from every decent person. But it really cannot replace the most intimate mastery of artistic means. Therefore it is precisely he who sees art as an instrument of human progress and as a weapon in the struggle for liberation, who should lay value on not studying its laws of effect any less closely now than was the case in the field of snobbish art practice, but rather much more." (“Der revolutionäre Tendenzfilm „Potemkin“ war ein ungeheuerer Erfolg, auch bei den politischen Gegnern. Er trug seine revolutionäre Tendenz in alle Schichten, in alle Kreise, und welches waren seine Flügel? Seine künstlerischen Qualitäten. (...) Nicht wird das Kunstwerk von der Tendenz getragen, sondern die Tendenz vom Kunstwerk. (...) Politische Gesinnung ist etwas, das wir von jedem anständigen Menschen verlangen. Aber ein Ersatz für intimste Beherrschung künstlerischer Mittel kann sie wirklich nicht sein. Darum muß gerade derjenige, der die Kunst als Instrument des menschlichen Fortschritts und als Waffe im Befreiungskrieg ansieht, Wert darauf legen, daß ihre Wirkungsgesetze jetzt nicht weniger studiert werden als es im Bereich snobistischer Kunstübung geschah, sondern noch sehr viel mehr."), Adolf Behne, “Kunst als Waffe”, in: Kunst der Zeit, 1928/29, vol. 4/6, p. 117.
Apart from the fact that this manifesto once more underscores the unity of Wolf's medical, artistic and political ambitions, since we find the quoted figures from an article about the housing misery in Stuttgart once again reproduced in the chapter on architecture in *Die Natur als Arzt und Helfer*\(^\text{218}\), it also brings home Wolf's self-proclaimed role as poet-prophet and redeemer of mankind. It is characteristic of Wolf that with his motto "Kunst ist Waffe", he should place himself in the tradition of great social critics, those writers who saw themselves as the "conscience of mankind"\(^\text{219}\) and personally defended their belief in truth and justice as un-swaying combatants of a cause. Wolf conjures up names such as Hutten, Münzer, Schiller, Kleist, Büchner, Tolstoy, and Zola in his speech. According to Wolf, these intellectual combatants are shining examples for "today's writers"\(^\text{220}\) who have the momentous task of seeding the belief in a new, just human order amongst the masses, who will subsequently put this new world order into effect. He writes:

The struggle for theatre is only a partial manifestation of the great struggle of the era, in the middle of which we find ourselves ... of the struggle of a sinking world order against a new one to come!\(^\text{221}\)

Der Kampf um das Theater ist nur eine Teilerscheinung des großen Zeitenkampfes, in dem wir mitten darin stehen ... des Kampfes einer sinkenden Weltordnung gegen eine neue kommende!\(^\text{222}\)

\(^{218}\) Friedrich Wolf, *Die Natur als Arzt und Helfer*, (Stuttgart 1928), p. 245. Under the heading "Dunkelheit, Feuchtigkeit, Engräumigkeit" (darkness, dampness, narrowness), Wolf publishes the "figures of housing misery" from the *Stuttgarter Neues Tageblatt* of 12th November 1927.


\(^{220}\) Ibid.

This last sentence shows Friedrich Wolf clearly professing a goal that stands above all his works: the creation of a just social design as a viable alternative to the existing social order. However, since Friedrich Wolf's changed society must result from a multiplication of changed individuals, the restructuring of man himself must take place before a new, healthy and just world is even viable. So before society can recover its health and be renewed, man must also become healthy and revitalised - in body, mind and soul.

With his naturopathy guide *Die Natur als Arzt und Helfer* of 1928 Friedrich Wolf's provides a 'manual of how to become the new man', and thus indirectly also a 'manual of the construction of the new world'. As a summary of his medical, political and artistic experience and beliefs to date, it not only consists of a traditional medical compendium, but also serves as a school and guide for the new man and his entire way of life. For this reason, it is not only written for "every family" as a kind of 'home apothecary', but is also aimed at "natural health organizations", "hospitals", "open-air associations", "sanatoria", "housing schemes", "schools" and because of the extensive chapter on architecture, even at "building supervisors and artists, who concern themselves with the design of housing interiors".

3.1.1. Friedrich Wolf: *Die Natur als Arzt und Helfer* (1928)

Friedrich Wolf's natural health guide, *Die Natur als Arzt und Helfer*, which was first published in 1928, is the most successful work in his series of medical advice books (fig. 75a-b). For a long time, the 600 page book containing over 450 illustrations was a regular 'bestseller': four editions were published in rapid succession by the Deutsche Verlagsanstalt in Stuttgart until 1933, and remarkably, it continued to be published under the National Socialists, even after Wolf's house and possessions had long since been expropriated.

\[222\] Ibid.


Wolf structures his guide in three main thematic parts: “Your Body”, “Health Education” and “Disease and its Treatment”. The first part discusses the laws of the body, organs, the skeleton and neural and circulatory systems. A particular emphasis is on the treatment of one of the most important human organs: the skin. The second part is dedicated to prophylactic measures intended to guard against nutritional diseases, clothing diseases, and diseases due to poor working and living conditions. These measures are discussed within a framework of educating the population in a holistic and hygienic way of life. The third part involves chronic diseases and their treatment, with an emphasis on the natural healing powers of light, air, water, gymnastics and sport.

Wolf’s reference guide soon conquered a permanent place on the bookshelves of tens of thousands of homes. This was not only because it was affordable for every pocket, but also due to the way, in which Wolf understood how to translate the latest scientific advances into the language of popular science. The photographic illustrations of his proposed health maxims are lively and direct: in numerous photographs Wolf, his wife Else, their small sons Markus and Konrad and other visitors to the Höllsteig such as the Laban dancer Elsa Gaga, are used to demonstrate Wolf’s recommendations. These figures are shown naked, sun-tanned and athletic of build during gymnastic demonstrations, long-distance running, the morning ablutions in the Felke bathtub and early-morning hikes with Wolf’s son, Markus. Everything takes place outside in the midst of nature and in the open air: in light, air and sun. (fig. 76a-f).

The language of this treatise is popular and accessible, while the undertone oscillates between a wide range of attributes. It is statistical, accusatory, scientific, graphic, appellative, convincing, educational, prophetic, didactic, missionary and political. The book reworks his earlier ideas, pieces of advice, recommendations and demands, formulated during his different occupations as doctor, life reformer, poet and politician. The earlier evocative calls appear once again, but are reformulated as factual, medical argumentation. In particular under the main thematic heading “Health Education” (fig. 76g-h), he demands improved working and living
conditions, hygienic living, a conscious way of life, responsible nutrition and public responsibility for health and welfare. Under the heading “Health Education”, Wolf treats in sub-chapters the questions: “What should we eat?”, “What should we wear?” and “How shall we live?”. The last question however, as was briefly announced in the introduction, gets a markedly intensive treatment, which appears unusual in the context of a medical advice book.

With the well-known Zille quote: „You can kill a man with housing as well as with an axe!”, Wolf polemically sums up the “tenement block and reform architecture” discourse (which at the time of publication was already established) and thereby indicates the essential role taken by housing within his system of healing and disease prevention. According to Wolf’s holistic approach, each part of the body is inextricably connected to the next and Wolf sees living quarters as a kind of second skin around the individual. Therefore, housing, “as a second skin” surrounding the individual, must ideally be conceived so that the natural healing powers of light, air and sun can penetrate to the man even inside his house. Wolf then goes on to demonstrate with the use of photographs of the misery of Berlin tenement block housing, how the absence of these natural healing powers can affect man. Devoid of light, air, sun and in dirty conditions, the flat becomes a “breeding-ground for tuberculosis”. In this way, even traditional medicine delivers scientific proof of the disease-inducing consequences of advanced city life that has turned its back on nature and has resulted in the degeneration of man. In the chapter dealing with architecture in Die Natur als Arzt und Helfer, Wolf summarizes these poor living conditions, which are so heavily criticized by life reformers, in a single medical term: “tuberculosis”.

In showing a healing, architectural antidote to tuberculosis, Friedrich Wolf doesn’t simply stop at discussing the abstract criteria of housing hygiene, which would be considered normal for such a medical publication. Instead, he exemplifies the ideal of housing, which actively promotes health, with a very specific style of architecture. This architectural style is Neues Bauen. Against the negative example of the disease-inducing tenement block, Wolf presents an idea for an architectural solution in the

second part of the chapter, which essentially consists of borrowed excerpts from the publications *Kommende Baukunst* (1926) from Le Corbusier, from *Die Neue Wohnung* (1926) by Bruno Taut as well as the article "Normung und Wohnungsnot" (1927) by Walter Gropius and Adolf Behne’s *Neues Wohnen – Neues Bauen* (1927).

### 3.2. Hygienists and architects in the sphere of Friedrich Wolf

Before discussing the details of the chapter on architectural hygiene in the medical guide, we should first investigate the question of Wolf’s architectural contacts and how he initially came into contact with these influences. One of his most important architectural influences was the Berlin architecture critic, Adolf Behne. Following a brief discussion of the personal relationship existing between Wolf and Behne, a rather large circle takes us directly from Wolf to the Bauhaus artist Oskar Schlemmer, from him to the director of the Bauhaus in Dessau, Hannes Meyer, from Meyer to the Dresden social hygienist Rudolf Neubert, who had taken up contact himself with both the Bauhaus and the Neues Frankfurt movement. The circle that began with Wolf, closes again at Neubert. According to the testimonial of his daughter, the latter was also involved in the conception of the natural health guide or at the very least provided a large number of its illustrations. This network of personal inter-connections paradigmatically represents the close interrelationship of architecture and hygiene, and is the prerequisite for Wolf writing a chapter on architectural hygiene in *Die Natur als Arzt und Helfer*.

#### 3.2.1. Friedrich Wolf and Adolf Behne

In his role as an art and architecture critic, Adolf Behne\(^{227}\) served to pave the way for *Neues Bauen*. He carefully observed the developing trends in modern architecture

\(^{227}\) Adolf Behne was born in 1885 in Magdeburg as the son of an architect. He studied first architecture, then history of art with Heinrich Wölfflin and Karl Frey in Berlin. He graduated with a PhD in 1912. From 1913 to his death in 1948, he worked in Berlin as a publicist, editor and publisher of numerous newspapers as well as teacher at adult education schools, at the Humboldt University and the University for Fine Arts. Cf. Haila Ochs, (ed.), *Adolf Behne. Architekturkritik in der Zeit und über die Zeit hinaus*, (Basel/Berlin/Boston 1994) and the introduction by Rosemary Haag-Bletter to Adolf Behne's *The Modern Functional Building*, (Santa Monica 1996).
throughout the 1920s wrote about them and benevolently supported them. Behne took the floor to discuss the latest architectural developments in numerous articles, lectures and books and can be said to have made an essential contribution to the spread of Neues Bauen. In particular, his publications Der moderne Zweckbau (1925), Neues Wohnen – Neues Bauen (1927) and Eine Stunde Architektur (1929), which offered a clear statement of his principles on one hand and strongly polemical propaganda on the other, characterised the architectural debate of the 1920s.

Behne also exerted an immense influence on the work of Friedrich Wolf. Unfortunately, it is no longer possible to trace exactly where their paths crossed for the first time, because both were involved in numerous different fields of work. It is almost certain that there were points of contact through the theatre and theatre criticism, but there is scarcely any direct evidence to support this. However, a letter from Friedrich Wolf to Adolf Behne written in 1927 shows that Wolf supported his friend and colleague who often suffered from poor health as his natural medical advisor. When in June 1927 Adolf Behne became ill with a serious kidney infection, Friedrich Wolf instructed him on what he had to do by letter. He writes:

"My dear Dr. Behne!

Firstly, I am very upset not to be able to help you, what I mean is by not being in Berlin. I only hope that my Berlin colleagues will treat your renal infection primarily by diet and less heroically (with injections pp.)! 4 years ago, I myself achieved an astonishing recovery with the homeopathic medicine Terebentina D6 amongst others and a strict diet of milk, fruit and vegetables. Fachinger 'Helenenquelle' as the best kidney flush drink! What a shame that I can't be there! Do you still have a temperature? Cells in your urine? Would your wife be so kind as to give me a brief report on a postcard from time to time! As follow-up treatment I strongly recommend a 2–3 month lacto-vegetable diet! Believe me. I will tell you all the justification as soon as you're back on your feet and at home!"

","Mein lieber Dr. Behne!

228 Letter from Friedrich Wolf to Adolf Behne, dated: 16th July 1927, hand-written signature, handwritten comment from Behne: "replied". Estate of Adolf Behne 1997/36.25, Bauhaus Archive, Berlin. (Unfortunately it was not possible to find out what Wolf meant when saying "with injections pp.".)

If you continue to read the above letter, however, it becomes clear that Friedrich Wolf’s friendship with Adolf Behne was based first and foremost on a similarity of world views and resulting mutual respect and admiration. Wolf writes:

„Sacro egoismo is my worry for your well-being! Because your last book ‘Neues Wohnen...’ convinced me that – whether you want to or not – you must stay in our ranks as an advance fighter of our cause! Especially on consideration of Taut’s book ‘Der neue Wohnbau’ that I also got my hands on these last days. However factual and admirable Taut’s book may be, it is missing the inner foundation, the attitude towards the people, for whom we are building. In this way, his work remains, as paradoxical as it may sound, academic. Architecture – housing – inhabitants – social class of inhabitant and their social order, or rather the other way around, no member of this pyramid can be missing! This made your book stand out from other, neutral architectural reformers who still remain ‘above such things’! (...) It is late, I must give this letter to a messenger! That is all for today! And keep smiling, dear Behne! And get well again soon! Your dear wife must write more soon! With best wishes, your Friedrich Wolf.”

„Sacro egoismo ist diese Sorge um Ihr Wohl! Denn Ihr letztes Buch „Neues Wohnen...“ überzeugt mich, daß Sie als Vorpostenkämpfer – wollend oder nicht – unsern Reihen noch lange erhalten bleiben müssen! Grade im Hinblick auf Tauts Buch etwa „Der neue Wohnbau“, das mir dieser Tage ebenfalls zuging. So sachlich gut und einwandfrei Tauts Buch ist, es fehlt doch das innere Fundament, die Einstellung zu den Menschen, für die wir bauen. Insofern bleibt seine Arbeit, so paradox das klingt, akademisch. Bau – Wohnung – Bewohner – Gesellschaftsklasse der Bewohner und ihre Gesellschaftsordnung, oder besser umgekehrt in ihrer Reihenfolge, da kann kein Glied in dieser Pyramide fehlen! Das

229 Ibid.
zeichnet Ihr Buch aus von den immer noch 'darüberstehenden', neutralen Baureformern! (...) Es ist spät, den Brief soll noch ein Bote mitnehmen! Heute nur Dies! Und Ohren steif, lieber Behne! Und recht baldige Genesung! Ihre liebe Frau soll mir wieder berichten! Herzliche Grüße Ihr Friedrich Wolf."

Their respective approaches to the subject engage seamlessly with one another and unite as a single working hypothesis: in the same way as hygiene and natural medicine are prerequisites for the creation of the 'new man', then the 'new man' is a prerequisite of 'new living'. Behne writes:

The best political groundwork and active involvement could fall flat, if a clear awareness of the man that will live there is not present. Neues Bauen presupposes new living... new living however presupposes the new man. Our little book then that doesn't want to provide standard answers, places the new man in the very centre. We do not entitle it 'New building...new living' (Neues Bauen – Neues Wohnen), but rather the other way around, because we want to express that architecture is dependent on living, in other words, from man.\(^\text{230}\)

Die beste politische Vor- und Mitarbeit könnte verpuffen, wenn nicht ein klares Bewußtsein da ist, von dem Menschen, der wohnen wird. Neues Bauen setzt voraus ein neues Wohnen... neues Wohnen aber setzt voraus den neuen Menschen. Unser Büchlein nun, das keine Rezepte geben will, stellt in den Mittelpunkt den neuen Menschen. Wir nennen es ja im Titel nicht 'Neues Bauen...neues Wohnen', sondern umgekehrt, weil wir ausdrücken wollen, dass das Bauen vom Wohnen, das heißt vom Menschen, abhängig ist.

Just like Friedrich Wolf, Behne’s theories target the immediate needs of man and for this reason see sociological and hygienic demands as the most important factors in designing houses. Art and architecture are for him weapons in a political battle, in the battle for the new man and ultimately in the battle for a new society.

Wolf was so impressed with Behne’s publication that he promised to discuss it in the Stuttgarter Neues Tageblatt and the Hamburg Junge Menschen. The same enthusiasm is also evident in the architectural chapter of Die Natur als Arzt und Helfer, in which Neues Wohnen – Neues Bauen takes a particularly prominent position in pointing the way forwards in an ideological and political sense. Here
Wolf demands that “every man” should “have read and internalised (this) factually clear, superbly illustrated little book with its powerfully ideological examination of the subject”. 231

3.2.2. Friedrich Wolf and the Bauhaus in Dessau (Oskar Schlemmer, Hannes Meyer)

Wolf’s earliest definite contact with the protagonists of Neues Bauen is his work with the painter and set-designer Oskar Schlemmer(1888-1943)232 at the Bauhaus, who was a friend and theatre colleague of Wolf. In 1924, Schlemmer designed the set for the staging of Wolf’s farm workers battle drama “Der arme Konrad”233 in the Berlin Volksbühne (fig. 77). In 1926, Wolf received the magazine bauhausl, in which texts and pictures of the Dessau ‘Meistersiedlung’ by Gropius are published. On the front page, a note reads: “with best christmans wishes! Letter follows. oskar schlemmer and wife”. 234 Wolf, who at the time was working on the preparations for his Die Natur als Arzt und Helfer in Hechingen, was thankful for any impetus that might enrich the chapter on healthy living. In his estate, there is an entire collection of newspaper clippings with titles such as “Healthy Living” or “How do I live hygienically?”235 A comparison of these articles with his health guide shows that Wolf directly drew on current ideas and publications for his book.

The relationship was, however, in no way one-sided. During the time, in which Wolf cultivated a closer contact to the Bauhaus, the interest in a type of architecture that would serve the needs of the ‘new man’ was greater than ever before. The director at

232 Oskar Schlemmer (painter, set designer, choreographer and art theorist), tried to unify the different genres of art into one ‘total’ artform, and experimented most with an abstracted representation of the human figure, without belonging to a specific style or movement. From 1920-1929 he was a Meister at the Bauhaus and head of the stone sculpture, at times the metal, and the stage workshops. From 1929-1932 he worked as a Professor at the Akademie für Kunst und Kunstgewerbe (Academy for Fine and Decorative Arts) in Breslau. Cf. Lexikon der Kunst. Malerei, Architektur, Bildhauerkunst, (Erlangen 1994), vol. 10, pp. 301-302.
234 FWA 154/10.
the time, Hannes Meyer (1889-1956), had given the initial signal for a change in direction with the revision of the teaching plan. Meyer explicitly demanded that the new architecture should take into account all those factors, which control the natural life processes of human beings. These include “sex life”, “bodily care”, “living hygiene”, and “sunbathing”, as Meyer believed, “the new house” should not be understood as a “piece of machinery for living”, but as a biological “apparatus for spiritual and bodily needs”.

Under Meyer’s direction, Oskar Schlemmer takes over the teaching of the course “the human”. The general hygienic health education as directed by Schlemmer, wanted to examine the immediate environment of the individual by each of its conditions: the relation to air, light, warmth, clothing, housing and correspondingly defence against disease. The teaching plan for the course “the human” scheduled the following content:

…the scientific part begins with the mysteries of the world, ether and plasma, and deals with cells and bacterial knowledge, birth and growth, life and death. The joint organization of the skeleton, muscle functions, internal organs, heart pump and blood circulation, lung and respiration, intestines and metabolism, sex and sensory organs, brain and nerves are explained from a biomechanical and biochemical point of view and in this connection questions on nutrition, hygiene and clothing will be touched upon.

…der naturwissenschaftliche teil beginnt mit den rätseln der welt, äther und plasma, und behandelt die zellen und keimlehre, geburt und wachstum, leben und tod. Die gelenkorganisation des knochengerüsts, die muskelfunktionen, die inneren organe, herzpumpe und blutkreislauf, lunge und atmung, darm und stoffwechsel, geschlechts und sinnesorgane, hirn und nerven werden von biomechanischen und biochemischen standpunkt erläutert und in diesem zusammenhang fragen der ernährung, hygiene und kleidung berührt.

235 Cf. FWA, 154/10; 154/12; 156/4; 470/6.
To what extent biological content was really absorbed into Schlemmer’s lessons and how he methodically worked through it, is only hinted at in the lecture guide (fig. 78a-b).

However, it certainly reveals the sources of his inspiration. Schlemmer’s central ideas in this teaching course were obviously inspired by the big Hygiene Exhibition of 1911 in the ‘Deutsches Hygiene Museum’ in Dresden, whose centrepiece was “the human” (fig. 79, 80a-b). The Deutsche Hygiene-Museum instructed its astounded visitors with the graphic illustration of various parts of the human body. The main thematic areas were “life functions of the cell”, “skeletal system and anatomy”, “neural system and sensory organs”, “Nutrition, clothing, housing and living” “epidemics”, and “bodily care”. In his lesson plan, Schlemmer even discussed the sensation of the exhibition, the “man of glass”, through whose transparent skin, the internal organs were lit up and visible. Schlemmer knew the exhibition “the human” not only from hearsay, but had wondered at its spectacular demonstration models and display tables with his own eyes, as recorded in a diary entry of December 1923:

It is clear that the scientific realm is adopting a large place in art at present. The elemental forms, the law, the number. Everything psychic has become suspect. Transposed onto the figure of man that scientific view in contrast to Greek sculpture for example (as the perfection of the type), would result in approximately that, which was visible at the Hygiene Exhibition: the portrayal of blood circulation in movement, soul emotion portrayed in this way to improve self-confidence.

Sicher ist, dass die Wissenschaftlichkeit in der Kunst zur Zeit großen Raum einnimmt. Die elementaren Formen, das Gesetz, die Zahl. Alles Psychische ist verdächtig geworden. Auf die Figur den Menschen übertragen, ergäbe jene Wissenschaftlichkeit im Gegensatz zur griechischen Plastik zum Beispiel (als Vollendung der Art genommen), das, was etwa auf der Hygieneausstellung zu sehen war: Die Darstellung des Blutkreislaufes in Bewegung, Seelenemotion solcherart dargestellt zur Hebung des Selbstbewusstseins.

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The internal mechanism of the human body, thus made visible and viewed by Schlemmer, deeply changed his idea of art (81a-b). In it he saw a new paradigm for artistic expression:

I must admit that since I saw the Hygiene Museum and Eigl's Anatomic Cabinet, I doubt art, as it has been understood up to now. Which other age knew and could do that, which is possible today? "The transparent human being", specimens of the entire human organism - coloured - Röntgen x colour - what a world of wonders, God is transposed in man - his religion: the realization of himself and belief in himself - his house: his church.240

Schlemmer rediscovered many of the illustrations in Wolff's health guide that he already knew from the Hygiene Museum collection, and incorporated some of the illustrations and thought processes from the health guide, for example, the Wolfian "theory of colour spheres" into his course (fig. 82). According to this theory, established on an empirical basis, which Wolf published for the first time in his natural health guide, the body is composed of three colour spheres: blue, red and yellow.241 These constitute the body as an entity and determine bodily symmetry. On one of his teaching notes Schlemmer jots "in accordance with Friedrich Wolf"242.

The reading lists, which Schlemmer recommends his students, reflect the names, which Wolf uses in his natural health guide, for example the doctor and artist Carl Gustav Carus (1789-1869) and the doctor much valued by Wolf, Paracelsus (1493-

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240 Ibid.
241 Blue: sphere of nutrition (stomach, intestines, kidneys, bladder); red: sphere of blood and movement (heart, lung, liver, pancreas); yellow: sphere of reproduction (brain, testicles, ovaries, thyroid gland as interceptor), cf. Friedrich Wolf, Die Natur als Arzt und Helfer, (Stuttgart 1928), p. 149.
Schlemmer’s recommendation of the teaching guide *Anatomie für Künstler* by August Froriep is especially worth noting. Wolf vainly comments in his health guide that the anatomical model is none other than he himself. He captions the illustration in the medical guide with “the author himself on plant and raw vegetable nutrition, 1908 as Tübingen student and model for Prof. von Frorieps *Anatomie für Künstler*. The posed nude corresponds to the anatomical muscle man”.

Before Schlemmer left the *Bauhaus* in 1929 to move to the Kunstakademie in Breslau, he thanked Wolf once more for the volume *Die Natur als Arzt und Helfer*. He writes in a letter:

Dear dr. wolf,

i hope that my letter will reach you under this address. Unfortunately, i do not yet know that of your own home. I have ordered schaller to · ort wo lithography ‘familie’ at your disposal, promised long ago in return for your medical guide, which we thank you very much for and thank you once again especially warmly. I congratulate you on your dramatic successes, of which i read and wish you all the best for future successes. On the 1st oct., i am leaving the bauhaus and dessau in order to go to the academy in breslau. – after 9 years of bauhaus one must change and move on to new places! – i will be able to spend more time on myself and my work, the collective has its dark sides. After a while one needs something different and i hope, not to harm the whole. I was not ill again. Carbuncles stayed away. – “touch wood!” best wishes from my wife as well –tomorrow we go to samland on the baltic, gross-dirschkeim (...) on the 1' sept. we are back in dessau. On the 1st oct. in breslau, yours, Oskar Schlemmer.

Lieber herr dr. wolf,

244 Cf. Friedrich Wolf, *Die Natur als Arzt und Helfer*, (Stuttgart 1928), p. 179. Birgit Sonna, who, in her publication also points to the relation between Oskar Schlemmer and Wolf, assumes that Wolf also strongly influences Schlemmer’s painting. She writes: “If one considers this reception by Schlemmer, then it cannot be doubted that from the second half of the year 1928, when he began researching the teaching of his course “the human”, the nude figure asserted itself with a new dominance in his painting, which had not been present before.”, Birgit Sonna, *Oskar Schlemmer: Der Neue Mensch. Körperkultur und Lebensreform*, (Regensburg 1992), p. 211.

Ihr Oskar Schlemmer.

The book mentioned by Schlemmer can today be found in the library of his daughter Jaina Schlemmer, with a personal dedication by Wolf for Schlemmer.246 In a letter dated 5th April 2001, she writes: "I can remember that we, and especially my parents, always looked to it for medical advice and followed this".247

Although Schlemmer was no architect, as an artist he confronts the changed architectural requirements: "I can wish to build no houses, unless they embody the ideal that can be derived from my pictures, which are the anticipation of this."248 The ideal human type compiled by Schlemmer according to hygienic, biological and social criteria is for him the logical anticipation of an ideal architecture, in a hygienic sense. In his written vision of 1922, House building and Bauhaus! – a real utopia, Schlemmer describes his imaginary ideal house that "can be opened in many parts", permitting the entry of fresh air, light and sun in generous amounts, and which bears a resemblance to the wall construction developed by Turban in 1901. Schlemmer writes:

246 Archive Oskar Schlemmer, Oggebio, Italien.
The rooms are fitted into each other like boxes and in summer can be pulled apart and opened, through which more, entirely lit, rooms result.\textsuperscript{249}

Die Räume sind schachtelartig ineinander gefügt und können im Sommer aus- und hochgezogen werden, wodurch mehr und ganz lichte Räume entstehen.

The materials used would build “a symphony of modern materials”. Schlemmer wished to mainly use glass and metal “polished glass for windows, coloured and prismatic, matt and milk glass of the room walls”.\textsuperscript{250}

As mentioned, the walls are made of matt glass or coloured panels attached by screws (...). An American builds his house of milk glass and says to himself that if light is healthy, then it is healthier to live in a light house then in a brick cave.\textsuperscript{251}

Die Wände sind wie gesagt aus Mattglas oder aus farbigen aufzuschraubenden Platten (...). Ein Amerikaner baut sich sein Haus in Milchglas bauen und sagt sich, wenn Licht gesund ist, so ist es auch gesünder, in einem Lichthaus zu leben als in einer Backsteinhöhle.

All exterior walls of the house were to be completely washable and made of white enamel, whilst inside the newest industrial apparatus would create an entirely dust-free zone. He writes:

Dust is not known in this house. On entering the house, in a vestibule with built-in vacuum cleaning, the clothes of the person entering are cleaned and disinfected. For the magnificent ozone air, which prevails in the house cannot be made unclean by anything.\textsuperscript{252}

Staub wird in diesem Hause nicht gekannt. Nach Eintritt ins Haus wird in einem Vorraum mit eingebauten Vacuumreinigern die Kleidung des Eintretenden gereinigt, desinfiziert. Denn die herrliche Ozonluft, die im Hause herrscht, darf durch nichts verunreinigt werden.


\textsuperscript{250} Ibid.

\textsuperscript{251} Ibid.

\textsuperscript{252} Ibid.
However, the core of his envisioned house is the room, which permits the inhabitant to dedicate himself intensively to care of the body. Paradoxically for Schlemmer, bodily care becomes a metaphysical occurrence:

The centre and the highlight of the house is the bathing room: a physical-chemical cabinet par excellence, an optical desire for tubes and shining surfaces: electric apparatus and such by Klee, various showers, sun lamp, hair drying apparatus and one “to raise the self-belief” – the rebirth of permanence! It is my main area of residence! Here I read, write and meditate – care for the body, do gymnastics and think of Greece!\(^{253}\)


Schlemmer’s proposed wish for a disinfected interior and an antiseptic environment corresponds exactly with the notions of the Bauhaus and its theoretical leader. The seven houses built 1925-1929\(^{254}\) for the Bauhaus Meister in Dessau, essentially fulfilled Schlemmer’s 1922 utopian vision. House no. 5, in which Schlemmer lived for a while, was, just as the other six, conceptualised (as forcefully laid down by Schlemmer in 1922) to enable a realization of the ever so often presented criteria for hygiene in the ideal housing design: i.e. south facing balconies, huge windows and interior fittings that were as practical as they were hygienic. Members of the Dessau housewives association, who were guided around the houses by Mrs. Gropius and Mrs. Feininger, were full of praise for the purposeful and innovative layout of the housing.\(^{255}\) A film from 1930\(^{256}\) shows this, using sequences of pedagogic examples,

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\(^{253}\) Ibid.

\(^{254}\) At the time of the Bauhaus Dessau, the directors lived in No. 1: after Walter Gropius, also Hannes Meyer und Ludwig Mies van der Rohe; in No. 2: Laszlo Moholy-Nagy, later Josef Albers; in No. 3: Lyonel Feininger; in No. 4: Georg Muche and then Hennerk Scheper; in Nr. 5: Oskar Schlemmer and afterwards Alfred Arndt; in No. 6: Wassily Kandinsky; and in No. 7: Paul Klee. Cf. Christine Engelmann, Christian Schädlich, Die Bauhausbauten in Dessau, (Berlin 1998), p. 32.

\(^{255}\) Ibid, p. 38.

\(^{256}\) Excerpts from the film are portrayed in: Walter Gropius, Bauhausbauten Dessau, Bauhausbücher, vol. XII, (Munich 1930).
which illustrate the hygienic practical successes put into practice in the Dessau master building. The fitting of exemplary baths and kitchens with smooth, washable surfaces and the latest technological apparatus is shown, from ventilator to vacuum cleaner.

Unlike Oskar Schlemmer, Hannes Meyer as an architect has the chance to not merely dream of visions of the New Domicile for the New People. It was Meyer, who to a large extent ensured that Schlemmer’s “house building” at the Bauhaus did not remain merely a hygienic utopia. Already the considerations, which precede his agreement to take over the master position as director of the new architecture class in 1927, mark his idea of building as “social, technical, economic, psychological organization”. Consequently, he first of all questions the matter of living and health conditions, bathing and sport opportunities for him and his family, as well as climatic conditions in Dessau: Meyer writes in a letter to Gropius,

the only thing important to me is that living together with my family with respect to the living and health conditions should be possible in the most irreproachable manner. My current family life in mentone is ideal from a health point of view, in view of the sea and mountains, sport and living conditions. In these points, dessau can scarcely offer a replacement. 257

dass mir das zusammenleben mit meiner familie hinsichtlich wohn-und gesundheitsverhältnissen in tadelloser weise möglich ist. Mein jetziges familienleben in mentone ist im hinblick auf meer und berge, sport und wohnung ideal in gesundheitlicher hinsicht. In diesen punkte kann wohl dessau kaum ersatz bieten.

Meyer decided after all to follow Gropius’ call to the Bauhaus in Dessau. Here, even if under less attractive living conditions, Hannes Meyer could realize his creed, as expressed in his 1926 essay “Die neue Welt”:

With swimming pool, sanatorium and home for the needy, hygiene breaks into the scene and creates by means of water closet, ceramic wash table and bathtub, the new type of sanitary ceramics. (...) G. Palucca’s dances, Laban’s movement choruses and D. Mensendieck’s aesthetic erotic of nude pictures. The stadium conquers the art museum and in

place of beautiful illusion is bodily reality. Sport unites the individual with the masses. Sport becomes the high school of collective feeling: (...). Ideally and fundamentally our house becomes a live-in machine. Heating, sunning, natural and artificial lighting, hygiene, weather protection, automobile maintenance, cooking, radio service, unburdening of the house wife as far as possible, sex life, family life etc. are the driving forces.  


This manifesto could also testify as a programme for Meyer’s time at the Bauhaus. In projects such as the School of the Allgemeiner Deutscher Gewerkschaftsbund (ADGB) in Bernau near Berlin (1928-30), and the design for the Petersschule in Basel, Meyer puts his theoretical demands into practice. In his explanations concerning the ADGB project, he writes on the bedroom (fig. 83):

A word as to the layout of the sixty living rooms shared by two: their distribution was derived from the idea of promoting ‘companionship in twos’, through the placing of the beds parallel to one another, and having two wash stands and two clothes cupboards. Only the workplace will be a variable. The position of the beds is calculated according to the most favourable diagrams of sunlight. The window breasts should strengthen the psychological impression of a few weeks stay “in the countryside”

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259 The Petersschule highschool for girls (with gymnasium, art- and drawing hall, pool and kitchen for school lunches), was the 1926 project of Hannes Meyer and Hans Wittwer. One of the main difficulties of the Petersschule project, was to allow sufficient sun and light to the building, which was situated in the dark and narrow part of the old city of Basel. Meyer and Wittwer solved the problem by lighting the class rooms from above and by raising the schoolyard (a spectacular iron construction) up into the air. Cf. Marin Kieren, Hannes Meyer. Dokumente zur Frühzeit, (Heiden 1990), p. 148-159.
among those, indeed the majority, who come from the city: he had never slept so hygienically, or lived thus with daylight flooding around him.\textsuperscript{260}

Ein wort zur gestaltung der 60 zweier-wohnzimmer: wegleitend war bei deren aufteilung der gedanke, die “kameradschaft zu zweit” zu fördern durch parallelstellung der betten, zwei waschtische, zwei kleiderschränke. Nur die arbeitsplätze sind variabel. Die lage der betten ist auf grund des günstigsten sonnendiagramms errechnet. Die Fensterbrüstung sollen den psychischen eindruck des 4wöchigen aufenthaltes “in der natur” beim zumeist wohl städtischen kursteilnehmer verstärken: noch nie schlief er so hygienisch, lebte er so vom tageslicht umflutet.

In particular the ADGB project unmistakably marks him as an architect, who combines the social question of housing with biological, psychological, and hygienic considerations and the utopia of a socialist society. Meyer regarded sport as a class-uniting and hygienically indispensable element. He placed great emphasis on a “light- and sun bath with changing area and shower” as well as a “swimming pool with a swimming length of fifty metres, paddling pool, diving area” and “diving platform”.\textsuperscript{261}

As an expression of his dedicated belief, Meyer not only always wore track suits (fig. \textit{84a-b}), which suggested a certain sporty vitality and also served as a socialist uniform of unity, but he also introduced sport lessons, gymnastics and dance as an obligatory part of the preliminary course in the first Bauhaus semester 1926/27: “A school without sport teaching seemed to me an absurdity” (fig. \textit{84c-f}).\textsuperscript{262} His “Interieur CO-OP” of 1926 (fig. \textit{85a}, fig. \textit{85b}), which later became famous, further underlined his austere, athletic essence. It was similar in its lack of pretension to Marcel Breuer’s bedroom with its wall bars and punch-bag that was designed for the theatre director Erwin Piscator, illustrated in Richard Döckers Terrassentyp of 1929 (fig. \textit{85c}, compare with \textit{85d-e}).

\textsuperscript{261} Cf. Jonas Geist, Dieter Rausch, Die Bundesschule des ADGB in Bernau bei Berlin, Potsdam 1993, pp. 24-39.
3.2.3. Hannes Meyer and Rudolf Neubert

Meyer not only made sure that sports and gymnastics courses were introduced into the school curriculum, he also ensured that in addition to Schlemmer’s course “the human”, students were to receive personal instruction from trained hygienists. Meyer deemed hygiene and all its component parts to be of such pressing importance that he invited the doctor and social hygienist Rudolf Neubert, who was active as scientific employee and later as scientific director of the ‘Deutsches Hygiene Museum Dresden’, to come to Dessau to give lectures to the Bauhaus students.

Neubert lived in the garden city of Dresden-Hellerau in an experimental house by the Deutsche Werkstätten and, like Wolf, was involved in various parts of the life reform movement. He was an impassioned supporter of a diet of raw fruit and vegetables, a strict opponent of alcohol and nicotine, an enthusiastic friend of nude, orthopaedic gymnastics in the open air and a passionate ‘Wandervogel’, (fig. 86a-d). As a young doctor he learnt tuberculosis diagnostic methods and therapies and before Martin Vogel could persuade him to come to the ‘Deutsches Hygiene Museum’, he experienced at first hand the misery and want of the industrial proletariat of the 1920s: “Tuberculosis in all stages and sexually transmitted diseases were the daily bread of the practice”. These experiences made a lasting impression on the young Social Democrat, and like many of his similar-minded colleagues, he concluded that there was a close relationship between disease and social circumstances. Neubert believed that tuberculosis, sexually transmitted diseases and alcoholism were “closely connected with a capitalist social order”. For him, all medical engagement, particularly that of a social welfare doctor, was political engagement.

Neubert’s employment at the ‘Deutsche Hygiene Museum’ brought him access to an immense number of educational materials such as “plates, texts, exhibitions, teaching materials, slide lectures, notes, brochures” produced by the museum itself. At the

263 “We rejected all bourgeois forms and wore short trousers, Schiller-collars with no tie, our hair long and no school cap. (...) In the beginning, we wanted nothing more than to be young at last”, in: Rudolf Neubert, Mein Arztleben, (Rudolstadt 1974), p. 198.
265 Ibid., p. 79.
266 Ibid., p. 45.
same time, it offered Neubert the chance to become intimate with the mechanisms of prophylactic health education, which he was already familiar with from his university studies in Dresden:

Could I have known at the time in 1911, as I spent every free hour with my season ticket in the International Hygiene Exhibition and especially in the hall "the human" that thirteen years later I would be taking part in the continuation of this wonder as a doctor myself? All the pieces, which I found there were already known to me as little new had been added between 1914 and 1923.267

Neubert’s work included the organization of exhibitions, scientific research and the publication of educational pamphlets on hygiene for the general public in the series ‘Leben und Gesundheit’, produced by the ‘Deutsches Hygiene Museum’. In this series, an edition by Rudolf Neubert with the title Der Mensch und die Wohnung268 (man and his dwelling) came out in 1925 (fig. 87). In this publication, he dealt mainly with the influence of the dwelling on the health of the inhabitant, as well as criteria for a hygienic construction process, interior design and care of the flat. Neubert recommended a good supply of light, air and above all, sun as the most effective disinfectant and hence protection against the tuberculosis pathogen. Furthermore, Neubert demanded cleanliness in respect to interior furnishings by employing: an open, clear plan; simple, smooth and washable furniture, floors and fittings; the avoidance of corners where dust might gather and objects, which might attract dust such as curtains, carpets, fluffy blankets and ornamented furniture.

Rudolf Neubert was the ideal candidate for the task of conveying his comprehensive knowledge on conducting a hygienic way of life. However, the connection to the

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267 Ibid., pp. 49-50.
Bauhaus came about more or less by chance. In his memoirs, the social hygienist writes:

One day – it was in 1927 – Hannes Meyer (from 1928 Director of the Bauhaus in Dessau) visited us unexpectedly. He had come to Dresden Hellerau because he was interested in the experimental house of the Deutsche Werkstätten, which we lived in at the time. In our long discussion, he expressed the opinion that one day we would build houses like ships – the living needs of the modern man would be completely rethought. As an example he mentioned ventilation and lighting: why should windows try to fulfil both functions and be incomplete in both? Windows, commented Hannes Meyer, should only serve for lighting and illumination; ventilation must be separated from this, like in trains or ships. Even in those days, in large public buildings air conditioning already existed – air was cleansed, warmed and then pumped into the rooms with the correct humidity; used air was sucked out or pushed away by fresh air. We moved from the hundredth point to the thousandth. And what was the thousandth? The human being and his real needs in respect to living conditions. I said that the Bauhaus was too obsessed with technical and formalistic, artistic problems. Meyer responded: Come to Dessau, and have a look at everything yourself.²⁶⁹


²⁶⁹ Rudolf Neubert, Mein Arztleben, Rudolstadt 1974, p.56.
Neubert took up the invitation and held lectures at the Bauhaus Dessau, probably based on his publication *Der Mensch und die Wohnung*, on the problems of social hygiene and the anatomy and physiology of man.\textsuperscript{270}

During conversations, I asked the Bauhaus people whether they really had the functionality of the human spine before their eyes when they designed chairs. We discussed it half the night. They were wholly involved and promised to improve their studies on human anatomy and physiology and to implement this knowledge when they were designing houses and chairs, benches for public transportation or household equipment. I was invited to return again soon.\textsuperscript{271}

Bei Gesprächen fragte ich die Bauhausleute, ob sie denn wirklich die Funktion der Wirbelsäule vor Augen hätten, wenn sie Stühle konstruierten. Wir diskutierten die halbe Nacht. Sie waren voller Anteilnahme dabei und versprachen Anatomie und Physiologie des Menschen besser zu studieren und dieses Wissen anzuwenden, wenn sie Häuser und Stühle, Bänke für Verkehrsmittel oder Haushaltsgeräte entwarfen. Ich wurde eingeladen bald wiederzukommen.

In reference to hygienic conception of furniture, Neubert recommended to the Bauhaus students the well-known orthopaedist Schede, who was teaching at the University of Leipzig at the time.\textsuperscript{272} In return for this advice, a delivery note lies in the archive of the 'Deutsches Hygiene Museum' for lamps and study chairs made for the museum by the Bauhaus. Neubert did not, however, have the chance to visit Dessau a second time. In 1930, Hannes Meyer was dismissed and a mere three years later the Nazis dissolved the Bauhaus in Berlin. Neubert refers to the fact that Meyer and his group went to the Soviet Union and worked there until 1932, building flats,

\textsuperscript{270} Only one of his lectures is documented in the Bauhaus Archive Dessau by the following announcement: *Vortrag von Dr. med. Rudolf Neubert, Dresden, am 29.11.1928 zum Thema 'Lebendige und Technische Organisation'*. 


\textsuperscript{272} This is documented in Neubert's estate, which, however, is once again closed until 2010. This information is based on a conversation with the archivist of the 'Deutsches Hygiene Museum' in Dresden, who had the possibility of viewing parts of the estate as part of a restructuring of the archive following 1989. Due to the inability to check the archive for references, almost all material on Neubert is derived from his 1974 autobiography, which is likely to be full of inaccuracies and manipulations. The fact that it was written and published in the GDR stresses the impression that Neubert subordinated his account of the modernist approach to socialist ideology. Thus in many parts of his autobiography, he produces a post-facto theorization of the modernist thoughts, which is intended to please a socialist regime.
schools and kindergartens. Until its closure, Neubert remained continuously informed about the activities of the Bauhaus through his membership of the "Kreis der Freunde des Bauhauses" (Circle of Friends of the Bauhaus).

3.2.4. Rudolf Neubert and Das Neue Frankfurt

The Bauhaus in Dessau was however not the only institution of modern building practice, in which the 'Deutsches Hygiene Museum' in Dresden showed great interest. Via Neubert, it is also possible to trace links to the Neues Frankfurt. He writes that he had studied the estates and projects by Ernst May and Ferdinand Kramer, and he even went especially to Frankfurt am Main to see them. The name Schütte also appears in this context.

A slide lecture with the title "Dwelling and Hygiene" (Wohnungshygiene) can be found in the archive of the 'Deutsches Hygiene Museum', whose structure and content is very similar to Neubert’s publication Der Mensch und die Wohnung of 1926 and was therefore likely to have been drafted by Neubert (fig. 88a-e).

In the framework of this slide lecture, illustrations of the Neues Frankfurt appear. One of the slides shows the roof garden of the 'Bruchfeldstraße Zick-Zack-Hausen'.

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274 The "Circle of Friends of the Bauhaus", in existence since 1924, was formed to provide moral and practical support for the Bauhaus. Amongst its members were Gerhart Hauptmann, Franz Werfel, Arnold Schönberg and Albert Einstein. The almost 500 members received a free copy of the Bauhaus magazine from 1926. In addition, parties were organized and invitations to events were distributed.
275 The term, Neues Frankfurt describes the city construction project of the city of Frankfurt am Main, which from 1925-1930 was largely realised by the architect and town planner, Ernst May (1886-1970). Approximately ten housing estate schemes - Römerstadt, Praunheim, Niederrad, Bornheimer Hang, Riederwald, Hellerhof, Westhausen - with ca. 30 000 welfare flats, solved not only the housing shortage, which had grown in Frankfurt in the early twenties as well, but also connected the urban principles of the English satellite and garden cities with the typology and formal language of Neues Bauen. Cf. Deutsches Architekturmuseum Frankfurt am Main, (ed.), Ernst May und das Neue Frankfurt. 1925-1930., exhibition catalogue, (Berlin 1986).
276 Greta Schütte-Lihotzky, Austrian architect, designer of the famous 'Frankfurter Küche' (1926), which was a laboratory-like kitchen.
277 Slide lecture entitled "Wohnungshygiene", archive 'Deutsches Hygiene Museum Dresden', lecture 34a; 50 slides, produced in co-operation with and after originals of the 'Deutsches Hygiene Museum'; reference to date or author unknown - presumably drafted by Rudolf Neubert.
Estate (1926-27), another has the caption “Middle-income housing. View of the kitchen” and shows the ‘Frankfurter Küche’, designed by Greta Schütte-Lihotzky in 1925, and which is today deemed to be the prototype of the modern fitted kitchen (fig. 89, 90).

In his memoirs, Neubert writes:

In Frankfurt am Main, I studied their estates, the modern schools. I liked the fact that the Bauhaus people went about all building and design questions without the slightest preconception. They studied all new materials – often playfully; they wanted to find out how to use them according to their internal laws. They did not want to continue to imitate old styles with new materials, building with zellon the same as with wood, with concrete as with marble. Some found forms for automobiles or chairs that honestly expressed: we are made of steel and rubber and leather; we are not coaches with built in motor, we are no renaissance chairs, but modern seating for modern people. Glued on decoration was furiously rejected by the Bauhaus people. Good form alone should be so beautiful that external decoration becomes superfluous. (...) Architectural experiments by the Bauhaus have enriched modern architecture throughout the world.


If we compare this commentary with the guidelines that Neubert compiles in his book Der Mensch und die Wohnung, it is obvious that Neubert’s view of the

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278 Ibid., slide 48 (VIII.), 'Dachgarten Bruchfeldstraße'.
279 Ibid., slide 16 (III.), 'Frankfurter Küche'.
principles and aesthetic of the Bauhaus is almost wholly compatible with his ideas of healthy architecture. After all it is hardly possible to tell from which camp the respective comments come. In particular, the overlap in aesthetic points is remarkable. This thought complex will be investigated more thoroughly in the following chapters.

3.2.5. Rudolf Neubert and Friedrich Wolf

Not only Neubert’s employment at the Deutsche Hygiene Museum, but also his interest in fine arts (he originally wanted to become a painter) brought him into contact with Wolf. Neubert got to know Wolf as a poet at an evening of readings, when Wolf read from his piece Das bist du. Neubert looks back on this and writes,

Later I illustrated his book “Die Natur als Arzt und Helfer” using plates out of the collection of the Deutsches Hygiene Museum and the Verlag für Volkswohlfahrt. The book came out in 1928; since then it has stood in a place on my bookshelf where it is always within easy reach.281


281 Neubert then adds: “This is now the point to say something else about the workers’ movement and natural methods of healing, because both are embodied in the work of Friedrich Wolf. Class conscious workers did not trust academic medicine; they feared, and they were not wrong to do so that the majority of doctors supports the exploiters’ state. Workers therefore organized themselves into their own health organizations – into workers’ gymnastics and sports associations, into the workers’ Samariter organization, into the organization for health of the people. Additionally, Socialist doctors had formed their own organization, which worked with the workers’ groups, holding courses and preparing publications for them. Particularly involved were Max Hodann, Friedrich Wolf, Alfred Grotjahn and Alfred Döblin.” (“Es ist hier die Stelle, noch etwas über Arbeiterbewegung und Naturheilweise zu sagen, weil sich im Schaffen Friedrich Wolfs beides verkörperte. Die Klassenbewusste Arbeiterchaft mißtraute der Hochschulmedizin; sie befürchtete nicht zu Unrecht, daß die Ärzteschaft in ihrer Mehrheit den Staat der Ausbeuter stütze. Die Arbeiter organisierten sich deßhalb in eigenen Gesundheitsverbänden – im Arbeiter-Turn-und Sportbund, im Arbeiter-Samariterbund, im Verband Volksgesundheit. Zudem hatten sich die sozialistischen Ärzte zu einem eigenen Verein zusammengeschlossen, der mit den Arbeiterbünden zusammenwirkte, ihnen Lehrgänge hielt und Publikationen vorbereitete. Hervorragend daran beteiligt waren Max Hodann, Friedrich Wolf, Alfred Grotjahn und Alfred Döblin.”), in: Rudolf Neubert, Mein Arztleben, (Rudolstadt 1974), p. 52.
Neubert’s influence on Wolf extended beyond the illustration of his health guide. Especially in the external structure of the chapter “How shall we live?”, which is given through a series of subpoints, Wolf borrows from the Neubert’s work Der Mensch und die Wohnung, published three years before. Christiane Neubert, the oldest daughter of the hygienist, reports that in private, the friendly relationship between the two men ended in a disagreement. As a strict opponent of alcohol and nicotine, Neubert turned away from Wolf when the latter began to smoke and drink alcohol.

As a social hygienist, Rudolf Neubert remained faithful to architecture throughout his entire life. After he refused the request of Hermann Henselmann, director of the reforming Hochschule für Baukunst in Weimar to take a chair in Hygiene and Human Studies, he went to Jena in 1952 as a professor of social hygiene at the Friedrich-Schiller University of Jena. Up until his death, Neubert worked in the German Democratic Republic as an advisor in questions of hygiene in the building of schools, kindergartens and other public buildings. At the same time, he published social hygiene articles in the popular women’s magazine Sybille and continued to lecture to architects:

My friendship with architects continued. I was often allowed to speak to town planners and those who wanted to become town planners in Weimar. My principle was always the same: architecture exists for the people. Think of the working inhabitants of the houses, think of the mothers, of the children, the elderly. Construct flats according to this, use technology for this! – My view has been confirmed in our society. Socialist architecture – it is not a special form in itself, it is an


283 Cf. Rudolf Neubert, Mein Arztleben, (Rudolstadt 1974), pp. 54-55: “In 1947, a letter reached me from Weimar; it carried the head of the reformed Hochschule für Baukunst, the director was Hermann Henselmann – a Bauhaus man. In the letter, he wrote I should take the chair in Human Studies and Hygiene that needed urgently to be filled. However, my life had taken another direction. I sent my refusal in reply.” (“1947 erreichte mich ein Brief aus Weimar; er trug den Kopf der wiedererstandenen Hochschule für Baukunst, Rektor war Hermann Henselmann – ein Bauhausmann. Im Brief stand, ich solle den dringend benötigten Lehrstuhl für Menschenkunde und Hygiene besetzen. Doch mein Lebensweg hatte andere Bahnen eingeschlagen. Ich schickte eine abschlägige Antwort.”).
architecture created for the people and to give their Socialist way of life the best possible architectural prerequisites.\textsuperscript{284}


This digression, which serves to illustrate the extensive mesh of personal relationships between architects and hygienists and the manifold overlap of architectural and hygienic areas of competence, concludes with the contact between Rudolf Neubert and Friedrich Wolf. From the sketched life of Neubert, his contact to architects of Neues Bauen and his publication \textit{Der Mensch und die Wohnung}, it is clear that Wolf is not the only one in this brotherhood of doctors and hygienists to have worked contemporaneously in different disciplines. However, Wolf is unique in the way, in which he perceives and presents the subject of hygiene, in the way he uses the stimuli afforded by both personal sources and specialist literature sources. The result of the described cross fertilization between hygiene and architecture manifests itself in exemplary fashion in the chapter on hygienic architecture in Wolf's \textit{Die Natur als Arzt und Helfer}.

\textsuperscript{284} Ibid.
4. “How shall we live?”: the architecture chapter in Friedrich Wolf’s health guide Die Natur als Arzt und Helfer

4.1. Content, structure and sources of Wolf’s architecture chapter

In the chapter ‘How shall we live?’ (Wie sollen wir wohnen?), Wolf illustrates the role architecture plays in the emergence, spread and fight against infectious diseases, in particular tuberculosis that he, together with other hygienists, terms “Wohnungskrankheit”, which literally translates into “dwelling disease”.

In the first part of the chapter, Wolf points insistently to the causes of appalling housing conditions, and in particular that of the suffering caused by tenement blocks and its consequences for human health. His devastating criticism of tenement blocks are based on Adolf Damaschke (1865–1935) and his federal programme, published in the magazine Bodenreform 285; on Leberecht Migge’s book Deutsche Binnenkolonisation 286 (1926); on statistics and images from a research paper on housing and tuberculosis by the public health insurance of the city of Berlin in 1922 287; and also on the article “Figures of the housing misery” in the Stuttgarter Neues Tageblatt of November 1927. 288


286 Leberecht Migge, Deutsche Binnenkolonisation, (Berlin-Friedenau 1926).

287 The correct title of the publication is: Unsere Wohnungsuntersuchungen in den Jahren 1919–1920 bei ihren lungenkranken Mitgliedern, Verlag der Allgemeinen Ortskrankenkasse der Stadt Berlin (ed.), revised by Albert Kohn, (Berlin 1922). Wolf refers to this publication in footnotes on pp. 244 and 246 respectively.

Against the negative of the disease generating tenement blocks,\(^{289}\) in the second part of the chapter, Wolf presents a practical architectural solution, which in essence consists of elements from various publications by Le Corbusier, Bruno Taut, Walter Gropius and Adolf Behne.

Superficially, Wolf’s chapter on housing hygiene does not seem to differ extensively from other publications by contemporary architects, who are also writing about *Neues Bauen*. However, Wolf’s specialized architectural knowledge, in addition to his comprehensive collection of source material, and the relevance and precision, with which he writes, would have been enough for a separate specialist publication on the connection between housing and health. This makes the chapter on housing hygiene, even within its context as part of the natural health guide, resemble an independent document. Not least he touches upon all the questions arising in the housing and architectural debate of the 1920s: from interiors, furnishing, lighting, ventilation as well as the ordering, fitting and use of the individual rooms of the house, to the question of the subsistence level, the construction, the type of building (high-rise or single-storey) and the type of façade, even mentioning methods of financing one’s own home.\(^{290}\)

\(^{289}\) The polarization of tenement blocks as an antipode to the reform ideas of modern architecture such as *Neues Bauen*, shows that at the time of the publication, Wolf follows a tradition already going back to the middle of the nineteenth century.

4.1.1. The tenement block as an apparatus of death

Following immediately on from the introductory subchapter, 'Dwelling and Health', Wolf elucidates under the heading 'The tenement housing block. Basic causes', one of the most politically explosive topics in relation to the wretched housing conditions of the twentieth century: land speculation. For social critics on the left of the political spectrum, the main cause of the wretched housing conditions lay in the radically driven land speculation by so-called 'terrain societies': scarcely was the land surveyed when it would be bought up by speculators, and a short time later resold at a clear profit, frequently without having been built on. The inflated prices of land plots rapidly led to rising rents. Large sites enabled - for instance in Berlin - multiple layers of building: tenement blocks with several light-deprived and airless back courtyards one after another damned the socially disadvantaged classes in the fast expanding big cities of Europe to an existence under unhygienic and disease propagating conditions, as already delineated in the introductory part.

The land reformer Adolf Damaschke, and with him, the 'league of German land reformers', therefore promoted in favour of local and general capital gains tax, garden cities created on a co-operative basis, extension of the local authority's right of dispossession, communal housing inspections, enactment of hygienic, aesthetic and ethical building regulations and development plans, as well as the nationalization of credit institutes granting loans on land. Wolf propagates Damaschke's aims over several pages, and even quotes from the land reformers' federal programme. This is how he puts it:

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293 The "Bund deutscher Bodenreformer" (league of German land reformers), founded in 1888, in charge of the socio-politically motivated land reform ideas, was run by the former industrialist, Michael Flürsheim (1844-1912). In his magazine, *Freiland*, Flürsheim pleaded for the nationalization of all ground, seeing the private ownership of land as the cause of all economic crises. The state should lease the land instead. The capital gain on a piece of land would demonstrate the interest on the lease: it should be paid as tax: thus the enrichment of the individual would be rendered impossible. Cf. Ibid.
The ground and land belongs to the whole of the people! Whoever works on it should have his share. It was originally the Roman law with its dogma of formal ownership, where one person let the other slave for him that paved the way for the explosion in the price of land, the reckless driving up of the land rents. Already today, the ground is no longer a 'clod' but a 'commodity' to be bargained over at market. The existence of tenement blocks is also due to this artificial inflation of the land rents.  

Der Grund und Boden ist dem ganzen Volk gehörig! Wer ihn bearbeitet, soll seinen Ertrag haben. Erst das römische Recht mit seinem Dogma des formalen Eigentums, auf dem man andere für sich fronen läßt, hat die 'Bodenpreisaufblähung', die Bodenspekulation, das rücksichtslose Hochtreiben der Bodenrente begünstigt. Heute schon ist der Boden nicht mehr die 'Scholle', sondern eine 'Ware', die man auf dem Markt handelt. Auch die Mietkaserne ist aus dieser künstlichen Hochdrosselung der Bodenrente entstanden.

Although Wolf agrees with Damaschke in all significant points, he writes regretfully that decisive success has failed to materialize. More practical by far, Wolf felt, were the ideas of the estate and garden reformer Leberecht Migge (1881-1935) who categorically rejected tenement blocks. He argued strongly for the settlement of the countryside and building villages and small towns at the periphery of Germany - ideas he coined with the phrase 'inner colonization'. In a footnote, Wolf refers to Migge’s treatise, ‘inner colonization’ of 1926, detailing the complete sources. Migge writes:

296 Leberecht Migge (1881-1935) also built his pilot project using the garden city “Eden” (1893) as his model, the “Kulturgürtel Kiel”, by using the city’s rubbish, after appropriate alteration into valuable fertiliser necessary for intensive cultivation. Migge had tested a solution to the settlement problem for the new horticulture in 1918, as the subheading of his leaflet, Jedermanns Selbstversorger described it, having tried it out himself in his suntrap courtyard in Worpswede, coming to the conclusion that it would be possible to guarantee agricultural self-sufficiency using intensive horticultural methods, on 100 square metre of land. Cf. Anne Feuchter-Schawelka, “Siedlungs- und Landkommunenbewegung”, in: Jürgen Reulicke, Diethart Kerbs (eds.), Handbuch der deutschen Reformbewegungen. 1880-1933, (Wuppertal 1998), p. 237.
Behold, a hundred years ago Germany was still countryside. See: in fifty years the whole of Germany will be city. This is a fever, a disease, but not life! And thus we make sacrifices for that, which is in no way organic or natural. (...) No, we only put up city barracks, thrown together quickly, for the purpose of housing the masses. We only leave in the lurch a badly cared for heap of stones, by which we cannot exist, and which we cannot love. (...) I see: green pastures of youth, health and fortune. The fresh, virginal countryside. (...) Come to it, you strong individuals, you most free of natural people, you youngest wandervögel and free Germans, you most supple of the players and sportsmen, you most successful gardeners and people of the land (...). 297


In contrast to Damaschkes’ political ideology, which would be difficult to implement outside a socialist state, Wolf found concrete architectural applicable solutions in Migge’s publication. Migge mentions the buildings and theories of Adolf Loos; he portrays, under details of the complete sources, Bruno Tauts’ family house as well as Le Corbusier’s project in Bordeaux, 298 which is also to be found, in turn, in Wolf’s chapter on architecture (fig. 91a-b).

Wolf draws the statistical background to the wretched living conditions that ruled the tenement blocks from research done by the public health insurance of the city of Berlin in 1919-20299, published in the year 1922 (fig. 92a-b). Under the heading, “It

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is better in prison!”, Wolf assimilates some of the figures presented in the public health insurance report:

Thus is the overcrowding and piling up of the masses in all of our major cities in a continual process of growth, not decline. The response to the question whether they had a bed to themselves, the answer of no was, in 1918: 8.07%; 1919: 11.16 %; 1920: 13.46 %. Of this large percentage, another round fifth were ill with lung diseases!\textsuperscript{300}

Dabei ist die Zusammendrängung und Anhäufung der Massen in all unseren Großstädten nicht im Abnehmen, sondern in ständiger Zunahme begriffen. Auf die Frage, ob sie ein Bett für sich allein hätten, antworteten mit ‚Nein’: 1918: 8,07 %, 1919: 11,16 %, 1920: 13,46 %. Von dieser hohen Ziffer war noch rund ein Fünftel lungenkrank!

To illustrate these figures, Wolf places photos almost half a page in size on three consecutive pages. They are all taken from the appendix of photographs in the health insurance investigation: ‘housing hells’, ‘housing holes’ and ‘breeding grounds of tuberculosis’ are the captions to pictures of numerous shocking negative examples: pale, miserable women and children sit cramped together in dark, damp and hopelessly overfilled rooms, all around them furniture is piled high, thus not permitting any movement and degrading the inhabitants to the status of prisoners (fig. 93-95). As the title to this sub chapter announces, Wolf indignantly proclaimed that even in prisons you can enjoy better living conditions than in this ‘life long incarceration’.

In Berlin breathe thousands of the sick, dependent on public health insurance, about 20% in rooms with less than 20 cubic metres of air content. More than 5% vegetate in holes of less than 10 cubic metres! In 1919, over 100 ill people inhabit corners of flats of less than 6 square metres: dungeons of 3 metres in length by 2 metres wide, in which up to 4 women sleep; in 1920, there were chambers of less than 15 square metres, in which 7 people were crammed together.\textsuperscript{301}

In Berlin atmen Tausende von Kassenkranken, etwa 20% in Räumen von weniger als 20 Kubikmeter Luftinhalt. Über 5% vegetieren in Löchern

\textsuperscript{300} Friedrich Wolf, Die Natur als Arzt und Helfer, (Stuttgart 1928), p. 245.

\textsuperscript{301} Friedrich Wolf, Die Natur als Arzt und Helfer, (Stuttgart 1928), p. 246. Wolf takes the figures from the Stuttgarter Neues Tageblatt of 12\textsuperscript{th} November 1927 “Zahlen des Wohnungselends“. 

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According to Wolf, a large proportion of the lower classes of the population often lived without a window, without heating and without their own bed. In addition, the flats were “heavily overcrowded” and in the narrow kitchen they “cook, wash, dry, small children scream, the bigger ones sit over their homework, the boarders and short-time lodgers (Schlafburschen) eat and smoke; a dulling smell of smoke, food, people, drying socks and work clothes: noise, in which you cannot hear yourself speak!”. Wolf appeals to his readers neither to close their eyes to this misery, nor to believe these to be isolated examples, as the “housing hells” alone create the “housing misery of the cities” and are “the breeding grounds of disease and decay of the population”. The “housing hells” and “housing holes” are in Wolf’s view not only the main reason for disease epidemics but also for moral and “spiritual degeneration”. He writes:

There is no point in squabbling about prostitution, sexually transmitted diseases, crimes and targeting the surface of these problems with various orders and regulations. In the housing hells, in the housing misery of the cities are the breeding grounds of disease and decay of the people!

Es hat keinen Sinn gegen Prostitution, Geschlechtskrankheiten, Verbrechen an ihrem Rande durch irgendwelche Ordnungsvorschriften Geplänkel zu führen. In den Wohnhöllen, in dem Wohnungsselend der Städte sind die Brutstätten der Krankheiten und des Volksverfalls.

Le Corbusier describes this relationship in the same way as early as 1922 in Towards a New Architecture, a publication that also influenced Wolf’s perception of architecture:

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302 Ibid., pp. 246-247.
303 Ibid., p. 247.
304 Ibid., p. 246.
305 The original version of Towards a New Architecture (London 1946), transl. by Frederick Etchells had already been published in 1922 in Paris as Vers une Architecture.
We are to be pitied for living in unworthy houses, since they ruin our health and our morale. It is our lot to have become sedentary creatures; our houses gnaw at us in our sluggishness, like a consumption. We shall soon need far too many sanatoriums. We are to be pitied. Our houses disgust us. We flee from them and frequent restaurants and night clubs; or we gather together in our houses gloomily and secretly like wretched animals; we are becoming demoralized.\footnote{Le Corbusier, *Towards a New Architecture*, (London 1946), translated by Frederick Etchells, p. 18.}


With Zille’s quotation of housing killing man like an axe, Wolf concludes the chapter. It is based on the inside book cover of Behne’s *Neues Wohnen – Neues Bauen* (fig. 96). Here it forms part of the prologue together with a photo of a Berlin attic flat, which likewise resurfaces in Wolf’s natural health guide. With this provocative and emotive introduction, Behne clearly emphasizes that appalling housing conditions, tuberculosis and health standards of the lower classes form the starting point of the subsequent justification of *Neues Bauen*. The structure of Wolf’s chapter on housing hygiene shows that he too makes use of this rhetorical device.

Following the shocking negative examples of unhygienic housing, Wolf waits for the second part of the chapter to respond with *Neues Bauen* as the architectural answer to the housing problem. The strong polarization of tenement blocks on the one hand and *Neues Bauen* on the other can be found in both Behne’s and Wolf’s publication.

4.1.2. *Neues Bauen* as an instrument of healing

In the second part of the chapter, Wolf proceeds to contrast the hopeless misery of tenement housing with “healthy, airy, light, roomy housing”. In accordance with the natural health slogan: “The forces of nature, which preserve our health, are also the
forces, which can heal our diseases.\textsuperscript{308} it is Wolf's declared goal to change the 'apparatus of death' into an 'apparatus of healing'. Wolf's conviction is that whoever becomes sick due to housing, must also be able to be healed by housing. His conclusion is that "only a complete revision of housing welfare" can combat rickets and tuberculosis at their roots.

As examples of hygienic living and building, he illustrates his thoughts with Mies van der Rohe's block in the 'Weissenhof' Estate: "If it must be a rental block, then thus! Broad windows, no dark corners and courtyards!"\textsuperscript{309}; Döcker's block of flats in Stuttgart: "Rental block of today. A light trap, not a dark room!"\textsuperscript{310}, Bruno Taut's Horse-Shoe Estate in Berlin Britz: "No decorated façade, but also no dark courtyards!"\textsuperscript{311}, and Le Corbusier's sketches of a "ventilated" block of flats: "The modern rental block. The airy gardens between living quarters prevent the damages caused by the earlier tenement block"\textsuperscript{312} (fig. 97-100).

The ample pictorial examples, which Wolf always places parallel to the theoretical discourse on the right-hand pages of the book, together with the many succinct catchphrases and resolute exclamation marks, demonstrate the rhetoric, of which Wolf avails himself, in order to furnish the chapter with the greatest possible graphic effect. Even a fleeting glance through the book without a proper study of the text will suffice to absorb the most important principles of hygienic living.

Wolf presents the solution to the problem of diseases associated with poor housing in three thematic complexes: city planning; general architectural type; interior design. Remaining within the discourse of contemporary architecture, Wolf delineates this matrix of the themes in sub-chapters with titles such as: 'building land in industrial areas', 'high-rise or single-storey', 'series building, prefabricated building', 'standard house, house machinery', 'interior rooms - bathroom, kitchen, windows', 'the bedroom - the bed-room', 'cheap housing, few rooms - lots of room'. These sub-

\begin{itemize}
  \item\textsuperscript{308} Friedrich Wolf, \textit{Die Natur als Arzt und Helfer}, (Stuttgart 1928), p. 17.
  \item\textsuperscript{309} Ibid., p. 252.
  \item\textsuperscript{310} Ibid., p. 253.
  \item\textsuperscript{311} Ibid., p. 255.
  \item\textsuperscript{312} Ibid., p. 254.
\end{itemize}
chapters are directly or indirectly fed by material from the aforementioned publications by Le Corbusier, Taut, Gropius, Behne and Migge.

City planning

After the sub-chapters, clearly influenced by Migge, “How to change? Inner colonization!” and “What then should we do?”, Wolf dedicates himself, still under the influence of the housing reformer, to the question of city planning, and more precisely to the question of the validity of “land for building in industrial areas” as a possibility for the decentralization of cities with the simultaneous advantage of workers’ having proximity to their workplace. Wolf writes:

Housing and also tenement houses will in the foreseeable future be driven out by office and shop space, and big factories, goods railway stations, warehouses, electricity works amongst others will be driven ever further into the periphery. There in the distant outskirts of the city, accessible by suburban railway, the workers’ estates will be situated.¹³³

Thus, a “healthy, cheap housing” is guaranteed at the same time as close proximity to the workplace. The article, “Two cities” by Hugo Häring, published in Die Form in 1926 and in Wolf’s possession ¹³⁴, also proposes this. Wolf may have used it as further basis for concerning himself with city planning and in particular with the question, “How shall we build? High rise or single storey?”

The subject of this article is a comparison of the approaches in city planning by Le Corbusier and Ludwig Hilberseimer. In essence, Häring writes, in dealing with the problem of the modern city, both architects were concerned with the question of:

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¹³³ Ibid., p. 252.
¹³⁴ Ibid.
...how to order the things, which millions of people need in order to live, inhabit, work, entertain themselves, teach themselves, rest, how to order these things so that they correspond to the highest degree of order, so that they fulfil all confessed needs of the individual for space, air, hygiene, comfort that the contemporaneous existence of these things is frictionless and orderly, yes perhaps even pleasant and beneficial, and that all this is found in harmony with the economic productivity of the individual.\textsuperscript{316}

...wie ordnet man die Dinge, welche Millionen Menschen brauchen, um zu wohnen, zu leben, zu arbeiten, sich zu unterhalten, sich zu belehren, sich zu erholen, wie ordnet man diese Dinge so, daß sie einem höchsten Maß von Ordnung entsprechen, das alle zugestandenen Ansprüche des Einzelnen an Raum, Luft, Hygiene, Bequemlichkeit erfüllt, daß der Lebenslauf zwischen diesen Dingen ein reibungsloser und geregelter, ja vielleicht sogar ein angenehmer und wohltuender ist und das all dieses in einer Harmonie mit der wirtschaftlichen Leistungsfähigkeit des Einzelnen sich befindet.

These are questions that also preoccupy Wolf. In his natural health guide, Wolf demands the construction of "healthy flats with rents in proportion to wage conditions" that enable "workers to live at the place of their employment".\textsuperscript{317} On this point, Wolf at first seems to be closer to Bruno Taut's idea of a "dissolution of cities" than Le Corbusier's and Hilberseimer's desire for "Concentration of the masses in the smallest area by the upward extension of cities".\textsuperscript{318} Haring writes:

On average, a Berlin worker burdens public transport just to get to and from work, twice a day for 59 minutes. In Hilberseimer's cities, he walks 5 minutes on foot or rides from the 37th floor to the 5th floor by elevator. Hilberseimer accommodates 5 million people in a fifth of the area they occupy in today's Berlin. And still they all have more light and air.\textsuperscript{319}


\textsuperscript{315} In the Friedrich Wolf archive, of the four paged article by Hugo Haring, "Zwei Städte" in: Die Form, year 1, May 1926, vol. 8, there are only two pages (pp. 173, 174). The details regarding the author, the title, the magazine and the year are noted by Wolf by hand, FWA 154/10.

\textsuperscript{316} Hugo Haring, „Zwei Städte“ in: Die Form, year 1, May 1926, vol. 8, p. 172, FWA 154/10.

\textsuperscript{317} Friedrich Wolf, Die Natur als Arzt und Helfer, (Stuttgart 1928), p. 252.

\textsuperscript{318} Hugo Haring, 'Zwei Städte', Die Form, year 1, May 1926, vol. 8, p. 172, FWA 154/10.

\textsuperscript{319} Ibid.
Menschen auf einem Fünftel des Raumes unter, den sie im heutigen Berlin einnehmen. Und trotzdem haben sie alle mehr Licht und Luft.

Although Wolf’s goals are also those of attaining more light, more air and an as short as possible journey to work, his motivation behind saving time through shortened journeys to and from the workplace is a different one from that of Hilberseimer and Le Corbusier, whose foremost intention is to reduce the amount of traffic on the streets. Wolf argues from a background of social hygiene: from a health point of view that loss of time through long journeys to work means loss of time for the obligatory bodily ablutions and for bodily regeneration, so desperately needed by the worker. Wolf refers at this point to the pictorial representation by the Dresden hygienist, Rudolf Neubert, who in his book Der Mensch und die Wohnung treats this problem with its pathological consequences for the individual (fig. 101).

Garden City

Wolf sees a generally applicable solution for the problem of high population density in the city realized in the English garden cities, though he only mentions garden cities as a solution in a footnote, claiming to have only heard of the existence of Welwyn Garden City not long before the book went to print. He writes excitedly of Welwyn Garden City:

The [Garden City] Society, already prior to the war the creator of widely known estates in Hampstead and Letchworth, has solved the almost insoluble problem of making a garden city out of Welwyn. This garden city is for workers and the middle classes alike and presents a harmonious and beautiful whole. In its physical, economic and administrative structure it offers a new type, not only for England, but for all industrial states altogether. Welwyn shows what a healthy city really is.320

Die (Gartenstadt-)Gesellschaft, schon vor dem Kriege die Schöpferin bekannter Siedlungen in Hampstead und Letchworth, hat das fast unlösbare Problem gelöst, in der Welwyn Garden City eine Gartenstadt zu schaffen, die, für Arbeiter und bürgerlicher Klassen bestimmt, ein harmonisches und schönes Ganzes darstellt. Die Gartenstadt (...) bietet

Surprisingly, Wolf completely dispenses with providing an example of a German garden city. Perhaps, this is a demonstration of Wolf’s in fact being only a layman in the field of architecture. However, it can even more likely be assumed, since Wolf knew of, for example, the garden city of Hellerau but does not mention it that in the building of hygienic houses, he rather is concerned with a particular aesthetic lacking in the existing garden cities. This question will be considered further in a later chapter.

Architectural type

Thus, for Wolf, Häring’s sketches of various solutions by Le Corbusier and Hilberseimer are in fact conducive to healthy living. True, Wolf gives preference to single storey buildings, purely for reasons of hygiene, due to the garden, as an enlargement of living space, being essential to human health. Nevertheless, thanks to Neues Bauen, the new high-rise rental blocks would not be tenement blocks with dark, backward extensions and courtyards. Wolf was able to read in greater depth on this topic in Migges’ Binnenkolonisation:

Resettlement of tenement blocks. Is there such a thing? Yes, there is, and will be increasingly so in the near future, after a larger number of German cities have gone about rectifying their regulations on high-rise buildings unfavourable to life, which prepared the ground for the monstrosity of rental blocks for the masses, in light of a contemporary conception of living space. In Illustr. 37–40, we show several French examples of such modern rental block oases, which, with their leisure gardens, flower gardens, arcades and promenades, which are designed to soften the not to be denied – even with the best fitting out - harmful nature of this housing type.321

Umsiedlung der Mietskaserne. Gibt es so etwas? Ja, das gibt es, wird es besonders in nächster Zukunft geben, nachdem eine größere Anzahl der deutschen Städte darangegangen sind, ihre lebensfeindlichen Bestimmungen über den Hochbau, die die Mißgeburt des

321 Leberecht Migge, Deutsche Binnenkolonisation, (Berlin-Friedenau 1926), p. 84.

Migge illustrates his report with photos from Le Corbusier’s *Pavillon de l’Esprit Nouveau* at the “Exposition Internationale des Arts Décoratifs” in Paris in 1925, and a drawing of the New Frugès Quarter in Bordeaux

Wolf, in the architecture chapter of *Die Natur als Arzt und Helfer*, similarly proclaims euphorically:

You only have to look at Döcker’s rental block in Stuttgart, full of light, the ‘Metzleinstalerhof’ in Vienna with its 244 flats! The joint design by Dr. Dehmel and the architect P. Thimister for a ‘Ringhausparksiedlung’, a massive circular housing scheme for 20,000 city residents, is also no tenement block. (fig. 102a-b, 103a-b)


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322 Wolf gets his information about the ‘Metzleinstalerhof’ from a newspaper article (3 pages, of which 2 are just illustrations): Maximilian Bauer, “Wiener Volkswohnbauten”, in: *Das illustrierte Blatt*, vol. 24, 1926; this article is in the Friedrich Wolf Archive, Berlin, FWA, 154/10. Handwritten under each of the illustrations, Wolf comments: on p. 524: “Today’s ‘tenement block’: there where single-storey buildings and estates in the middle of the city are not possible. But instead of lightless street frontage, here full light breadth, increased window space (the remainder illegible); on p. 543 (courtyard view of the ‘Metzleinstalerhof’) he notes: “Real light courtyard in the Metzleinstalerhof = 244 flats”, on the left hand side of this he writes in brackets: “Contrasting example to ‘Uhu’; with this, he means the typically dark, narrow tenement block portrayed in the health guide on page 249, taken from the magazine ‘Uhu’.


323 Wolf gets the information about the Ringhaussiedlung from the newspaper article (2 pages, one of which just illustrations) “Kampf gegen die Wohnungsnot” in: *Berliner Illustrierte Zeitung*, vol. 23, 1926. The article is in the Friedrich Wolf archive, Berlin, FWA, 154/10.

In a footnote he adds:

In place of the tenement block, Le Corbusier has found for large mass housing, a solution, which is not only hygienic but also complete and intelligent in terms of construction. Picture 172 shows a ‘block of villas’ of ‘120 villas one above the other’, gardens overhanging each other, penetrated through and through by air and sun. These small flats constructed in series, will soon have fulfilled their purpose as workers’ flats. An affluent industrialist from Bordeaux has already commissioned Le Corbusier to carry out the project.325


Both illustrations to this take up almost a whole page and come directly out of Le Corbusier’s publication Towards a New Architecture (Kommende Baukunst of 1926)326. They show (just as Migge does) a façade that consists of the alternation of air cells identical in size (the gardens) and closed concrete squares (the flats). On the opposite right-hand page of the book, Wolf once again polarizes the subject matter

325 Ibid. Le Corbusier’s illustrations reproduced by Wolf, were put into practice in 1924-26 in Pessac near Bordeaux. The worker’s estate, “Quartier Moderne Fruges”, was built there for the wealthy industrialist Henry Fruges. The aim was to create healthy and affordable standard flats with additional “hanging gardens” for workers. Le Corbusier’s personal fitness and health advisor, Pierre Winter, a member of the fascist group, “le Faisceau”, wrote about the meaning of healthy architecture for fascism: one of the most pressing problems, for which the fascist state must find a rapid solution, is that of healthy living. (...) The visit, which we made to the Quatier Fruges in Pessac, was very informative. There, we saw the innovative realization of a residential housing project, demonstrating a cheap, series production. (...) The choice of dimensions, the lay out of the rooms, ventilation and light access were dictated by our needs, the needs of the family of the twentieth century that cannot exist without a light living cell, the best framework for a healthy life, where there are no hidden, dark and dusty corners. Hanging gardens, open or closed roof terraces, houses, which hang above the ground with a garden below... Sun terraces, water, central heating, which is included in the price, showers, water closets with chemical self disinfection etc. (...)”;

into negative and positive examples, this time of a tenement block from Behne's *Neues Wohnen - Neues Bauen* with the picture caption: "Tenement block with lightless courtyards; here the 'dark diseases' tuberculosis and rickets thrive."³²⁷

Under this is the Horse-Shoe Estate in Berlin Britz by Bruno Taut: "No decorated façades but also no dark courtyards!"³²⁸ (fig. 100)

Following on directly, Wolf deals once again with one of the core questions within the discourse of *Neues Bauen*, in the sub-chapter 'Series production. Prefabricated building'. That is, the discussion about the implementation of an architecture and design for living from a purely functional perspective and the conclusive farewell to out-dated, sentimental and unhealthy types of housing. Wolf opposes the long obsolete aesthetic with progressive, up-to-date Functionalism. He writes:

Earlier architects competed in giving each house its own 'personal note'. Thus this resulted in that jumble of buildings, in that façade potpourri of a dozen "styles" from the Corinthian column to the art nouveau girl's head above the portal. Yet, even the terraced houses on the edge of the city with their village gabled roofs today already seem displaced.³²⁹


Once again the influence of Migge is clear. He writes in his *Binnenkolonisation* on the country houses of "today's city-dwellers that they hardly have anything in common with their countryside":

They are, in their contemporary form with its antiquated building techniques, romantic roofs and unwieldy furniture nothing other than

³²⁸ Ibid. Leberecht Migge wrote to Bruno Taut: "We dare to maintain that we don't yet know, how the country home, the correct estate flat, the good garden flat, should be like. Here, the modern architect has failed." And he adds in a footnote: "It is remarkable here that recently the venture alone that the former official town planner Bruno Taut undertakes in his book, *Die Frau und die Wohnung.*", Leberecht Migge, *Deutsche Binnenkolonisation*, (Berlin-Friedenau 1926), p. 55.
‘small tenement blocks’, sentimental or coquettish gestures of a hypocritical ideal of nature. (…) What is here most lacking is a decision for a clear – the best – type (…) 330

Sie in ihrer heutigen Gestalt mit ihren altertümlichen Bauweisen, romantischen Dächern und sperrigen Möbeln nichts als ‘kleine Mietkasernen’, sind sentimentale oder kokette Gesten eines verlogenen Naturideals. (…) Hier fehlt vor allem noch die Entscheidung für einen klaren, den besten Typus (…) .

The advantages of the architectural examples of the Neues Bauen shown in Die Natur als Arzt und Helfer lie, according to Wolf, in the series production technique of prefabricated building. The goal of achieving a “cheap, rapidly constructed, healthy house” can only be reached by the factory-like production of “large slabs and cubic boxes”. In contrast to the terrible “building hotchpotch” of the past, the “potpourri of façades” and the “dozen styles from the Corinthian column to the art nouveau girl’s head via the portal”, Wolf presents a “mathematical, unit construction system like design, which is determined by use and building material”. 331 Wolf refers here to the collection of seven pages of papers332 that can be found in his estate with the title “bauhaussiedlung dessau-törten”, which discusses in detail the planning, construction, and production, materials used, building costs and construction time of the experimental estate planned and led by Walter Gropius. Wolf titles the notes by hand with the words ‘prefabricated building’, an expression, which he probably first encounters with Behne. However, Wolf’s vocabulary is obviously copied from the Bauhaus brochure. What the Bauhaus brochure for example calls ‘unit construction system’, Wolf’s natural health guide calls ‘unit construction system like design’. Moreover, Wolf draws on an article by Walter Gropius, which can also be found in his estate, entitled “Normung und Wohnungsnot”. Here it reads:

From all sides comes one requirement in the building of houses: save on building costs and building taxes, shorten construction time, improve quality, reduce rents. Rational building economy that can produce good and cheap houses stipulates: 1. serial production of houses on supply, which are not produced on the building site, but in stationary workshops,

332 FWA 154/10.
ready in mountable pieces (...); the production of a unit construction system largely on the basis of standardization.\(^{333}\)

Von allen Seiten wird für den Wohnungsbau als Forderung aufgestellt: Ersparnis an Baukosten und Bauzinsen, Abkürzung der Bauzeit, Steigerung der Qualität, Herabsetzung der Mieten. Eine rationale Bauwirtschaft, die gute und billige Häuser herstellen kann, bedingt: 1. Serienweise Herstellung von Häusern auf Vorrat, die nicht an der Baustelle sondern in stationären Werkstätten, in montagefähigen Einzelteilen, einschließlich (...) erzeugt werden; also Herstellung eines Baukastens im großen auf der Grundlage der Normung.

Without such a ‘programme of rationalization’, said Gropius, the use of standardization and type would not be conceivable. He writes:

Type is not an inhibitor of cultural development, but precisely one of its prerequisites. It incorporates the chosen best and divides the elementary, objective from the subjective. The type was always a sign of moral and social order (...) in contrast to the parvenu attempts to outdo each other of suburban houses of past generations, in which each displays a different style, different material and different forms...\(^{334}\)

Denn der Typus ist nicht ein Hemmnis kultureller Entwicklung, sondern geradezu einer ihrer Voraussetzungen. Er birgt die Auslese des besten in sich und scheidet das Elementare, Überindividuelle vom Subjektiven ab. Immer war der Typus ein Zeichen gesitteter und gesellschaftlicher Ordnung (...) im gegensatz zur parvenuhaften Übertrumpfung der Vorstadtwohnhäuser der vergangenen Generation, deren jedes einen anderen Stil, anderes Material und andere Formen aufweist...

In this spirit, Wolf quotes from an essay of 1926:

Just as healthy people of one tribe have great similarities, the standard houses of one area will have an even greater similarity as they stem from one and the same production process.\(^{335}\)


\(^{334}\) Ibid.

So wie gesunde Menschen eines Stammes große Ähnlichkeiten haben, werden diese Standardhäuser eines Bezirkes um so größere Ähnlichkeit haben, als sie ein und demselben Werkgang entstammen.

Only ‘true housing unity’, such as that achieved by the ‘series production and prefabricated building’, Wolf continues, could sufficiently fulfil financial, hygienic, and with this, aesthetic requirements. Only the factory made “house machine”,336 as Wolf termed the result of standardised building in Le Corbusier’s vocabulary, could produce healthy architecture in the future. The recycling of architectural theoretical content occurs, however, in relation not only to single expressions, but indeed wider ideas, as demonstrated by the following comparison with Le Corbusier, when Wolf writes:

In this house, nothing is too much and nothing too little. It fulfils its purpose, is simple, sachlich, healthy. Implicitly an expression of our new ways of working and living.337

In diesem Haus ist nichts zuviel und nichts zuwenig. Es ist zweckvoll, einfach, sachlich, gesund. Ohne Betonung ein Ausdruck unserer neuen Arbeits- und Lebensweise.

This refers to what Le Corbusier expressed under the heading “Mass Production Houses”:

If we eliminate from our hearts and minds all dead concepts in regard to the houses and look at the qquestion from a critical and objective point of view, we shall arrive at the “House-Machine”, the mass-production house, healthy (and morally so too) and beautiful in the same way that the working tools and instruments, which accompany our existence are beautiful.338

Wenn man (...) die Frage von einem kritischen und sachlichen Standpunkt ins Auge faßt, wird man zum Haus – Hilfsmittel gelangen, zum Haus im Serienbau, das für jedermann erschwinglich, das gesund, unvergleichlich gesünder (auch in sittlicher Hinsicht) als das alte Haus ist

Interior design

In the sub-chapter on interior design, Friedrich Wolf deals with, on the one hand, the different functions of the rooms such as bathroom, kitchen, bedroom, children’s room, play room, and on the other, their furnishings such as heating (ovens or collective heating), lighting and light sources, ventilation, windows and space saving methods of furnishing. He also refers to the question of how to finance one’s own home cheaply.

The photos used to illustrate this sub-chapter, make, for example, a comparison between an overfilled bourgeois living room from before with a portrayal of the living and dining room in J. J. P. Oud’s house in the ‘Weissenhof Estate’ in Stuttgart, under which Wolf writes, “simple living room of today: light, airy, easy to clean” (fig. 104). Another example is a kitchen by Fred Forbat (fig. 105), captioned with the proclamation, “The kitchen is not a side room, but a main room! Here too, built in cupboards, light, air, space”, as well as a comparison of a bedroom hung with cloth, with the caption: ”a bourgeois bedroom from before: hangings, dust traps, bits and pieces”, with the bedroom at house 22 in ‘Weissenhof’ (fig. 106), designed by Döcker, under which Wolf writes, “bourgeois bedroom today: wall cupboards, light, air, space”. Wolf thereby once again emphasizes – as with the dichotomising of the tenement block and Neues Bauen – Neues Bauen as the ideal form for contemporary and hygienic living.

As far as the purely hygienic-bacteriological requirements for interior rooms are concerned, Wolf follows the specific criteria established by hygienists such as Otto

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341 Ibid.
342 Ibid., p. 259.
343 Ibid.
344 Ibid., p. 261.
345 Ibid.
Dammer, Carl Flügge, Leopold Weber and Wheyl just after the discovery of the tuberculosis bacterium in 1882. Wolf also rigorously demands the integration of factors optimally supportive of health: many large windows, easy to clean floors, smooth, space-saving fitted furniture, light, air, sun and cleanliness. For the kitchen, Wolf demands that crockery should be stored in a few wall cupboards that the walls be tiled, the floor covered with lino (to avoid dirt gathering between the floorboards), the door handles to be made of glass or metal and, concerning the furniture, simply "wall benches, stools, a table, otherwise no furniture! Space!". The corresponding illustration is likely to come from Behne's *Neues Wohnen, neues Bauen*, who shows exactly this kitchen by Fred Forbat in the house of Dr. Willinsky in Berlin. Wolf insists that bedrooms be south-facing, with at least two windows to create a through draft, as well as built-in cupboards and the relinquishing of dust gathering wall paper. He writes:

The bedroom faces south. By all means. It is not only for when there is a case of illness. For healthy days, too, must light and sun stream into the nocturnal breathing-room. Many windows! A window – even if only a small one – on one of the side walls, to enable the air to circulate in a through draft. Then alone will the air not move in circles, but instead be genuinely renewed. No wall paper! Distemper or oil paint instead. (...) Instead of carpets, raffia mats on the lino. (...) Only beds in this bedroom! Clothes in built-in cupboards. (...) In this way only the beds stand in the bedroom, wide, low, without headpieces, with good woolen blankets in covers, a real wide bed. Space and place is won. Also important for the morning gymnastics at the open window. Especially important for easy cleaning and clean air.\(^{346}\)

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\(^{346}\) Ibid.
Morgengymnastik beim offenen Fenster. Wichtig vor allem für leichte Reinigung und saubere Luft!

His demands on hygienic living space are similar to the imperatives, on which Le Corbusier advises his readers under the title “Manual of the Dwelling”:

Demand bare walls in your bedroom, your living room and your dining room. Built in fittings to take the place of much of the furniture, which is expensive to buy, takes up too much room and needs looking after. (...)
Teach your children that a house is only habitable when it is full of light and air, and when the floors and walls are clean. To keep your floors in order, eliminate heavy furniture and thick carpets. 347

Fordert nackte Wände in Eurem Schlafraum, in Eurem großen Wohnraum und in Eurem Speisezimmer. Wandschränke statt der Möbel, die viel Geld kosten, Platz fressen und ständige Bedienung beanspruchen. (...) Bringt Euren Kindern bei, daß das Haus nur wohnlich ist, wenn es Licht in Hüle und Fülle hat, und wenn die Böden und Wände sauber sind. Um eure Böden gut rein halten zu können, verzichtet auf Möbel und orientalische Teppiche. 348

Beyond giving extremely detailed instructions regarding the hygienic installation of bath, kitchen, bed and children’s rooms, Wolf is concerned that these rooms should – and with this he leaves the terrain of purely hygienic-bacterial concerns – guarantee a smooth running of the household, optimally supporting human endeavour, and thus saving housewives in particular effort and time. Wolf refers explicitly to Bruno Taut, who in his book, Die neue Wohnung 349, according to Wolf, “said almost everything to be said about interior rooms”. 350 Wolf writes:

Bruno Taut has demonstrated convincingly how to create space in one of our former rooms, the plush museums. (...) Few rooms – lots of room! Bruno Taut reckons a good 40-50% drop in costs due to fitted furniture; on top of this is the easier cleaning of the rooms, and the time spared. 351

348 Le Corbusier, Kommende Baukunst, (Berlin/Leipzig 1926), pp. 97-98.
349 Bruno Taut, Die Neue Wohnung, (Leipzig 1924).
351 Ibid., p. 263.
Wie man in einem unserer bisherigen Zimmer, den Plüschmuseen, Raum schafft, hat Bruno Taut überzeugend gezeigt. (...) Wenig Räume — viel Platz! Bruno Taut errechnet an Verbilligung durch eingebaute Möbel gegen bewegliche 40–50%; dazu noch die leichtere Reinigung der Räume und Zeitersparnis!

In his book, Taut illustrates this rationalization (or reorganization, as he terms it) of the living rooms through fitted, simpler and less furniture, by means of a comparison between a negative example and a simplified retouching by him (fig. 107). (See also the exhibition posters of the Deutsches Hygiene-Museum Dresden of 1932, making use of the same iconographical method as Taut (108a-b, 109)).

It is therefore conceivable that Wolf borrowed the visual method of illustrating his message from Taut. Taut’s influence on this section of the chapter on architecture on a rhetorical level cannot be overlooked either. Taut writes:

In these days, the woman no longer knows the extent, to which she is imprisoned by today’s flat. She sacrifices her own entire life to the daily and hourly never-ending work of cooking, washing up, cleaning, washing, sewing etc. etc. etc. (...)  

Heute ist es so, daß die Frau selbst nicht mehr weiß, wie sehr sie durch die heutige Wohnung versklavt ist. Sie opfert ihr ganzes eigenes Leben der täglich und stündlich nie aufhörenden Arbeit des Kochens, Abwaschens, Putzens, Reinigens, Nähens, usw., usw., (...).

Wolf, in comparison, reads like this:

That the interior rooms are no longer plush museums is self-explanatory. Air, light, sun, space! Real space! No longer displaced by dozens of pieces of furniture, cornered and broken by dark corners and niches! Even the housewife will soon be very happy here! She will not have to rush around half the morning from room to room with dust cloth or vacuum-cleaner; she, too, will save time and be freed from the slavery of the home.

352 Bruno Taut, Die Neue Wohnung, (Leipzig 1924), pp. 56-57, illustrations 44 and 45.
353 Ibid., p. 40.
354 Friedrich Wolf, Die Natur als Arzt und Helfer, (Stuttgart 1928), p. 258; also cf. Adolf Behne, Eine Stunde Architektur, (Stuttgart 1928), p. 31: “First, furniture jams against furniture. The room built between this furniture is contrary to the tendencies, interests, the very being of the human anatomy. Since every piece of furniture is stiff and without joints, the space in between remains...
Daß die Innenräume keine Plüschmuseen mehr sind, versteht sich von selbst. Luft, Licht, Sonne, Raum! Wirklicher Raum! Nicht mehr verstellt durch Dutzende Möbel, gewinkelt und gebrochen durch Dunkelecken und Nischen! Hier wird auch die Hausfrau sich sehr bald wohl fühlen! Sie wird nicht den halben Vormittag mit Staubwischer oder Staubsauger in den Zimmern umhergeistern; auch sie wird mehr Zeit gewinnen und vom Sklavendienst der Wohnung frei werden.

Wolf hereby touches on an aspect, which commands its own place within the theoretical architectural discourse of the Neues Bauen. Wolf writes that the Bauhaus has “exemplarily stood up for this and created the new space”.355 The treatment of the individual thought complexes in Wolf’s natural health guide, Die Natur als Arzt und Helfer, have the following element in common: in each of the sections, it is conspicuous that Wolf is principally concerned with stylistic and aesthetic questions that are not directly connected with fulfilling hygienic criteria. This fact makes a more exact analysis necessary of the relation between aesthetic style and Wolf’s demands on the design of hygienic architecture. This will be dealt with in depth in the last chapter.

Considering the fact that architecture evidently occupies a crucial position in Die Natur als Arzt und Helfer, the following section will set out to clarify the specific functions of architecture in his medical guide book and how Friedrich Wolf uses it to serve specific goals.

5. Architecture as hygienic shell: The role of architecture in Friedrich Wolf's *Die Natur als Arzt und Helfer*

(Objects are) extensions of ourselves. The room, the walls that limit it, are the outer skin of the human body: to abolish the wall would mean to allow sight to penetrate into the inside of our organism. (…) What is on my little table, what hangs on my walls, belongs to me, like my hair and my skin. 356

Peter Altenberg, *Was der Tag mir zuträgt*, 1899

5.1. The "shell" as the core of Wolf's system of healing

Since the doctrine formulated in *Die Natur als Arzt und Helfer* is concerned with a comprehensive, self-contained system of healing, it is important to describe what lies at the core of this system, its constituent parts and those functions Wolf attributes to architecture within this system of healing. For this, it is necessary to place the architecture chapter, which was considered in isolation in the last section, within the context of the second part 'Education towards health'.

In *Die Natur als Arzt und Helfer* Wolf defines the prerequisite for health as being a perfect interplay of all the constituent factors of a hygienic way of life, such as personal hygiene (through sport and cleanliness), nutrition, clothing and finally, living environment. Each of these factors must be perfectly in tune with the immediate biological and hygienic needs of the individual. Moreover, these factors must be systematically intertwined. If one of these factors deviates from serving the

hygienic needs of the individual, it invariably leads to disease. Wolf portrays this thus:

The human body is not an artificial mosaic of organs, upon which one can cut around here and there, radiate or cauterise with no repercussions. The human body is an indivisible whole like every organism of the living world, similar to a tree. 357

Der menschliche Körper ist kein künstliches Mosaik von Organen, an denen man hier und da ungestraft herumschneiden, bestrahlen oder Ätzen darf. Der menschliche Körper ist ein unteilbares Ganze wie jedes Gebild in der lebendigen Welt, ähnlich einem Baum.

If on a smaller scale the human body is seen as a whole and only the correct interplay of all organs guarantees health, the individual must at the same time also be in harmony with his environment, so Wolf continues:

This tree is first and foremost determined by the earth, in which it is rooted, and by the air and sun, from which it absorbs: by its nutrition. Whosoever walks through a thick pine forest – where trees are to be found in masses, in tree-cities, can observe how most tree cripples and corpses have not become diseased by external causes, by lightening, sun or bark beetle, but by nutritional and ‘dwelling conditions’, by too dense a growth. A tree that does not have enough air, light, sun and earth, becomes crippled and covered with moss and fungus and dies. 358


According to Wolf, if one were to transpose the example of the forest onto the life of a human being, one could equate the actions of a forester in removing negative influences, with “housing hygiene”, “promotion of housing estates” and “proper

nutrition". After all, these are the "basic principles for preservation of the individual and also of the people!"\textsuperscript{359} And he goes on to add:

But also the healing of diseases cannot be brought about with specialized partial aid, but only by comprehending the \textit{whole} human being\textsuperscript{360}

Doch auch die Heilung von Krankheiten kann nicht mit spezialistischen Teilhilfen, sondern nur mit Erfassung des \textit{ganzen} Menschen geschehen!

Therefore, proper healing can only occur if treatment is not solely applied to the single body part displaying the symptom. Only by simultaneously including all body parts and the whole external environment that influences health, can a lasting state of health be guaranteed:

It is therefore not sufficient to rub an ointment over a skin rash; after all one does not lay a carpet over a dirty floor. General cleansing is necessary. With every skin rash, with every case of rheumatism, of gout, with every boil, we are dealing with the entire body.\textsuperscript{361}

Expanding this theory in his naturopathic works, Wolf develops a system that understands the individual and his immediate environment of 'skin', 'clothing' and 'housing' as a series of 'shells'.

This is already clearly evident in the structure of the second part 'Education towards health'. It is the progression of headings: 'What shall we eat?', 'How shall we dress?', 'How shall we live?' that reveals Wolf's concern to therapeutically treat the \textit{whole} man: from the inside to the outside, from the internal organs through to the

\textsuperscript{358} Ibid.
\textsuperscript{359} Ibid.
\textsuperscript{360} Ibid.
\textsuperscript{361} Ibid., p. 22.
skin, to the clothes and finally to the dwelling, which he inhabits. Within this scheme, every part of this sequence of skin, clothing and dwelling is also immediately connected with the whole. Just as the inner determines the outer, the content the form and the core the casing, the biological and hygienic needs of man must determine the composition of his immediate environment.

The inner relationship of the individual elements of this environment corresponds with the idea of a box within a box, similar to a Chinese box. The smaller unit always determines the next one up in size, so that ultimately the outermost shell is determined by the composition of the smallest unit, the core. At the same time, from smallest to largest unit, all the figures are subject to the same criteria concerning form, colour and material and this means that (except in the case of size) one shell is a mirror image of another; ultimately the respective shells are all influencing one another, from core to outer shell, from outer shell to core.

As the following section will show, much can be said for the validity of the supposition (not as yet confirmed by scientific, documented evidence) that Wolf borrows the mechanisms and tools of his basic philosophy (viewing man and his environment in terms of 'core' and 'shells') in large parts from the devoutly religious medical doctor, natural scientist and philosopher of the Renaissance, Theophrast Bombast von Hohenheim (1493-1541), better known as Paracelsus. It is not merely the title of Die Natur als Arzt und Helfer that can be traced back to the teachings of Paracelsus, in which the healing art does not derive from the doctor, but from nature herself: "Not man but nature teaches the medical doctor.", because "Nature is the one, who gives remedies to the ill". Wolf also places a quotation from Paracelsus at the very beginning of his publication: "I want a simple garb for the ill, therein they shall become healthy".

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362 At the International Friedrich Wolf Symposium in Neuwied/Rhein in 1988, Ernst Volkmer, director of the 'Friedrich Wolf Sanatorium' in Bad Klosterlausnitz, then still in the GDR, refers to the fact that since his studies, Wolf repeatedly studied all the works of Paracelsus and even prepared a Paracelsus novel. However, due to Wolf's early death, this intention could no longer be carried out. Cf. Volkshochschule Neuwied (ed.), Protokollband Internationales wissenschaftliches Friedrich-Wolf-Symposion, (Neuwied 1988).

Kranken, darin er gesund werde). In this way, he puts his work under the patronage of the doctor whose philosophy shaped both Wolf's medical views, and his view of the world. The aspects Wolf adopts from Paracelsus for his approach (from now on to be termed “shell theory”), are less concerned with the medical form of treatment or with a particular therapy, than with a basic view on the world and the relationship of mankind to his immediate environment.

Paracelsus roughly divides the structure of the world into “the great and small world, the macro-cosmos, and mankind”, the latter he calls the micro-cosmos. These units are separated from one another by 'shells'. In his Book Paragrahum Paracelsus writes:

Because one would destroy the other. This is why humans possess a skin; it limits the form of the human body, and with it, man can separate the two worlds from each other (...). In this way, the “great world” remains entirely undisturbed in its shell...and in the same way, man in his house - i.e. in his skin.

At the same time, according to Paracelsus, the “small world” is solely to be understood as a “reflection of the great world”, of the macro-cosmos:

Think all of you, how great and noble man is created, and in which greatness his structure must be comprehended! It is not possible for any mind, to imagine the construction of his body and the measure of his virtues; he is only to be conceived of as a reflection of the macro-cosmos, the 'great creation'. Only then is it clear what is contained within him. Then as the outer so the inner; what is not outside, is also not in man. The

366 Ibid.
outer and the inner are one thing, one constellation, one influence, one concordance, one length of time, ... one fruit.  

Bedenket, wie groß und wie edel der Mensch geschaffen ist und in welcher Größe seine Struktur erfasst werden muß! Es ist keinem Kopfe möglich, den Bau seines Leibes und das Maß seiner Tugenden auszudenken; nur als Abbild des Makrokosmos, der "Großen Creatur", ist er zu begreifen. Erst dann wird offenbar was in ihm ist. Denn so wie außen so auch innen; was nicht außen ist, das ist auch nicht im Menschen. Das Äußere und das Innere sind ein Ding, eine Konstellation, eine Influenz, eine Konkordanz, eine Dauer, ... eine Frucht.

On the one hand, Wolf is in accordance with Paracelsus, who sees man as surrounded by the shells of his environment like “a circle circumscribes a point”:

...all things apply to this single point, no different from an apple-core that is surrounded and preserved by the fruit and derives its nutrition from it...  

...alle Dinge auf diesen einen Punkt bezogen sind, nicht anders als ein Apfelkern, der von der Frucht umgeben und erhalten wird und seine Nahrung aus ihm zieht...

However, unlike Paracelsus, Wolf does not include in his shell system the religious meta-level, which as the final determining shell conceives ‘outer nature’ signifying the creator.  

As a self-professed Communist and Atheist, Wolf instead places the individual as the determining core at the centre of the world surrounding mankind, and establishes this idea in Die Natur als Arzt und Helfer by using a clear medical, scientific model. In contrast to Paracelsus, Wolf removes the law of cause and effect from the shell order. Thus, his view is no longer determined by the question, of which shell influences another shell and in what manner, but rather that all shells lie in inseparable relation to each other, and consequently for each and every shell the same criteria and demands apply. It follows that Wolf sees all shells to possess equal rights and he

367 Ibid., p. 75.  
368 Ibid., p. 90.
ultimately transfers his medical formulations and hygienic requirements equally to all shells. Unlike Paracelsus, there is no longer simply one core that determines everything, but also a greater hygienic concept, which determines all the shells equally. In concrete terms, this means that the shells ‘skin’, ‘clothing’ and ‘architecture’ stand in analogous relationship to one another.

It can therefore be affirmed that architecture in the context of Wolf’s healing system takes a central role in prophylactic health care. Progressing logically from the idea that every shell determines the composition of all other shells, then architecture as the outermost shell must bear a direct influence on all other areas of an individual’s hygienic lifestyle, in other words on all the other shells as well.

In order to elucidate this theoretical model of related shells, the following chapter serves to illustrate the tradition of the shell theory’s conception as implemented by medical doctors, architects and art historians.

5.2. The analogy of the shells: skin, clothing, housing

Taking the hygienist Max von Pettenkofer’s (1818-1901) claim, cited by Wolf in *Die Natur als Arzt und Helfer*, “Our skin is designed to be flooded over with air”, and following the shells analogy, this must also apply to clothing and housing. The comparison of two illustrations, which come from different chapters of *Die Natur als Arzt und Helfer*, show that this analogy is not only intended rhetorically (to depict medical requirements more vividly), but actually found practical use. In comparison with one another, the block of rental flats by Mies van der Rohe in the ‘Weissenhof Estate’ ([fig. 110a-b](#))

and the strongly magnified piece of woven cloth ([fig. 111a-b](#)) display an astounding similarity, not only in their structure and formal language, but also in their relevance for man and his body. Man is taken as naked in this comparison, ideally fulfilling the

369 “Outer nature moulds the form of the inner, and if the outer is no longer there, then the inner is lost as well, as the outer is the mother of the inner”, ibid., p. 91.

requirements of hygiene to allow the skin be flooded over with air. As a consequence, the ‘shell’ that surrounds the *naked* body must be of a porous material, which fulfils the necessary health criteria with its increased air porosity by means of the “loose chain-stitch”.

A comparison of the illustrations shows that the house (in functioning as a second shell around the naked human body) serves the same purpose as the skin, and thus becomes an ‘air-dress’ as it were. The long strips of window break through the simple plaster façade and adopt the function of the chain-stitches. Thus, the façade consists of a rhythmic series of ‘air-space’ and matter, and like the woven cloth permeable to air, ultimately represents a unified, semi-permeable surface, and is thus a hygienic façade. In the paragraph “How shall we dress?” Wolf writes:

The essential thing with all materials is precisely this permeability! This ventilation – the extrusion of used gases and introduction of fresh air – is just as important for the space between skin and body as the ventilation of a room. 371

Das wesentliche bei allen Stoffen ist aber gerade die Luftdurchlässigkeit! Diese Ventilation – die Ableitung verbrauchter Gase und die Zuführung frischer Luft – ist für den Zwischenraum Haut-Körper ebenso wichtig wie die Lüftung eines Zimmers.

Right at the beginning of the chapter on housing hygiene, Wolf claims:

If clothing was the first shell around the naked human body, then the house is the second. 372

War die Kleidung die erste Hülle um den nackten Menschen, so ist die Wohnung die zweite.

With this comment, he formulates the basis for answering the question ‘How shall we live?’. In order to emphasize just how he intends the parallel contemplation of the

371 Ibid., p. 235.
individual parts of the shells ‘clothing’ and ‘architecture’ to be understood, he compares them directly with each other. He writes:

The old long skirts, the ruches, the laces, trimmings, corsets, high-heeled shoes, starched collars, starched shirt fronts correspond in the house with the upholstered furniture, the porches, curtains, bolsters, the pug dogs fashioned of clay and the boy with the thorn in his foot, correspond outside with the stuccoed façade on a courtyard house with a dark, narrow courtyard.

Der alten Schleppe, den Rüschen, den Spitzen, Besätzen, Korsetten, Stöckelschuhen, Stehkragen, Stärkebrüsten entsprechen im Haus die Plüschmöbel, die Portieren, Gardinen, Schlummerrollen, die Tonmöpse und “Dornauszieher” entspricht außen die Stuckfassade vor einem Hinterhaus mit dunklem, engen Hof.

The stiletto-heeled shoe and the corset especially force the body from outside to adopt an unnatural form and disturb the function of the internal organs to such an extent that this eventually leads to lasting internal and external deformations (fig. 112, 113). Similarly, from the outside, the stuccoed façade of the tenement block, designed according to various geometric and artistic fancies, forces flats and ground

373 The connection between reformist clothing and reformist architecture, of course, had a forerunner in the Clothing Reform movement. Originally, the movement was primarily for the development of healthy and practical women’s clothing, with artists and doctors being called upon to design them. The art historian Friedrich Deneken arranged an exhibition in 1900 in Krefeld with designs for women’s clothing by numerous contemporary artists, among them: Henry van der Velde, Margarethe von Brauchitsch, Alfred Mohrbutter and Paul Schultz-Naumburg. The extremely successful exhibition was followed by further exhibitions, for example in Leipzig. It made a further problem visible: the embedding of the clothes in a ‘a total work of art’ (Gesamtkunstwerk), in that they were supposed to follow the forms of architecture, furniture, wall hangings and craft objects. Then the book by the architect Paul Schultz-Naumburg, Kultur des weiblichen Körpers als Grundlage der Frauenkleidung (Leipzig 1903), which written with a new sexual moral code in mind, created a furore. Schultz-Naumburg demonstrated the body of women deformed by the corset, supported by plain photos of naked women, which dispensed with all euphemism, and thus made a plea for a new physicality as the basis of a new morality. The artist’s ‘reform dress’ was, however, still a dress of costly material, almost exclusively suited for use at home, and not intended for mass production. Against this, several women from the sphere of the middle class women’s movement, concurrently developed the idea of the “Eigentkleid”, as the title of a brochure from 1903 called it. The author was Anna Muthesius, wife of the architect Hermann Muthesius. Anna Muthesius, Das Eigenkleid der Frau, (Krefeld 1903). She was concerned to fetch the dress back down from its pedestal again and to make it into an object of use to women. Cf also: Karen Ellwanger, Elisabeth Meyer-Renschhausen, “Kleidungsreform”, in: Diethart Kerbs, Jürgen Reulecke (eds.), Handbuch der Deutschen Reformbewegungen. 1880–1933, (Wuppertal 1998), pp. 87-102.

plans to take on a form that in no way corresponds with the ideal of hygienic dwelling, and thus encourages unnatural living conditions and disease in the inside.

This "discrepancy of form and content" as Adolf Behne terms it, which places the purely artistic design before the biological needs of man, results in dingy, damp and claustrophobic flats, the "housing hells" of Wolf's narrative. The external form, in other words the façade of a house must result from the ground plan of the interior of the flat, from the actual purpose of the flat itself. The ground plan in turn should result from the fulfilment of the immediate needs of its inhabitants. In an article by Behne, who similarly understood the house as a 'shell' and explicitly calls it so, he writes:

The house should no longer be a static shell to contain life, but a servant of life; should no longer be determined according to geometric artistic fancies, but according to the original life sources of sun, air and light.

Das Haus soll keine starre Hülle mehr sein für das Leben, sondern Diener des Lebens; soll sich nicht mehr nach geometrischen Künsteleien richten, sondern nach den ursprünglichen Lebensquellen der Sonne, der Luft, des Lichtes.

Behne specifies this theory in his work Neues Wohnen – neues Bauen, in which he directly equates the house façade with a piece of clothing:

And the façades with stuccoed ornamentation, plaster rosettes, marble imitation and department store antique serve to cover up this lack. Our aerial photograph clearly shows how ridiculously thin is this fine façade dress in front of the man-consuming massiveness of the tenement block, with more than one hundred flats – a laughably thin stage setting.


The strong affinity in content and rhetoric of this quotation with the article “To fight against the enemy of female beauty” in the magazine Schönheit und Lebensglück, which speaks of the pathological consequences of the corset, is astonishing. The author claims that the corset steals the natural form of the lower torso and leads to the “impairment in their task of a whole range of organs that are vital for life, long before old age and the degeneration of the entire organism”\textsuperscript{378}. The author continues:

There is probably nothing more impractical and uncomfortable than the usual, sitting shells of the upper torso that fit like a glove with their narrow and smooth surface areas, their beauty defying emptiness, which one tries to make less harsh by artificial folds (not resulting from the form of the dress itself) and by stuck-on frills and furbelows.\textsuperscript{379}

So gibt es wohl nichts unpraktischeres und unbequemeres als die üblichen, wie angegossen sitzenden Hüllen des Oberkörpers mit ihren engen und glatten Flächen, deren schönheitswidrige Leere man durch künstliche, (nicht aus der Form des Gewandes sich von selbst ergebende) Falten und durch aufgeklebten Putz zu mildern sucht.

Façade and corset as pathological elements are put on an equal footing, in which they firstly negatively influence the inner organization, in order to then cover up the ‘diseased’ state inside with decoration (\textbf{fig. 114, 115}). Consisting of decorative elements, which on the whole seem to be taken from a feudal context, the monumental ornamented façade and the corset alike suggest a generosity, which does not in any way correspond with the restricted reality within and thus obstructs the revelation of actual living conditions. Though displaying a decorated exterior, the interior has the effect of making the inhabitants diseased. The architect Bruno Taut explains the consequences of this phenomenon through equating the internal organisms of man and architecture:

But just as in the end a person’s good looks disappear, when his nutrition, digestion and cleansing are not correct, so it is with architecture. The inside of the house, the life of its inhabitants must also

\textsuperscript{378} Author anonymous, “Zur Bekämpfung des Feindes der Frauenschönheit”, in: Schönheit und Lebensglück, (Berlin 1900), vol. 1, p. 5.
\textsuperscript{379} Ibid., p. 5.
take place in cleanliness and clarity, otherwise a proper architecture cannot be attained. 380

Aber wie das gute Aussehen eines Menschen schließlich verloren geht, wenn seine Ernährung, Verdauung und Reinigung nicht in Ordnung ist, so geht es auch mit der Architektur. Das Innere des Hauses, das Leben seiner Bewohner muß ebenso in Sauberkeit und Klarheit verlaufen, sonst kann es nicht zu einer wirklichen Architektur kommen.

For the aforementioned hygienist, Max von Pettenkofer, the borders between house and human body had already collapsed half a century before. In his lecture, “On the relationships of air to clothing, housing and land” of 1876, he argues:

On the whole, the house follows the same hygienic purposes as clothing, it has to constantly maintain the contact with the atmosphere around us, whilst, however, regulating our needs in accordance. The house should never be a construct designed to shut us off from the external air, as little as clothing should be. One could say that clothing and the house merge into one another. Coat and tent are very close to each other. (...) The hat is the roof of the clothing, and the roof the head-covering of the house. 381

Im Ganzen verfolgt das Haus die nämlichen hygienischen Zwecke wie die Kleidung, es hat den Verkehr mit der uns umgebenden Atmosphäre beständig zu unterhalten, aber unsern Bedürfnissen entsprechend zu regeln. Nie darf das Haus eine Vorrichtung sein, uns von der äussern Luft abzuschließen, so wenig als die Kleidung. Kleidung und Haus gehen in gewissen Formen sozusagen ineinander über. Mantel und Zelt stehen sich sehr nahe. (...) Der Hut ist das Dach der Kleidung, und das Dach die Kopfbedeckung des Hauses..

The medical doctor Anna Fischer-Dückelmann makes similar comments in her medical guide Woman as Home Doctor (Die Frau als Hausärztin) (fig. 116a-c) of 1901 382, which has a similar purpose to Wolf’s Die Natur als Arzt und Helfer. She writes:

But above the bed, our clothing for the night, stands another, more comprehensive shell: the roof over our heads, our “hut”, our dwelling. In a certain way, the same basic principle that we have already advanced for dress and bed also applies to it: it must be ‘permeable’ (...). In their original form, human dwellings were incredibly primitive, consisting of more or less airy tents... 383

Aber über dem Bette, unserer Kleidung für die Nacht, steht noch eine andere, umfangreichere Hülle: das Dach über unserem Haupte, unsere “Hütte”, unsere Wohnung. Auch für sie gilt in gewissem Sinne das gleiche Grundprinzip, das wir schon für Kleid und Bett aufstellten: sie muß “durchlässig” sein (...). Im Urzustande sind die menschlichen Wohnungen äußerst primitiv gewesen, aus mehr oder minder luftigen Zelten bestehend...

From the architects’ point of view, this analogy is also confirmed by Johannes Duiker, architect of the ‘Zonnestraal’ Sanatorium near Hilversum in Holland. In an issue of the Dutch architectural magazine De 8 en opbouw dedicated to the main theme “Licht, Lucht, Zon!” (“Light, Air, Sun”) he writes in his article “Hoe is het met onze kleeding?” (“What is it with our clothing?”) of 1932 384 about the necessity of conquering the “smallest house pet”, the bacterium. According to Duiker, the problem must be considered in its entirety, and thus he sees clothing as an integral part of the great hygiene movement that is finally “gaining ground”. “Soon enough”, Duiker writes, “he who wears everything on top of each other, under vest, flannels, shirt, pullover and even woollen socks in his solidly built house with its thick brick walls and one room, heated to a warm glow”, will be ridiculed as an eccentric. 385

And he continues:

A new concept must be placed alongside this old one, one, which takes the mass away from clothing and that, which really must serve as insulation, is put together out of thin, fine-pored material that can absorb moisture in summer when we perspire, and in winter enables insulation

383 Ibid.
384 Johannes Duiker, “Hoe is het met onze kleeding?”, in: De 8 en opbouw, vol. 1, 1932, p. 166: “Tegenover deze opvatting stelt zich dan nu een nieuwe, die aan de kleeding haar massa antneemt en datgene, wat werkelijk als isolatie dienen moet, samenstelt uit dun, fijn porieig materiaal, dat des zomers vocht opnemen kann, wanneer wij transpireeren en des winters door de fijne luchtcolletjes des isolatie in een dun weefsel mogelijk maakt. Welk een analogie met het streven der nieuwe zakelijkheid in de architectuur!” (As this article does not exist as an English version, it was translated from the Dutch original by the author Ch. F.).
385 Ibid.
in a thin material by fine air cells. What an analogy with the quest for ‘Neue Sachlichkeit’ in architecture?\textsuperscript{386}

Gegen diese alte Auffassung, stellt sich dann eine Neue, die der Kleidung ihre Masse wegnimmt und dasjenige, das wirklich als Isolation dienen muss, zusammengestellt aus dünnem feinporigem Material, daß im Sommer Feuchtigkeit aufnehmen kann, wenn wir transpirieren, und im Winter durch feine Luftzellen die Isolation in einem dünnen Gewebe möglich macht. Welch eine Analogie mit dem Streben nach der Neuen Sachlichkeit in der Architektur!

Duiker’s equation of porous, healthy clothing with \textit{Neues Bauen}, which goes above and beyond a general analogy of clothing and architecture, could serve without further ado as a picture caption for the previously described comparison of woven cloth with the apartment block by Mies van der Rohe.

That Duiker as well as Wolf – architect and doctor respectively - use the same synonyms for clothing and architecture, namely porous, healthy clothing and \textit{Neues Bauen}, clearly shows how comprehensive consideration of the analogy skin, clothing, and architecture across different scientific disciplines, resulted in a merging of borders until ultimately it is scarcely possible to tell, from which camp the respective expositions derive.\textsuperscript{387}

One of the founding fathers of this analogy was the art historian Heinrich Wölfflin. His teachings can be deemed the basis of the intensive consideration of the subject by his students Adolf Behne, Sigfried Giedion and even Friedrich Wolf. The latter dedicated himself not only to his medical studies, but also to history of art and philosophy during his time spent as a student in Berlin. From 1910 to 1912, he attended Heinrich Wölfflin's seminars. Wolf writes:

From 1910-1912, in Berlin a frenzy of studying suddenly gripped me, I went to almost all the interesting lectures - apart from extremely exhausting medical studies (practical study with obstetrics, surgery) also philosophy with Benno Erdmann (Schopenhauer), who accepted me into his seminar after two months, then Heinrich Wölfflin history of art

\textsuperscript{386} Ibid.
In his thesis *Prolegomena zu einer Psychologie der Architektur* of 1886, Wölfflin demonstrates that man’s understanding of architecture *must by necessity* be built upon the analogy ‘man – architecture’, since man in the nature of things can only measure “foreign body forms” by the measure of his own body. He proceeds thus:

We attribute all appearances to the picture we have of ourselves. Every thing should also possess what we know as the conditions of our well-being. It is not that we demanded the appearance of a human entity in the forms of inorganic nature, but we perceive the physical world using the categories (if I may put it this way), which we have in common with it. And in this way, the expressiveness of these strange forms is determined. They can only tell us that, which we can ourselves express with their characteristics.

Having established the theory of identification with inorganic forms by means of man’s own physical qualities, Wölfflin concerns himself with the question as to

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389 Heinrich Wölfflin, *Prolegomena zu einer Psychologie der Architektur*, (Munich 1886). There is no standard translation of this text.

390 Ibid., p. 5.
whether and how tectonic forms can be ‘expression’, and which role human anatomy and physiognomy play in the perception and creation of architecture. He writes:

Until now, we have recognized man according to his general circumstances as decisive for architecture. This principle may be extended even further: an architectural style reproduces the posture and movement of the man of his era. In his dress, the way in which he wishes to hold himself and move initially finds expression, and it is not difficult to show that architecture is in accordance with the costume of the time...\(^{391}\)

Wölfflin cites the history of art to reinforce the legitimacy of this demand:

With astonishment one traverses through history and observes how everywhere architecture reproduces the ideal of man in physical form and physical movement, how even great artists have created a corresponding architecture for their people. Or does in the architectural forms of a Rubens not pulse the same life that courses through his human bodies!\(^{392}\)

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\(^{391}\) Ibid., p. 46.

\(^{392}\) Ibid., p. 48. With all demonstrated possibilities of this analogy, it should not be forgotten that the equation of house and the human body was also already being used during the 1920s in a deeply misanthropic way. The architect Paul Schultze-Naumburg, an adherent of the race theory, writes in his book *Kunst und Rasse* (Art and Race), (Munich 1928), p. 108: From the expression of the two houses as they are compared in illustrations 144 and 145, it is not difficult to imagine the man who corresponds to the architectural structure. The above picture seems to carry all the features that can be expected in the visage of a clear, faithful and friendly farmer of good race. (…) The below house, (…), has no expression at all. Its face is warped and vividly resembles in its entire dullness the mush of humanity, which today fills the country, and which shows neither clarity of face nor a noble physical efficiency.”
Wölfflin’s student Behne furthers this thought in the context of *Neues Bauen* in his book *Neues Wohnen – neues Bauen* (fig. 117, 118), recommended by Wolf in his *Die Natur als Arzt und Helfer*. Behne writes:

\begin{quote}
We must always view each form together with the man, which it represents. Only then do we have a judgement on its relevance, i.e. on what it means to us.\textsuperscript{393}
\end{quote}

\begin{quote}
Wir müssen stets jede Form zusammen sehen mit dem Menschen, den sie repräsentiert. Dann erst haben wir ein Urteil über ihren Wert, d.h. darüber was sie uns bedeutet.
\end{quote}

He assumes that particular forms represent man, or better still, a particular type of man. Behne substantiates this claim by making a figurative comparison between the human body and architectural body and deems that in one case, a church tower, and in the other, the tower of a barracks corresponds in each case with the type of man who frequents it:

\begin{quote}
Is it not astounding how the proximity of church and barracks in Wittenberg turns into built class and caste distinction? Do we not see behind the two towers the two different types of man?\textsuperscript{394}
\end{quote}

\begin{quote}
Ist es nicht frappant, wie das Nebeneinander von Kirche und Kaserne in Wittenberg zum gebauten Klassen – und Kastenunterschied wird? Sehen wir nicht hinter den beiden Türmen die zwei verschiedenen Typen Mensch?
\end{quote}

\textsuperscript{393} Adolf Behne, *Neues Wohnen – neues Bauen*, (Leipzig 1927), p. 72. Also cf. the life reformer Heinrich Pudor, *Heimbaukunst*, (Wittenberg 1913), p. 167: And at the same time we should never forget that the dress is only the shell, only the accompanying music to life itself, to man of flesh and blood who resides beneath it. We must in a way look through the dress and even regard it simply as a silhouette, whilst the living individual is everything – the dress without him is like a discarded towel (...) Cultural life must therefore come first and for the tailor, the study of the same. Like the sculptor, it is particularly he who must search for nature, where he can see and observe men naked, playing and disporting themselves and practising sport in the purity and nakedness of his living architecture”.

\textsuperscript{394} Adolf Behne, *Neues Wohnen – neues Bauen*, (Leipzig 1927), p. 73. Cf. also Josef Frank, “Neue Sachlichkeit in the new home - ???” in: *Das ideale Heim*, vol. 6, 1927, p. 334: “The history of humanity is broken down into periods, which in the form of its face reflects the expression of its soul. The physiognomist of world history understands how, from this facial expression of past periods of time, to reconstruct being – souls – spirit – and human form with cleverly applied psychology. (...) He who is routinely practised in this physiognomy of relating everything from this time, knows that the style of an era is an unadulterated document. He sees through the façade like Lesage’s ‘Limping devil’ through the roofs! Style period de-masks the period.”

174
Having in mind this analogy as described by Behne, the following quotation from Wolf’s *Die Natur als Arzt und Helfer* is to be taken literally:

> From the living room without veiled porches and curtains, without dark corners and plush to the calf-free skirt, bob and today’s almost naked stadium fighters, runs a straight line. 395

Von dem Wohnraum ohne verhüllende Portieren und Gardinen, ohne Dunkelwinkel und Plüscht bis zum wadenfreien Rock, Bubikopf und heutigen fast nackt Stadionkämpfer läuft eine gerade Linie.

Consequently, Wolf’s ideal home is just as bare of clothes as is the ‘New Man’ depicted in *Die Natur als Arzt und Helfer*, and who, in his ideal condition, is naked or very sparsely clothed.

Behne demonstrates that you can also undress a house as you can a man, using as his professed ideal, a sketch of a house freed from any ornamentation and the comparison with the ‘Dessau Meisterhaus’ by Walter Gropius (fig. 119a), who writes on “New Architecture and the Bauhaus”:

> We want to create a clear organic architectural body, naked and radiant with an inner law without lies and coquetry [which] repulses everything that is dispensable; which veils the absolute form of the building. 396

> Wir wollen den klaren organischen Bauleib schaffen, nackt und strahlend aus innerem Gesetz heraus ohne Lügen und Verspieltheiten (...) (der) alles Entbehrliche abstößt, das die absolute Gestalt des Baues verschleiert.

Joseph Frank also expresses this in an article in *Das ideale Heim* of 1927, writing:

> We experience continually these indeed conceivable and yet somewhat uncanny and impressive hypotheses, …the purposeful and pointedly functional (sachlich) undressed, or better expressed, stripped off its flesh, skeletal interior arrangements, the clearest manifestation being in, for...
instance, the Bauhaus arm chair, or that cardboard-scaffolding-style erected framework, which its maker Le Corbusier placed in a dining room. 397

Wir erleben ständig diese ja begreifliche und doch etwas unheimlich beindruckende Hypnose, (...) der zweckmäßig und betont sachlich entkleideten, besser gesagt: entfleischten, skelettartigen Innengestaltung, deutlichste Manifestation etwa im Bauhaußesssel oder in jenem Kartothekkästen-Genüstbau, den sein Former Le Corbusier in ein Speisezimmer stellte (...).

The direct comparison of an illustration of this house (fig. 119a-b) with a photograph of a sportswoman (fig. 120a-b) from Die Natur als Arzt und Helfer, which Wolf defines as “clear, clean, airy”, renders any further explanation unnecessary. Her upright stance does not derive from a stiff uniform shaping her exterior, but from her own muscular physical build and a healthy constitution. Her clothing corresponds exactly with Wolf’s ideal of a “free, collarless neck”, unclothed arms and legs for reasons of “hygiene” and “beauty” 398. The sports shirt is smooth, simple, with no ornamentation, covers only a minimum of her body and thus guarantees ideal effects of light, air and sun on her naked skin.

The smooth, unornamented, plaster façade of the Meisterhaus, over a third of which is interrupted by openings in the wall, also represents this. The fortress-like character of the towers, which Behne consciously compares with Neues Bauen, has disappeared; it is countered by openings for light, air and sun. A newspaper article of 1927 represents the ‘Gropius Haus’ as a prototype of hygienic building: “open”, “clear”, “healthy” and “independent” are the attributes, with which the author of the article not only describes the ‘Meisterhaus’, but also indirectly the largely unclothed, muscular, sun-tanned and healthy person, who is behind the architecture. Only his sports shirt stands in the way of total liberation and recuperation of the ‘New Man’, just as the plaster façade only partially allows the free flow of light, air and sun.

The comparison of the “external room” (fig. 121) of the house designed by Döcker and its inhabitants, with the illustration of the then twenty-year-old medical student and ‘Wandervogel’ Wolf (fig. 122), elucidates the extreme visual parallel of hygienic

architecture and the hygienic man. In place of clothing the “wiry fighter” wears muscles and healthy, brown skin, while standing opposite an entirely undressed architecture. From the “plaster gown” only a bare iron construction for the textile sun awnings remains, now defining the spatial limits of the ‘air room’.

Referring to the illustration by Max von Pettenkofer mentioned at the beginning, the house, now entirely without head-covering and without heavy, constrictive frockcoat, released from the oppressive pointed roof, shakes off its imposed façades like a corset and breaks through the façade by means of large openings, just as one unbuttons a top shirt button during physical exercise. In athletic garb, the house is only ornamented by its gymnastic apparatus and challenges the individual in its naked simplicity to air-bathing, sun-bathing, sports competitions and ultimately to recuperate his health (123a-c). 400

One year after Wolf’s health guide, Die Natur als Arzt und Helfer was published, Wölflin’s third student, Sigfried Giedion, entered the field with his publication Befreites Wohnen (fig. 124a, b). 401 His representation of hygienic architecture and its translation by Neues Bauen displays strong likenesses to the publications by Wolf and Döcker. Like Döcker, the emphasis of his representation lies in vivid illustration, which makes do just with sparse programmatic commentaries. Sanatoria such as Duiker’s ‘Zonnestraal’ Sanatorium in Hilversum and the ‘Davos Volksheilstätte’ by Pfleghard & Haefeli, the Waiblingen ‘Terraced Hospital’ by Döcker, as well as schools and private houses of Neues Bauen are shown. Within this context, in

400 Cf. the architecture theoretician Fritz Neumeyer who argues in: “Der neue Mensch. Körperbau und Baukörper in der Moderne”, in: Vittorio M. Lampugnani, Moderne architektur in Deutschland. 1900-1950, (Stuttgart 1992), p. 24: “An architectural body corresponding to this bodily feeling showed itself according to the same ideal notions in a similar way sporty and naked. The old façade was dropped like an annoying costume, which only prevented the entrance of light and air. In the tectonic construction of architectural volumes functionally relevant to each other, in the structure by means of forwards and backwards jumps and in the logical rhythm of openings, modern architecture announces its new stance to the body.”
401 Sigfried Giedion, Befreites Wohnen, (Zürich 1929). Giedion, (1888-1968), studied engineering in Vienna, then graduated in art history in 1922 under Heinrich Wölflin in Munich with a thesis on the subject “Late Baroque and Romantic Classicism”, his career was strongly influenced by the ‘Bauhauswoche 1923’ in Weimar and the encounter with Le Corbusier in 1925 in Paris, in 1938 teaching in Harvard University, in 1946 teaching at Eidgenössische Technische Hochschule in Zurich.
Giedion's work there is a comparison, which on one hand shows a woman dressed in tennis clothing designed according to the latest findings in hygiene, and a sports area on the roof of a house in Paris on the other. The caption reads:

He who today comes from sport and gymnastics carries an inherent liberated physical feeling that can no longer tolerate the dungeon-like inhibited house. Light, air, opening, movement. 402

Wer heute von Sport und Gymnastik kommt, trägt ein befreites Körpergefühl in sich, das auch das kerkermäßig verklemmte Haus nicht mehr verträgt. Licht, Luft, Öffnung, Beweglichkeit.

It is clear that Giedion also believes in the idea of analogous transference of the "vital needs of modern man" 403 on the body, clothing and architecture forming the essential bases of the hygienic concept. According to Giedion, the house should not restrict the individual "like a corset" 404 (in the same sense as Wolf's shell theory), but should "in its entire structure, find harmony with a life style characterized by sport, gymnastics and a correspondingly liberated physical feeling". 405

...weightless, light permeable, flexible. It is only an obvious result that this opened house also implies a reflection of today's spiritual condition: there are no longer any isolated affairs. Things penetrate each other. 406

...leicht, lichtdurchlassend, beweglich. Es ist nur eine selbstverständliche Folge, daß dieses geöffnete Haus auch eine Widerspiegelung des heutigen seelischen Zustandes bedeutet: Es gibt keine isolierten Angelegenheiten mehr. Die Dinge durchdringen sich.

In their conception of architecture as an organic creation, which, like a dress or a shell, enwraps the human body and thus exists in direct relation to him, Wolf and the architects and theorists on architecture from the sphere of Neues Bauen were clearly very close (fig. 125a-b). Thus, the correlation between the new, hygienic person and Neues Bauen becomes readable and thus intelligible. In the following concluding

403 Ibid., introduction by Dorothee Huber, p. 2.
404 Ibid., p. 9.
405 Ibid., guidelines point 3, p. 8.
quotation, the architect Fritz Wiedermann encapsulates the essence of this correlation. He asserts that, in contemporary architecture, a health conscious perspective on life was being expressed "even by the exterior"\textsuperscript{407}, and that this, through a kind of 'hygiene aesthetic', made the health conscious side of architecture, as well as its connection to the 'New Man', intelligible. He writes:

The new forms of architecture, which are gradually beginning to appear everywhere, are no fashion whims, no arbitrary creation of just any architect, but rather the expression of a new ethos. (...) Architecture is indeed not only a technological affair, but above all a mirror image of the mental life of a particular period. A cross section cut through the powers of the soul and our ways of living. Thus, we find in the new art of architecture a hunger for light and sun, the life force of taut, sinewy bodies being its expression just as much as the alignment of mechanical functions. Close affinity with the landscape, wide openings for light and roof gardens: these are the marks of the new architecture. The cult of the body thus finds in these modern examples a happy confirmation of the correctness of its path. It is not unpleasant to see, how the creative power of architecture is gradually finding its way back to the healthy and fertile ground of nature. But this extensive affinity is not enough to produce positive results for both movements. It must rather be possible to set up an analogous connection between the tasks of the architects and the life reformers. This can be achieved in two different ways. First, through further pursuing the path trod until now of connecting architectural forms and ground plans with gardens and the landscape, and secondly, everybody must individually make the effort to remodel his home to reflect this. For what use is pleasant contemplation, if we are not willing to practise the outcome of our theorising in everyday life? The Werkbund exhibition in Stuttgart presented a row of show houses (...). The roof gardens and sun terraces are dealt with with particular care, and already in its exterior design, this close connection to the environment and natural living conditions is explicitly achieving expression through new, individual forms.\textsuperscript{408}

Die neuen Formen der Architektur, die allmählich überall auftauchen, sind keine Modelaune, keine willkürliche Schöpfung eines beliebigen Architekten, sondern vielmehr der Ausdruck einer neuen Gesinnung. (...) Architektur ist ja nicht nur eine Angelegenheit der Technik, sondern vor allem ein Spiegelbild des geistigen Lebensinhaltes eines bestimmten Zeitabschnittes. Ein Querschnitt durch die seelischen Kräfte und die

\textsuperscript{406} Ibid, p. 8.
\textsuperscript{408} Ibid.
6. *Neues Bauen* as “simple garb for the ill”: education in simplicity through hygiene

The function of architecture described in the previous chapter as an integral part of a holistic system of healing, represents an important basis for Wolf’s treatment of architecture within the context of his medical approach. Furthermore, much is pointing to the fact that there are yet more reasons, which serve to explain the prominent role of architecture in Wolf’s system of healing.

In the chapter dealing with architecture, it is not only noticeable that Wolf frequently concerns himself with aesthetic aspects that bear no direct relevance to his medical hygienic theories, but above all it is remarkable that without exception, Wolf illustrates this chapter entirely with examples from *Neues Bauen*. This fact is particularly astonishing since *Neues Bauen* was certainly not the only architectural movement to call for hygienic living standards. Thus, the hygienist Carl Flügge, in his *Grundriss der Hygiene* of 1927, cites for example the workers estate of Krupp in Essen\(^{409}\) and the colony ‘Leverkusen’ of the paint factory, Bayer & Co, as exemplarily hygienic.\(^{410}\)

Although hygiene is also one of the principal constituent elements in the construction of the German and English garden cities, which had been built since the beginning of the twentieth century,\(^{411}\) Wolf dispenses entirely with such examples; and this,
despite emphasizing the English ‘Welwyn Garden City’\textsuperscript{412} and praising it for its “physical, economic and administrative technical structure”\textsuperscript{413}. Integration of hygienic criteria also played an important role in the founding and construction of the first German garden city in Hellerau near Dresden in 1906 (fig. 126). Wolf was certainly well acquainted with Hellerau as the centre of reform movements in physical culture, not least through the productions of Heinrich Tessenow’s festival theatre. And still, he does not mention the garden city, a tried and tested formula at the time of publication of \textit{Die Natur als Arzt und Helfer},\textsuperscript{414} with a single word. This is astonishing against the background that the basic idea of allocation of plots of land in hereditary leasehold on a co-operative basis, precluding the possibility of any construction or real-estate speculation by the use of right of repurchasing and co-operative housing ownership, exactly corresponds with Wolf’s social and political ideals. Moreover, the housing estate, set in gardens and generously allotted green areas is in immediate proximity to the ‘Deutsche Werkstätten Hellerau’, the largest employer of the garden city residents. In \textit{Die Natur als Arzt und Helfer}, Wolf writes:

In this way, cheap and healthy dwelling and at the same time a speedy journey to the work place is achieved. Today, workers must often travel stretches of 1-2 hours to reach their work place, particularly in small towns with bad railway connections; they therefore lose 3-4 hours a day in the exhausting return journey!\textsuperscript{415}

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414 In 1912, the budding writer Friedrich Wolf assisted as a doctor in Meißen Hospital and in 1913 at the Städtische Heil- und Pflegeanstalt, Dresden. According to the author Hans-Jürgen Sarfert, during this time, Wolf had come into contact with the private experimental theatre of Jacques Dalcroze in Dresden-Hellerau. Wolf’s then girlfriend and later wife Kaethe Gumpold (1888-1961), an interior designer (with Paul Schulze-Naumburg), was a pupil of the rhythmic educator Elsa Gnindler in Hellerau. Cf. Hans-Jürgen Sarfert, \textit{Hellerau. Die Gartenstadt und Künstlerkolonie}, (Dresden 1993), pp. 117-118.

So wird gesundes billiges Wohnen und zugleich ein schnelles Erreichen der Arbeitsstelle erzielt. Heute müssen oft noch die Arbeiter, und gerade in Kleinstädten bei schlechter Bahnverbindung, Wege von 1-2 Stunden zu ihrer Arbeitsstelle machen; sie verlieren also täglich für die ermüdenden Hin- und Rückwege 3-4 Stunden!

This comment once more raises the question of why the architecture of these garden cities (already existent around 1928), despite perfectly fulfilling all the demands proposed in Die Natur als Arzt und Helfer, did not become the object of Wolf's chapter on housing hygiene, rather than Neues Bauen. It is particularly surprising since Wolf borrows much content from Rudolf Neubert, who, above all, wrote on the hygienic advantages of the garden city, Hellerau, in his book, Der Mensch und die Wohnung.\textsuperscript{416} Wolf borrows almost all of Neubert's visual images of a popular 'scientific' nature on the housing problem from Neubert. However, he ignores his exposition on Hellerau.

It therefore seems reasonable to assume that it was not merely the portrayal and communication of hygienic housing, which Wolf was concerned with in Die Natur als Arzt und Helfer. Apparently, Wolf made demands with regard to those buildings that he depicted as exemplarily hygienic that other styles and forms of construction were unable to fulfil according to his standards. Hellerau, to remain with this example, displays no prefabricated or serially manufactured living units and no smooth, white, to quote Wolf "cubic blocks and units",\textsuperscript{417} but is rather a celebration of traditional crafts, strongly resembling the English Arts and Crafts Movement and consequentially is also a celebration of the individual. And this is precisely what Wolf criticizes with outrage. In the quotation already cited in an earlier chapter, this becomes clear when Wolf writes:

\begin{quote}
Earlier architects competed in giving each house its own "personal note". Thus resulted that jumble of buildings that façade potpourri of a dozen "styles" from the Corinthian column to the art nouveau girl's head above
\end{quote}

\textsuperscript{416} Rudolf Neubert, Der Mensch und die Wohnung, (Dresden 1925).
\textsuperscript{417} Friedrich Wolf, Die Natur als Arzt und Helfer, Stuttgart 1928, p. 9.
the portal. Yet even the terraced houses on the edge of the city with their village gabled roofs today already seem displaced.418


Here, Wolf's criticism is neither attached to the terraced house itself, nor to the hygienic qualities of such a house. It is obviously the aesthetic expression of the architecture and individual details such as the "village gabled roof" that Wolf is strongly criticizing. It was therefore the conceptual idea of the garden city alone, which proved interesting to Wolf. Its formal implementation did not, however, fulfill Wolf's expressed requirements.419

This theory is further substantiated by clues in Wolf's estate, which lead directly to the Hellerau office of the architect Heinrich Tessenow, or more precisely, to his young assistants: Gustav Lüdecke420 and Gertrud Linke. In Wolf's estate, Sketches of single family houses by Gertrud Linke421 (fig. 127a-e) and excerpts422 from the edition of the magazine Die Bauwelt, in which in 1924 the winning designs of the

418 Ibid, p. 256.
419 It is not possible to tell from Friedrich Wolf's estate whether Wolf was familiar with the counterpart to the 'Weissenhof estate', the estate at Kochenhof, Stuttgart. However it can be assumed from his intimate friendship with Richard Döcker that Wolf knew of the planned estate. In all probability he will have rejected, both from an aesthetic and a political perspective, this estate, instigated by the traditional architect's group, "the Block", which was later co-organised by the 'Kampfbund für deutsche Kultur', and put into practice in 1933. Cf. Vittorio Magnago Lampugnani, "Vom 'Block' zur Kochenhofsiedlung", in: Vittorio Magnago Lampugnani, Romana Schneider (eds.), Moderne Architektur in Deutschland 1900 bis 1950. Reform und Tradition, (Stuttgart 1992), pp. 267–281.
420 Cf. Michael Fasshauer, Das Phänomen Hellerau, (Dresden 1997), pp. 246-247: "For a short time, Tessenow had offices in the Dresden 'Narrenhäusel'. There, a young architect was employed who had moved to Hellerau in 1920: Gustav Lüdecke. Later, he opened his first own office in the Dresdener Straße in the garden city. He was an exceptional personality and all through his life a devotee of Tessenow's work. In many of his designs, one can recognize the call of the great architectural master Tessenow for simplicity and well-balanced proportions.”.
421 FWA, 154/2: architectural sketches, 6 pages, some complete with hand-written notes by Friedrich Wolf such as: "Reihenhaus nach Architektin Gertrud Linke/ Dresden".
422 FWA 154/2: 2 pages, both show the designs of the architect Hermann Rudloff/Breslau, recommended by the prize jury for purchase; on this hand-written note by Friedrich Wolf: "Verlag
competition ‘Bauwelthaus’ run by the editors, were presented, can be found. The first prize was won by Gustav Lüdecke for his “House of a brain-worker” (fig. 128), which was promptly created for the 1925 exhibition ‘Wohnung und Siedlung’ in Dresden. The following excerpt comments on the exhibited house, consisting of a smooth, cubic body, broken up by large square expanses of window and whose flat roof was designed to be used as a generous roof garden:

Illustration 9 shows one of the most highly considered houses. The architect is Gustav Lüdecke, Dresden-Hellerau. His colleague is Miss Gertrud Linke. Lüdecke is serious about the theory of ruthless adaptation of form to purpose. Whether this is accomplished, can only emerge from the judgement of the inhabitants. The furnishing: very minimal, yet equipped with all finesses, expects to prove its worth, if only the inhabitants are adaptable and - willing. They will have to part with old household goods and many an old habit. The future will perhaps belong to such houses. Then decoration may return.


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423 In: Die Bauwelt, vol. 22, 1924, p. 494 (Author unknown), the competition task is described as follows: “The competition announced by Die Bauwelt at the end of last year: “New forms for house and apartment” sprang from the consideration that affordable living quarters must be created for the broad masses. (…) The competition announcement by Die Bauwelt now had the intention, by exploiting the given living space to the greatest degree and simplifying housework, of making the construction, furnishing and keep of the flat affordable and making the resulting superfluous energies of the housewife available for productive garden work.”

424 In the publication of 1931, 10 Jahre Dresdner Ausstellungsarbeit, Dresden, pp. 117-125, the content of the competition is described as follows: “(...) The exhibition consists of six large groups: building materials, dwelling, interior design and furnishings of all kinds, 16 estate constructions and show houses, building machines, a special exhibition of the crafts of Saxony and the scientific department.” These main groups were expanded by an affiliated exhibition concerning, “living in the modern time, including general housing hygiene with examples of housing shortage and the people’s health, damage through warmth, damp through dust, housing diseases, housing pests and similar, also the specialized housing hygiene, heating, ventilation, lighting, hygienically and unhygienically furnished rooms. The ‘Deutsches Hygiene Museum’ delivered valuable material for this part”.

brechen müssen. Die Zukunft wird vielleicht derartigen Häusern gehören. Dann mag sich auch Schmuck einstellen.

The strong interest in the architecture of Lüdecke and Linke, termed ‘sachlich’ in contrast to the architecture of the residential houses of Hellerau and which, unlike the architecture of the garden city, displays a formal proximity to Neues Bauen, once again points to the fact that aesthetic considerations adopt a vital role in illustrating the architecture chapter of Die Natur als Arzt und Helfer. This assessment is further substantiated if the introduction of the book is investigated taking this into consideration. It is true, it seems that Wolf uses Neues Bauen as a ‘symbol’ for the goals of naturopathic medicine, when he writes:

“What Neues Bauen is now beginning to achieve following the chaos of the false Baroque and the Gründerzeit, is precisely that, which naturopathy is striving for in the art of healing. In essence, the same force for simplification (...).” Also here – the same as undecorated building – a renunciation of imposing mammoth tubes and apparatus, (...).”


However, at the same time, Wolf visually underlines this equation of his medical goals with those of Neues Bauen by introducing his entire work, Die Natur als Arzt und Helfer, with a pictorial comparison of a ‘Makart’-interior with the interior of a living room in the ‘Stuttgart Werkbund Estate’ (fig. 129, 130). Nevertheless, it is

427 In Wolf’s pictorial comparison, the top picture demonstrates a dark living room, overfilled with furniture and hung with many layers of gathered curtains. Protruding furniture jostles on the heavily patterned carpet; a wooden balustrade embellished with turned wood, dividing the room, is crowned with exotic palm plants. Shelves and ledges have been fixed to the wall, on which little sculptures, plates, apparently antique bottles of clay or glass tumble over one another. Recesses and alcoves fill the corners with further decorative crafts. An enormous, ornate metal lamp hangs over the richly decorated table cloth with tassels. Under this picture, with the caption, “then”, Wolf places the bare, light-flooded living room, reduced to the bare essentials, as designed by Ludwig Hilberseimer for the ‘Werkbund Estate’ (house 18), with the caption, “now” underneath. The room is clearly organised, without patterning or flourish and is simply furnished with an undorned table, four arm chairs, a sofa and a bookshelf. Apart from the seats of the chairs, there are no textiles: no table cloth, no carpet and no curtains. The windowsills are bare and enable a view onto
to be noted that Wolf doesn’t caption the illustrations with “unhygienic” and “hygienic”, but with “then” and “now”, which must count as further indication that, for Wolf, *Neues Bauen* embodied far more than merely being a prototypically hygienic architectural style. Furthermore, Wolf exclusively chooses *Neues Bauen* in his representation of hygienic living, and at no other point in his architecture chapter does he use another building style, despite the fact that, as discussed, he knew and valued other hygienic, and therefore also in his eyes, healing architecture outside of *Neues Bauen*. This suggests one thing: it must be assumed that other qualities of *Neues Bauen*, over and above the purely hygienic, were consciously used by Wolf also as instruments to attain goals, which were decidedly non medical.

6.1. **Basis for a mutually profitable relationship: Friedrich Wolf’s basic principle ‘simplification’ (reduction) and its aesthetic counterpart in *Neues Bauen***

In order to verify the theory proposed in the previous section, it is necessary to clarify three basic questions. Firstly, what are Wolf’s overriding basic principles, beyond his medically orientated principles? Secondly, in which form do they find their counterpart in *Neues Bauen*? And finally, what potential do these analogies offer Wolf above and beyond this?

6.1.1. **Simplification (reduction)**

At the beginning of his book, *Die Natur als Arzt und Helfer*, Wolf directly introduces his reader to his central basic principles and concerns. The quotation from Paracelsus, which introduces the publication, “I want a simple garb for the ill, in which they shall become healthy”, already implies that in general, Wolf regards the ideas of ‘plainness’ and ‘simplicity’ as being at the core of his convictions. On nature’s greenery, and a terrace connects directly onto the living room. Incidentally, this form of representation clearly corresponds with the powerful pictorial language of the poster, with which one year earlier the organizers of the ‘Stuttgart Werkbund Estate’ had advertised the ‘Weissenhof Project’: huge posters displayed a ‘Makart’-interior, crossed out with a bright red brush stroke.

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the very first page of Die Natur als Arzt und Helfer, only a few lines after the Paracelsus quotation, Wolf goes on to explain how his overriding struggle for simplicity is connected with Neues Bauen:

Less is more! Do away with the façade! Despite all the refinements in technology, the man of the coming age urges for simplification. The most visible expression is Neues Bauen.\textsuperscript{429}

Weniger ist mehr! Schluß mit der Fassade! Trotz aller Verfeinerungen der Technik, der Mensch der kommenden Zeit drängt nach Vereinfachung. Sichtbarster Ausdruck ist das Neue Bauen.

With this, Wolf makes it unmistakably clear that for him Neues Bauen does not merely represent the optimal integration of hygienic criteria into architecture and is not merely a symbol for the goals of naturopathy, but rather that, in the aesthetic of Neues Bauen, he sees the ideal correspondence and visualization of these criteria as essential for the realization of the “man of the coming age”, in other words the ‘new man’.

Wolf’s six-page scenario for the film Gymnasten [- this is] about you!\textsuperscript{430}, which he wanted to develop as an educational film for school gymnastics classes, delivers a very clear impression of exactly what his criteria were for the realization of the ‘new man’. His goal was to show the origins of gymnastics from physical culture in the antique world to modern healing gymnastics, the new sport and dance. The German film company UFA bought Wolf’s scenario and developed it into the cultural film “Wege zu Kraft und Schönheit”(fig. 131a-d)\textsuperscript{431}, which became a world-wide success in 1925. Unfortunately, not much remained of Wolf’s original concept.

Disappointed, he writes:

\textsuperscript{429} Ibid.

\textsuperscript{430} Friedrich Wolf, Gymnasten über euch!, (1921), in: Else Wolf, Walter Pollatschek (eds.), Friedrich Wolf, Aufsätze, (Berlin 1960), pp.51-58. The original can be found in: FWA 53/1.

\textsuperscript{431} In a newspaper article, which had printed a review of the film, Friedrich Wolf highlights the name of the director (Wilhelm Prager) and the supposed author of the manuscript (N. Kaufmann) in red, FWA 53/1. A review of the film “Wege zu Kraft und Schönheit” is printed in: Kraft und Schönheit. Monatsschrift für praktische Körperfultur, vol. 3, 25th year, 1925, pp. 65-80.
But what had become of my scenario? There were Greek gymnasts indeed; but then Roman women slaves in marble baths à la Makart floated in, then the bathing Gerhart Hauptmann in Rapallo appeared next to modern dancing wenches – nothing was lacking, especially nothing of all that, which is ‘good and expensive’, except simply the simple line of the liberated human body without ornament and Makart folds. Back then, I had unknowingly sold the idea literally. 432

Aber was war aus meinem Exposé geworden? Da gab es zwar griechische Gymnasten; aber dann schwebten römische Sklavinnen in Marmorbädern à la Makart heran, da trat der badende Gerhart Hauptmann in Rapallo neben modernen Tanzmädchen auf – es fehlte nichts, auch gar nichts von allem was ‘gut und teuer’ war, nur eben die einfache Linie des befreiten menschlichen Körpers ohne Schnörkel und Makart-Faltenwurf. Ich hatte damals unwissend die Idee buchstäblich verkauft.

The creation of the ‘new man’ through the ‘liberation of the human body’ from the constraints and superfluities of civilization was central to his original concept. This liberation of the body is intended to be metaphorically communicated by means of the image of the ‘simple line’ and implemented in all disciplines. Wolf expresses his message, resembling a manifesto of a hygienic way of life, by means of condensed, linguistic images and in short, emotionally charged sentences. He writes:

Gymnasts [- this is] about you! The struggle for the new man has today erupted along the whole line. An unintentional unified action can be felt from the initial contractions of a new social contract between man and his fellow man to the delivery of new forms of expression of an activist art form. An invisible outline, a silent slogan: simplification! 433


The weapon, which Wolf intends to adopt in this battle for the ‘new man’ is simply
called: *simplification*. His basic principle for the creation of the ‘new man’ is to
‘reduce’ man back to his original state: *reduction*. For Wolf is deeply convinced that
with advancing civilization, the original, the paradisiacal man is becoming ever more
removed from his natural way of life.\textsuperscript{434} His everyday way of life and his culture are
becoming ever more complex, more obscure, and more artificial and this, according
to Wolf, leads ultimately to physical and mental disturbances or even illnesses. Such
a civilized man is, as Behne also expresses it, in a state of “particular tension with
nature”.\textsuperscript{435} For Wolf, the expression of this tension and alienation from nature is
“superfluity” in all areas of human interaction. He writes:

\begin{quote}
Ballast! Hundredweight! Oppression by the objects. “Air!” the
contemporary will one day cry. Certainly! Shake off the surplus; not
understanding how he could have let himself be subjugated by this
rubbish. The solution will not be senseless, endless production.
Reduction to the necessities of life! And man, simplified, simple in
needs, will be rich once more.\textsuperscript{436}
\end{quote}

Ballast! Zentnerlast! Bedrückung durch die Objekte. “Luft!” wird der
Zeitgenosse schreien eines Tages. Gewiß! Abschütteln das Zuviel; nicht
begreifen wie er von diesem Plunder sich knechten ließ. Nicht
Produktion sinnlos ins Uferlose, wird die Lösung sein. Reduktion zum
Notwendigsten! Und der Mensch, der vereinfachte, bedürfnisarme, wird
wieder reich sein.

\textsuperscript{434} Wolf’s first comedy, *The Black Sun*, adopted precisely this critique of civilization and was initially
staged in the artist Heinrich Vogeler’s Communist estate collective at the Worpswede
‘Barkenhoff’, during the same creative period as the scenario “Gymnasts [- this is] about you!”.
The subject is a utopian event that takes place “at least 10,000 years after the present day” in a
“revisited” original state of mankind. The departmental manager of a department store from the
year 1920, dressed following the fashion of his time in a black evening suit, meets a hirsute “horde
of ur-people”, who, because of his unusual appearance, believe him to be a God, the “black sun”.
The critique on the burden of contemporary manifestations of civilization is particularly evident
because of the alienated process. However behind the comedy lies hidden the romantic, illusionary
desire for a life basic in needs and led in the unity of nature and humanity. According to Wolf, this
synthesis would also derive from new, pure human relationships. He sees the source of human
alienation (exchanging cause and effect) in the development of forces of production and the
1977), p. 27.

\textsuperscript{435} Cf. Adolf Behne, *Der moderne Zweckbau*, (Berlin/Frankfurt/Wien 1926), p. 51: „Man stands
between nature and society. He makes his decision for human society and thus stands in particular
tension with nature”.

\textsuperscript{436} Friedrich Wolf, *Gymnasten über euch!*, (1921), in: Else Wolf, Walter Pollatschek (eds.), Friedrich
Since Wolf's world view is rooted in the idea that a form of man, wholly in harmony with nature, once existed in the form of an original type, then literally speaking the act of creating a ‘new man’ can in fact be nothing other than a re-creation. He sees this re-creation as an uncovering of the original form. This idea can be compared to that of the sculptor, who presumes that the sculpture that he will create already dwells within the rough block of stone and that his task is simply to free it from the surrounding, surplus material. In this way, Wolf wants to return the “culturally solidified” man to his original type, by removing all that, which is superfluous.

Wolf’s vision of the ‘new man’, embodied by the gymnast, should, in the same manner as the naked biblical man before the fall, be “freed (...) from shell, apparatus and surplus”.437 Wolf announces his message of the ‘new man’ in a messianic manner:

You just do not know that in this naked simplicity lies real life with everything that man “needs”. And something else will suddenly become clear: how much ballast you carry around with you, with how much paraphernalia you yourselves ruin your beautiful, naked life and how much useless rubbish you “produce!”. (...) Reduction! Simplification! (...) Paradisical nakedness!438

Ernst Bloch also interprets the metaphor of the naked man as stripped off his surrounding shells in The Principle of Hope.439 According to Bloch:

The body should not be concealed at all but rather shed the distortions and disfigurements which an alienating society based on the division of labour has inflicted on it too. The wish is to give it a 'return to health'

437 Ibid.
438 Ibid., p. 51.
439 Ernst Bloch, The Principle of Hope, written in the USA 1938-47, translation by Neville Place, Steven Place, Paul Knight, (Oxford 1986).
with so many exercises formerly confined to chivalry and so many newly discovered ones too in the new society.  

Der Körper sollte gerade nicht verdeckt werden, sondern aus den Verzerrungen und Entstellungen herauskommen, die auch ihm die arbeitsteilige, entfremdete Gesellschaft zugefügt hat. Gewünscht ist, ihm mit so vielen, ehemals nur ritterlichen Übungen und so vielen neu gefundenen dazu in der neuen Gesellschaft ein 'Gesunden' zu geben.

In his scenario Gymnasts [- this is] about you!, Wolf clearly shows that the central subject of his work, the struggle for the ‘new man’, is concerned with the pivotal concepts summarized under the slogans “simplification” and “reduction”, and suggests that all other areas of human interaction are merely endless repetitions and variations on this one theme. The concept of “reduction” is intended to be subsumed in a comprehensive manner: whether sportsman, worker, artist or poet, all must be seized by this new intellectual attitude and maintain the new ideological maxim of “simplification”. Wolf writes:

Clarification of the basic rules of work and rest, of the subsistence level, naked, without relations. – Simplification! No twilights and moods! Pure colour, unmixed; absolute art! Or abrupt inversion from fantastic-ecstatic knotted tangle to original form, to the stereo-metric, to the dot in space, to the skeletal drawing of the child of man, of the negro, the Edomite – Schmidt-Rottluff, Matisse, Picasso. The minimum of material, the subsistence level of form elements! – The poet, too, thinks no more of plush and ruffles. His word is naked, pure, a root, a signal; his treatment emaciated, skeletal! Without sentiment and psychology, without bridges and double meaning. Simplified! Language’s existential struggle is also the conscious struggle towards the subsistence level. The struggle against superfluous is the struggle for the new man!

440 Ibid., p. 453.
441 Ernst Bloch, Das Prinzip Hoffnung, (1938-47), (Frankfurt/Main 1959), chapters 33-42, p. 524-525.
442 Friedrich Wolf, Gymnasten über euch!, (1921), in: Else Wolf, Walter Pollatschek (eds.), Friedrich Wolf, Aufsätze, (Berlin 1960), p. 52. Cf. FWA 53/1. Also cf. Oskar Schlemmer’s diary entry from the 3rd November 1915: “People will look around. At styles unknown or unrecognised until now. A return to the earliest styles: primitive styles, paintings by bush men, ornaments from the wild. (...) Furthermore: the early mental stages: childrens’ drawings. The unrecognised: peasants’ painting, the primitive. (...) Simple forms are not yet exhausted. The simple form of the square, the triangle, the circle, the oval. (...) Walt Whitman: “I sing the divine square. To remain simple,

By means of a conscious linguistic connection of terms, which Wolf creates anew from the contexts of architecture, interior design, fashion and physical training (anatomy), he rhetorically explains the symbolism of this ‘theme’ and its ‘variations’. The naked word, the skeletal plot, the subsistence level in language, the search for original form in the fine arts are metaphorical variations of a single, superordinate message: ‘salvation’ by means of reduction. The fundamental primitive nature of this conviction is revealed in the analogous consideration of disease and healing.

At the very beginning of Die Natur als Arzt und Helfer, Wolf uses the previously mentioned Paracelsus quotation to express his conviction that reduction also leads to the physical healing of the ill and thus that simplicity stands as a guarantor of health. Wolf intrinsically understands healing to be a kind of new creation through ‘reduction’ to the original state. In this formula, attainment of an earlier state is implicit in the term ‘reduction’. Therefore, in the process of healing, reduction or simplification is always the decisive factor.

This motif as employed by Wolf is a phenomenon, which was similarly, in many other areas, part of the formative thinking of the time. Ernst Bloch retrospectively found a symbol for this phenomenon, which, going beyond the purely medical context, can also be read as a metaphor for how the modern age sees itself:

The aching tooth has to go, even a diseased limb has to go, this desire to shake them off can itself be diseased. (...). So the sick man has the feeling not that he lacks something but that he has too much of something. His discomfort as something which is hanging around him and superfluous, has to go; pain is proud flesh.\textsuperscript{443}

Der schmerzende Zahn soll weg, selbst ein krankes Glied soll weg, da gibt es eine selber wieder kranke Lust des Abschüttelns (...). Der Kranke hat also nicht das Gefühl, daß ihm etwas fehlt, sondern daß er etwas zuviel hat. Das Unbehagen soll als ein Herumhängendes, Überflüssiges weg, Schmerz ist wildes Fleisch.\textsuperscript{444}

The painter Paul Klee\textsuperscript{445} also made use of this metaphor. In 1920, in the same year, in which he was called to the Bauhaus in Weimar by Walter Gropius as ‘Formmeister’ in glass-painting, Klee painted a watercolour, which he entitled “Angelus Novus”.

The architectural historian, Wolfgang Pehnt\textsuperscript{446}, points to the fact that there exists an interpretation of this piece by Walter Benjamin, which has become at least as famous as the portrait of the glassy, transparent, doe-eyed figure itself. Benjamin writes that the new angel prefers to “free mankind by taking from it”, than that it “bestows upon it in giving”. In other words, this angel does not bring what is desired, as another of Klee’s pictures is entitled, but rather it takes. Its gift consists of removal, in liberating mankind from surplus, making man lighter and accepting sacrifices.\textsuperscript{447} Wolfgang Pehnt remarks on this:

If architects and artists of that historic, even architecturally historic moment had had to choose a concrete poetic portrayal of this moment in

\textsuperscript{443} Ernst Bloch, \textit{The Principle of Hope}, (1938-47), translation by Neville Place, Steven Place, Paul Knight, (Oxford 1986), p. 454.

\textsuperscript{444} Ernst Bloch, \textit{Das Prinzip Hoffnung}, (1938-47 ), (Frankfurt/Main 1959), pp. 526-527.


time, Klee’s ‘Angelus Novus’ in Walter Benjamin’s interpretation would have been a fitting symbol.\textsuperscript{448}

Wenn die Architekten und Künstler jenes historischen, auch architekturhistorischen Augenblicks ein poetisch-anschauliches Bild für diesen Zeitmoment hätten wählen sollen, Klees ‘Angelus Novus’ in der Interpretation Walter Benjamins wäre ein angemessenes Symbol gewesen.

The same conception is elucidated in Gustav Pazaurek’s book \textit{Guter und schlechter Geschmack im Kunstgewerbe} of 1912:

We want therefore to clean up the site and shift aside everything that does not belong there. (...) One of the greatest thinkers of our time, Alexander Freiherr von Gleichen–Rußwurm, is in the right when he says: ‘The most productive means of improving appearances really would consist in doing away with the ugliness present. – The task of aesthetics often consists more in removal than adding.’ Hermann Muthesius expresses himself similarly: ‘Carrying out a cleaning up operation on so called artistic perspectives is far more necessary in this case than carrying in new ones.\textsuperscript{449}

Wir wollen also zunächst den Bauplatz säubern und alles zur Seite schaffen, was nicht hingehört. (...) Mit Recht sagt einer der feinsten Köpfe unsere Zeit, Alexander Freiherr von Gleichen–Rußwurm: ‘Die ergiebigste Verschönerung würde wohl darin bestehen, mit vorhandenen Hässlichkeiten aufzuräumen. – Im Wegnehmen mehr als im Hinzufügen besteht oft die Aufgabe der Ästhetik.’ Ähnlich spricht sich auch Hermann Muthesius aus: ‘Es gilt hier vielmehr ein Reinigungswerk an sogenannten künstlerischen Gesichtspunkten vorzunehmen, als ein Hereintragen neuer.

Moreover, Walter Benjamin himself makes this same connection to architecture. In the same passage that he mentions Klee’s watercolour, he also discusses the Austrian architect, Adolf Loos, and his struggle against ornamentation.\textsuperscript{450} Loos, who describes


\textsuperscript{450} Ibid., pp. 116-127.
ornamentation as excrescent and "diseased", does not merely deem lack of ornamentation to be a sign of health, but rather sees in it final salvation. He writes:

We have overcome the ornamental. We have finally made up our minds for lack of ornamentation. See, the time is nigh, fulfilment waits for us. Soon the streets of cities will gleam like white walls. Like Zion, the holy city, the capital of the heavens. Then salvation shall come.

Wir haben das ornament überwunden. Wir haben uns zur ornamentlosigkeit durchgerungen. Seht, die zeit ist nahe, die erfüllung wartet unser. Bald werden die straßen der städte wie weiße mauern glänzen. Wie zion, die heilige stadt, die hauptstadt des himmels. Dann ist die erfüllung da.

At a 'Werkbund' conference in 1928 in Munich, the sociologist Alfred Weber (1868-1958), interprets the phenomenon of striving for renewal by means of reduction as the "actual centre of the modern artistic desire for expression". Referring to Neues Bauen, Weber writes:

So in a particular sense, man stands once again naked as he was born. He has nature before him. He has technical apparatus at his side. With all traditions, cultural pre-formations, he can do nothing more for his cultural will of expression. I do not know whether I am allowed to say that this is in fact the real centre of the modern artistic will of expression, this inner situation, which also expresses itself in innumerable manifestations of our lives. The modern purism is nothing other than the expression of this nakedness, with which man, by fulfilling his task, stands there, in the middle of nature, surrounded by that apparatus. And as Saint Francis tore his clothes asunder and threw them away in the market at Assisi, so people, enflamed by this new lease of life have this need: away with the old rubbish! This is how they feel.

Dieser Mensch steht also in einem bestimmten Sinn nackt wie am ersten Tage wieder da. Er hat die Natur sich gegenüber. Er hat eine technische Apparatur neben sich. Mit den ganzen Traditionen, Kulturvorformungen usw. kann er für seinen kulturellen Ausdruckswillen nichts mehr machen. Ich weiß nicht, ob es mir erlaubt ist zu sagen, daß das das eigentliche

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452 Ibid., pp. 15-21.

Since this connection of reduction and salvation can be analogously transferred to architecture, it becomes clear, why architecture is perfectly suited for the vivid conveying of the principal core concept in Wolf’s philosophy, salvation through reduction, and why Wolf uses it without compromise. Following the causal connection between reduction and hygiene, a totally smooth, polished metal door handle would therefore both be reduced and hygienic to the same degree. In Die Natur als Arzt und Helfer, Wolf writes:

Even out of already existing old rooms - by means of pure simplification - a new, more beautiful, healthier room can be created - less is more! 454

Auch aus schon vorhandenen alten Räumen läßt sich oft mit bloßer Vereinfachung – weniger ist mehr! – ein neuer, schöner, gesunder Raum schaffen.

As a result, the question can be posed as to why it is that Wolf sees in Neues Bauen the precise fulfilment of his own founding principles, “simplification, clarity, authenticity”, for the creation of the ‘new man’. Likewise, the communication of values by Neues Bauen and how this can be reconciled with the simultaneous conveyance of the principles of residential hygiene, should be investigated.

6.1.2. Neues Bauen as the aesthetic counterpart of reduction

That Neues Bauen is virtually predestined for the symbolization of the core concept ‘salvation through reduction’, arises from a fundamental, aesthetic, programmatic characteristic: In addition to the reduction to a basic functionality following practical,

hygienic criteria, which could be seen as the crux of numerous hygienic architectural projects (abandonment of decorative elements, easy cleaning, smooth surfaces, avoidance of dust, reduction of textiles etc.), \textit{Neues Bauen} above all purposely and in an exaggerated manner conveys reduction in a \textit{formal} sense. In other words, objects themselves embody ‘reduction’ simply by their form. This \textit{formal} reduction consists principally in reducing the architectural body to its basic, original, geometric form. A portrayal of the Bauhaus movement from 1953 describes it thus:

The way from an arbitrary variety to simplicity and to rules at first led via the necessary re-attainment of ‘pure form’. Building of a form and extensive return to ‘basic elements’: square, circle, triangle, red, blue, yellow, cube, sphere, cylinder. (...) Later, the insistence on a return to basic geometric forms was left behind, as the purifying was concluded.\footnote{Hubert Hoffmann, "Das historische Bauhaus. Eine Darstellung seiner Idee und Geschichte 1919–1933", in: \textit{Baukunst und Werksform}, 1953, vol. 10/11, p. 568.}

A further aspect is the conscious use of materials, whose simplicity renders reduction visible, such as glass,\footnote{Manfred Bock also makes this point concerning Le Corbusier's ‘Zentrosojus’ in Moscow of 1929. There, the meaning of the horizontally placed bands of window was revealed to be “a-functional Formalism”, cf. the exhibition catalogue, \textit{Tendenzen der 20er Jahre}, of the 15\textsuperscript{th} European Art Exhibition in Berlin in 1977, pp. 1-29.} ceramics, chrome, metal and smooth, light plaster in areas where they carry no hygienic, practical benefit. Hermann Muthesius had already described this phenomenon as early as 1903 as an “expression of the ideal sanitary”\footnote{Hermann Muthesius, \textit{Stilarchitektur und Baukunst}, (Mühlheim/Ruhr 1903), p. 53.}, whose task is not merely to serve its purpose, such as enabling the easy cleaning of rooms, but rather to convey an “impression” of cleanliness. He writes:

Here therefore, certain ideal notions of sanitation merge with the aesthetic. And the linking of the two can also be recognized in modern reorganization, as is for example beginning to be the case in the interior of our residential house. Here reorganizations are taking place, which target the goals of increasing penetration of air and light, room design
purely according to purpose, avoidance of all useless extras in decoration, replacement of heavy, immovable household goods in favour of light ones, and a particularly light general ambiance, which conveys the impression of cleanliness.\textsuperscript{458}

Es berühren sich also hier gewisse idealsanitäre Anschauungen mit den ästhetischen. Und die Verknüpfung beider ist auch in der modernen Umgestaltung zu erkennen, wie sie jetzt beispielsweise das Innere unseres Wohnhauses durchzumachen beginnt. Hier gehen Umbildungen vor sich, welche auf vermehrten Eintritt von Luft und Licht, unbedingt zweckmäßige Gestaltung des Raums, Vermeidung aller unnützigen Anhängsel in der Dekoration, Ersatz des schweren, unbeweglichen Hausgeräts durch leichtes und auf durchaus helle, den Eindruck der Sauberkeit erweckende Gesamtstimmung hinzielen.

Muthesius lays particular emphasis on “clean concision of form”, since it is aesthetically capable of delivering proof of the absence of dirt, because, as Muthesius claims, only if it looks clean, will it be considered clean. In his utopian work, \textit{Hausbau und Bauhaus}, Oskar Schlemmer also describes his hygienic, entirely dust-free, light-flooded ideal house, not as being determined by hygienic criteria, but rather by an “optical desire for tubes and shiny things”.\textsuperscript{459} A few years later in 1928, the architect Bernhard Hoetger (1874-1949),\textsuperscript{460} a resident of the ‘Worpswede colony’, appears to respond directly to this desire:

The era of the machine, of functionalism, the exposure of construction are captivating recipes and principles, with which even the layperson can outwit the professional. (...) To appear functional does not always mean being functional.\textsuperscript{461}

Das Zeitalter der Maschine, der Sachlichkeit, die Sichtbarmachung der Konstruktion sind hinreiβende Rezepte und Prinzipien, womit der Laie

\textsuperscript{458} Ibid.


Paul Klopfer also describes the manifestation of hygiene in his article about the ‘Haus Gropius’ in Dessau. He acknowledges the fact that several architects have succeeded in “implementing” a “hygienic stance” right through to the “exterior form of the house”. Behind this paradox (since a façade cannot really be hygienic or unhygienic) lies, on one hand, the demand to make the hygienic stance of the house interior visible to the viewer from the outside, on the other hand lies the insight that only that, which appears to be particularly hygienic, will leave behind an impression of ‘hygiene’ with the uninitiated layperson. Ultimately, the propagandists of hygienic architecture were above all faced with the problem that a house, which is completely reduced to its basic functionality, (without decoration or ornament, but still retaining its pointed roof, a rough natural stone façade, windows with glazing bars and simple furniture that nevertheless was not of shiny metal), is perceived of as being less reduced and less hygienic than the bare cuboid architectural form covered with smooth, light plaster favoured in Neues Bauen. In this way, Döcker’s Hospital in Maulbronn (fig. 132a-c) with its natural stone façade, built in the same year as the celebrated prototype of Neues Bauen, Waiblingen Hospital, remained largely unknown despite boasting an almost identical constructional concept. The architect Richard Riemerschmid comments on the subject of “Hospital construction and the art of construction”:

The effect of the first impression should not be underestimated. Even from a great distance, a building can appear inviting or repelling. Such an impression is created by purely artistic means – of which the observer is generally totally unconscious (...). The significance of cleanliness in the hospital hardly needs to be mentioned. But the cleanliness must not only be factual, it must also be visible in every detail. Smooth, bare surfaces, free from hairline cracks, crevices and pores, dense, resistant material, upon which wear and tear leave scarcely a trace... 

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Die Wirkung des ersten Eindrucks darf nicht unterschätzt werden. Schon auf weite Entfernung hin kann ein Bau einladen oder abweisen. Rein künstlerische Mittel sind’s, die - in der Regel dem Beobachter ganz unbewußt bleibend, - einen solchen Eindruck veranlassen (...). Welche Bedeutung die Reinlichkeit im Krankenhaus hat, braucht kaum gesagt werden. Aber sie muß nicht nur tatsächlich sein, man muß sie auch überall sehen können. Glatte, blanke Flächen, frei von Haarrissen, Sprüngen und Poren, dichtes, widerstandsfähiges Material, an dem die Abnutzung wenig Spuren hinterläßt...

It is not a coincidence that in Paul Klopfer’s description of the ‘Haus Gropius’ the characteristics of Neues Bauen overlap with those of the prototypical hygienic building. He writes:

I have already mentioned what is actually modern about the new residential house: it lies in the relentless consideration of the hygienic standpoint. Today, this standpoint is considered as decisive for all technical, aesthetic creation; (...) Let us thereupon consider the Haus Gropius. (...) [there] it seems to me that all hygienic questions have really been thought through to their logical conclusion: The possibility of fresh air bathing, an almost wasteful attraction and drawing in of light, but above all it is a cleanliness, or better still a striving, even to the smallest detail, attained with the help of newest techniques, to remove every possibility of existence from dust, which only then really lets us recognize the true value of the hygienic way of building. (...) The cube must stand as a symbol for this technical, hygienic attitude.


If architecture defined itself as the reduction to a purely hygienic function, then the hygiene factors described by Klopfer, seem inappropriate inasmuch as they over-

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fulfil the hygienic needs of the inhabitants. Reduction to a purely hygienic function
needs neither right-angled corners, cubic dice, chrome lights and tubes, nor special
polished varnish producing an augmented impression of "cold shine", a completely
dust-free atmosphere, or an inappropriately large, "almost wasteful" supply of light.

As early as 1923, Ernst Bloch curtly summarizes this phenomenon of over-
fulfilment of hygienic criteria in relation to light supply as "Lichtkitsch" ("kitsch of
light"):

But what if a leap into brightness is nevertheless to be demonstrated on
such a basis? Which was in fact attempted in terms of structural
engineering, but now with the affirmed uncomfortable desire for nothing
but windows and equally stripped clear houses and appliances. Of course,
this kind of thing claimed to be a purging of the mustiness of the
previous century and its unspeakable decoration. (…) The effect is all the
more chilling when it has nothing quiet-cornered about it but only the
kitsch of light; however clean, namely vacuum clean it may indisputably
have intended to be when it started out. Adolf Loos in Europe and Frank
Lloyd Wright in America drew the first lines of negation of the epigonic
tumor.

With this criticism, Bloch implicitly says that from a certain point in the evolutionary
process of the hygienic house – with its interior "light and bare like a hospital
room"468, any further hygienic optimization is no longer made on the level of

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465 Ibid.
466 Ernst Bloch, The Principle of Hope, (1938-47), translation by Neville Place, Steven Place, Paul
467 Ernst Bloch, Das Prinzip Hoffnung, (Frankfurt/Main 1959), p. 860.
468 Ibid., p. 858.
functional hygiene, but rather on the level of formal, aesthetic hygiene. In reference to this Preiß writes:

The demands were made of architecture that houses should be supplied with light, air, water and warmth in the most possible comfortable and ideal way. As already intimated, it did not stop at the pure utilitarianism of sanitary, technological innovations, which could scarcely have led to a radical change of an entire architectural appearance. Yet the ambition of the modern aimed towards making building techniques, linked with sanitary supply as a built expression of a new understanding of life, the basis of design innovation, which should even then absolve the older building forms and styles, if they were not an obstacle to hygienic demands.  

To formulate it another way: with the general implementation of bathroom, toilet, ventilation, washable textiles, as well as simple furnishings, whilst at the same time implementing a decrease in the number of inhabitants, a standard in hygiene had been reached that had already met all necessary hygienic criteria. Even though in theory, a further optimization could be achieved, for the health of the inhabitants this was not necessary. Thus, Ernst Bloch admits in Geist der Utopie that the bathroom and water closet may be, “without question the most original achievements of this period, (...) just like the furniture of the Rococo period and the cathedrals of the gothic period, which represented the art objects of the time forming everything else”. However, he criticises that ‘washability’ now rules:

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470 Ernst Bloch, Geist der Utopie, (1923 ), (Frankfurt/Main 1964), p. 21.
The magic of the modern sanitary facilities also mixes itself imperceptibly, as an 'apriori' of readymade machine wares, in the most valuable products of the industrious efforts of our time.\textsuperscript{471}

(...) der Zauber der modernen sanitären Anlagen mischt sich als Apriori fertiger Maschinenware unmerklich auch noch in die kostbarsten Erzeugnisse des Fabrikfleißes dieser Zeit.

Nonetheless, the hygiene standard deliberately suggested by the architects by far exaggerated the actual hygienic needs of housing inhabitants. An article in \textit{Die Bauzeitung} of 1927 criticizes this phenomenon:

The elements of the old residential house have been discarded, yet on the other hand, the elements of the Pullman train, and the tools of industrial engineering are only being toyed with. Might our descendants not smile at us, we who were so very euphoric about formal beauty of our new apparatus and machines that we removed their forms from their place of origin and decorated our houses with the primitive joy of the novice? What forces us to inflict a pseudo-morphosis on the light-carriers of our living spaces according to therapeutic apparatus?\textsuperscript{472}

Die Elemente des alten Wohnhauses sind abgelegt, aber mit den Elementen des Pullmannzugs, mit den Mitteln des Industriebaus wird wiederum nur gespielt. Könnten unsere Nachfahren nicht lächeln über uns, die wir so sehr berauscht waren von der Formschönheit unserer neuen Apparate und Maschinen, daß wir ihre Formteile von ihrem Wachstumsort wegnahmen und unsere Häuser in der Negerfreude des Neulings damit schmückten? Was zwingt uns, den Lichtträgern unserer Wohnräume eine Pseudomorphose nach therapeutischen Apparaten aufzuerlegen?

In other words: what compulsion lies behind the idea of designing a living room lamp following the example of operating-theatre lighting or (as was the case in the 'Stuttgart Werkbund Estate') of using real hospital beds? Again, it was Ernst Bloch who found an adequate figure of speech for this hygiene-aesthetic compulsiveness:

\textsuperscript{471} Ibid.

This in itself remains true: birth forceps must be smooth, sugar tongs by no means.\textsuperscript{473}

An sich bleibt wahr: eine Geburtszange muss glatt sein, eine Zuckerzange mitnichten.

However, architects and medical practitioners obviously had good reason to continue demanding “sugar tongs” to be formed according to the hygienic properties of “birth forceps”; for this conscious over-fulfilment of hygienic demands on an aesthetic and formal level had, despite its functional uselessness, one inherent advantage: its pedagogic potential.

6.2. The profitable aspect of the interrelation of hygiene and architecture for the hygienists

6.2.1. The pedagogic potential of Neues Bauen

In the architecture chapter of Die Natur als Arzt und Helfer, Wolf writes: “The new healthy flat … educates!”\textsuperscript{474}, and he thus makes it unmistakably clear that he not only attaches importance to the new hygienic dwelling’s educational role of disease prophylaxis, but that he also transposes basic responsibilities in the field of education onto the dwelling.

In the same way (as with Klopfer’s article), in which the ascertained exaggeration of the hygienic details in the ‘Haus Gropius’ serves the purpose of letting “us”, as observers of this house, become aware of the “value of a hygienic way of housing construction”, \textsuperscript{475} it was also important to Wolf that the buildings of Neues Bauen immediately convey to the individual, even to those unaware of the hygiene thematic and with an unschooled and untrained perception (in other words readers of a medical guide) on an irrational, intuitive, visual level, the essence, meaning and

\textsuperscript{473} Ernst Bloch, Geist der Utopie (1923), (Frankfurt/Main 1964), p. 23.
\textsuperscript{474} Friedrich Wolf, Die Natur als Arzt und Helfer, (Stuttgart 1928), p. 258.
practical form of the terms ‘hygiene’ and ‘reduction’. The article “Modern Architecture as Educator” by Fritz Wichert, published in the magazine Das Neue Frankfurt in 1928, examines this quality of Neues Bauen, the conveying of a value system as a ‘silent pedagogue’. It reads:

The new form of architecture in its intentions, its basic principles, its intellectual content and character is today already a so comprehensive and unambiguous manifestation that its demands on man are both easy to recognize and, at least on the whole, to represent. So it will become, with the inescapability, which is proper to architecture, a teacher, an educator. 476

Die neue Baukunst ist in ihren Absichten, ihren Grundsätzen, ihrem geistigen Gehalt und Charakter schon jetzt eine so umfassende und unzweideutige Bekundung, daß sich auch ihre Forderungen an die Menschen leicht erkennen und – wenigstens in der Hauptsache – darstellen lassen. So wird sie – mit der Unentrinnbarkeit, die der Architektur eigen ist – zum Lehrer, zum Erzieher.

The fact that Wolf as a doctor also took himself exceptionally seriously in the role of educator, is shown by the initial quotation in one of his numerous health brochures of Rudolf Virchow: “Doctors must one day become the educators of mankind”. 477 Wolf extends the mission of the doctor to the field of architecture, claiming it as a pedagogic instrument. Aside from Wolf, Wichert also sees the pedagogic quality of Neues Bauen in conveying the idea of simplicity through reduction. According to Wichert, Neues Bauen is concerned with using the design elements of line, area, space and colour in as simple a manner as possible, reduced to utmost clarity. He writes:

In the simple use of design elements, properties simultaneously emerge, whose meaning in education is immediately evident: e.g. plainness, simplicity, clarity, visibility, definitiveness, rigorousness. In addition, others, whose moral content is perhaps less clear than that of hygiene and cleanliness; they favour the keeping of order, ‘clearing up’ in the double sense. 478

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477 Friedrich Wolf, Trotz Tempo 1000... gesund!, (Dresden 1930), p. 3.
Gleichzeitig mit der einfachen Verwendung der Gestaltungselemente treten Eigenschaften hervor, deren Bedeutung für die Erziehung ohne weiteres einleuchtet: z.B. Schlichtheit, Einfachheit, Klarheit, Übersehbarkeit, Bestimmtheit, Strenge. Dazu andere, deren sittliche Forderung vielleicht weniger deutlich ist wie Sauberkeit und Hygiene; sie begünstigt das Ordnunghalten, ist "aufgeräumt" im doppelten Sinn.

An architectural environment characterized by the values "plainness, simplicity, clarity"479 (as found in Neues Bauen) is thus supposed to shape a person in such a way that unavoidable and constant confrontation with the architecture of Neues Bauen would lead him to form a state of mind, which would favour the 'simple' and 'reduced'. The conviction that a certain idea, manifest in architecture, has an educational effect on the human mind, or more generally that a mental change could be achieved simply through a change of the environment surrounding the individual, is an idea, which had been widely held since the middle of the nineteenth century, and had found expression in various disciplines, including literature, medicine, biology, sociology and not least, architecture. In his article, "New forces in our architecture" of 1921, Behne writes:

In fact, the speculator and real estate marketeer, with his exploitative tenement block, determined the intellectual fate of the people who depended on these tenement blocks. It was he, who made the masses dull, grim and underdeveloped. For in the long term, every brain becomes the likeness of its habitation, when it cannot make its habitation resemble its likeness.480


Implicit in this quotation is the thought that one shell influences another. As with Wolf’s shell system, it serves to fulfil the claim made for architecture that it can fundamentally change the human mind. Fritz Wichert writes:

479 Ibid.
The new form of architecture as casing, as surrounding, as milieu, created by man, radiates formative power and thus, in turn, creates the nature of man. That which is formed forms. Man and man’s creation are in continual interaction. Summarized in the shortest way: new man demands a new casing but new casing also demands a new man.


Wolf, too, argues according to the principle “that, which is formed, forms” in concluding that brightness in new dwellings ensures brightness in the head, which, in the context of his often cited vision of “a new, classless, brotherly human society”, raises the described interaction of architecture and man to an ideological, sociological level. In the same vein, Fritz Wichert writes:

Since it (the new form of architecture) particularly loves brightness and open space, it also effects brightness and space in the mind.

Da sie (die neue Baukunst) das Helle und das übersichtliche weite besonders liebt, bewirkt sie auch im Geistigen Helligkeit und Weite.

Obviously, it is this pedagogic potential of the “formed”, ie. of Neues Bauen that Wolf wishes to use, to convey to the individual the central value of ‘reduction’, the basic principle of the creation of the ‘new man’. In this way, Wolf deliberately employs architecture as a value mediator in the cause of the ‘new man’. Thus, living space becomes the seed for the germination of a changed attitude of mind, which in turn serves the development of the qualities that allow the individual to become a ‘new man’. Ultimately, it is the creation of the ‘new man’, which is the basic

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482 Friedrich Wolf, “Der Neue Glaube oder Die religiöse Frage und die wirtschaftliche Antwort”, no date, fragment, FWA 383.
483 Ibid. Wolf writes: “Even the new belief in a new, classless brotherly community of people must be an enormous, - I’m not afraid to say, must be a utopian! Even this new belief must be able to move mountains, it must be messianic, it must envelop the most eternal human longing, whether it writes the kingdom of the messiah or “sun state” on its banner!”. 

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prerequisite of founding a new society. That this newly to be created structure of society was subordinate to a clear leftwing theory, is demonstrated not least by Wolf, explicitly wanting a socialist doctor for the review of *Die Natur als Arzt und Helfer*. His comrade, Hermann Wolf, recommended the best known social hygienist of the later German Democratic Republic, the aforementioned medical doctor Rudolf Neubert.\(^{485}\)

This link between medical requirements and socialist plans for society is part of a long tradition. From the fin-de-siècle period to the final years of the Weimar Republic (leaving aside the measures in racial hygiene taken by the National Socialists as part of their utopia of a future world a few years later\(^ {486}\)), cases, in which doctors and hygienists legitimated their own designs for social change by exploiting the authority of science in general and medicine in particular, became more numerous. In as early as 1904, for example, F.E. Bilz, director of his own sanatorium, Schloss Lösnitz in Radebeul near Dresden, and author of *Das neue Naturheilverfahren*\(^ {487}\) had published his social utopian work *Der Zukunftsstaat. Staatsenrichtung im Jahre 2000*\(^ {488}\). The subtitle of this publication announces a “new world view” and promises a “happy and carefree existence” for “everyman”.\(^ {489}\)

The totality of his hygienic demands and criteria result in what Bilz terms “natural law”. Calling upon this natural law, Bilz envisions a social order, in which socialist


\(^{485}\) Cf. letter from Hermann Wolf to Friedrich Wolf, 3rd August 1928, Dresden, FWA 298/2: “Worthy comrade Dr. Wolf! (...) Unfortunately, I don’t know any socialist doctors here who could write the review. Socialist doctors who are simultaneously homeopaths, are still very rare. But perhaps the doctor Rudolf Neubert, doctor at the Dresden hygiene museum, will write it. He is extremely enthusiastic about your book. (...) He is also known as a writer, he published, with Dr. Vogel, the book on basic principles of nutrition. He doesn’t belong to the social-democratic party, but his stance is very close to theirs.

\(^{486}\) From the research done in the field for this dissertation it has become clear that the National Socialists took over most of the ideals of the life reform movements including the ideas on hygiene. Since this delicate topic needs to be treated rather carefully, I decided not to cover it in detail in this context. However, I am convinced that it would be worth it to do further research concerning hygiene and architecture in the context of National Socialist ideology, especially knowing that the National Socialists came up with a very different architectural aesthetic. Cf. Winfried Nerdinger, *Bauen im Nationalsozialismus*, (München 1993), and Winfried Nerdinger, *Bauhaus-Moderne im Nationalsozialismus*, (München 1993).

\(^{487}\) F. E. Bilz, *Das neue Naturheilverfahren. Lehr- und Nachschlagebuch der naturgemäßen Gesundheitspflege*, (Leipzig 1898).

\(^{488}\) F.E. Bilz, *Der Zukunftsstaat*, (Leipzig 1904).

\(^{489}\) Ibid.
requirements go hand in hand with the necessary criteria for a healthy, hygienic way of life.

In his work of 1920, *Die hygienische Forderung*, the best-known social hygienist of the Weimar Republic, Alfred Grotjahn, designed a social system, which is the resulting product of a consequential implementation of hygienic criteria. In the same manner as Wolf's shell system, he constructs his social structure from chapter to chapter, from the interior to the exterior, in a progression of titles: “The Hygienic Man”, “The Hygienic Family”, “The Hygienic Estate” and “The Hygienic People”. In this way, Grotjahn creates a manifesto for an “earthly future state”, legitimised by hygiene and following the rules of a hygienic, collective way of life.

6.2.2. World and Counter World of the 'New Man'

A precise investigation of the introduction to *Die Natur als Arzt und Helfer* is exceptionally helpful in clarifying the question of how Wolf attempts to convey his idea of a new society using architectural metaphors in his medical guide; it is noticeable that within this comparison of styles, the question, of which interior is exemplarily hygienic or unhygienic plays an entirely subordinate role. This is not only evident from the previously mentioned fact that a visual comparison of the respective styles of interior designers is entirely untypical of an introduction to a medical guide. In addition, Wolf's picture captions for the opposing illustrations are the words “Then” (Makart interior) and “Now” (Neues Bauen) and not, as would be expected in a home medical guide, the words “unhygienic” and “hygienic” (fig. 129). Moreover, there is not one single reference in the introduction to the fact that the subject of this book is health and sickness, or hygienic and less hygienic living conditions. The picture captions seem much more designed to prove that the diametrically opposed categories of “old” and “new” are to be compared. This assumption is further substantiated by the fact that here Neues Bauen (in contrast to the actual architecture chapter) is not compared and contrasted with damp, dark cellars and cramped attic rooms, in other words with decidedly unhygienic workers’

living quarters, but rather with typically upper middle class Makart living room furnishings, in this case designed by the Mannheim furniture manufacturer Seeger in the 1880s.\textsuperscript{491}

Consequently, in the foreword of Wolf's medical house book, aesthetic antitheses are set up in opposition in the form of the Makart style and that of \textit{Neues Bauen}, the meaning, of which is for Wolf principally to be explained in socio-political terms. In \textit{Neues Bauen}, Wolf namely not only finds the one architectural style, which aesthetically corresponds directly with the metaphors, which are to be visualised in order to create the 'new man'; and thus at its core, \textit{Neues Bauen} is - just as the 'New Man' - reduced to its basis: simplified, naked, truthful and freed from encumbrance, curlicue and accessory. However, with \textit{Neues Bauen} he was also successfully able, through the comparison with the Makart style, by means of the metaphors “superfluity” (Makart-style) and “reduction/simplification” (\textit{Neues Bauen}), to contrast two political systems, set up in opposition to one another, delineating them as clearly negative or clearly positive respectively. To clarify what the political content was, of setting up the mentioned styles in opposition to one another, the following will outline the meaning of the Makart style for the various ideologies.

The meaning of the Makart Style in \textit{Die Natur als Arzt und Helfer}

The great popularity the Makart style\textsuperscript{492} had enjoyed since the mid nineteenth century grew with the ever more visible crisis in the traditional self-assertiveness of the German bourgeoisie, which was an immediate result of the social shifts of the final decades before the First World War. Bismarck's resignation in 1890 and the increasing political and economic power of France, England and Russia shook the German claim to predominance in Europe: with the development of the country from

\textsuperscript{491} The illustration with the caption "Then", without accredited source, in: Jürgen Reulecke, \textit{Geschichte des Wohnens 1800-1918 Das bürgerliche Zeitalter}, there: with the caption: "Living room of the furniture manufacturer Seeger in Mannheim, 1880s", p. 179. Friedrich Wolf, however, took both illustrations from a newspaper article with the title "Live healthy!", without referring to the Seeger living room, FWA, no reference.

\textsuperscript{492} Makart-style is the style named after the Austrian painter from the Gründerzeit (era of industrial expansion in Germany after 1871), Hans Makart (1840-1884). His prestigious historical paintings, just as his studio, overloaded with objects, stood representatively for the bombastically decorated, resplendent taste of the Gründerzeit.
an agrarian economy to an industrial society; with the growth and simultaneous increasing urbanization of the population; and with the advancing fragmentation of the bourgeoisie and the growing political power of the working class, new powers and social problems came into being, severely damaging the world view of the upper classes. The typical critical analysis of the modern age, which combines questions of style with social questions, appears as follows.

The Makart style, as a cosy illusory world, offered the bourgeois classes refuge. With the help of historical myths, manifested especially in architecture, the bourgeoisie tried to block out the threatening social shifts. At the same time it fulfilled their desire for social predominance in aesthetic terms through its demonstration of wealth, tradition and intellectual improvement. In the gloomy atmosphere behind bull’s-eye panes, roller blinds, porches and heavy drapes, the bourgeoisie took flight into a world of excess and ornament, of material variety and the illusion of a heroic past created by reference to styles of various heroic epochs, thus entirely excluding the trials and tribulations of the real world. This world of excess was created by decorating living rooms with furnishings of an almost theatrical nature, with props such as carpets and heavy Arabic textiles, with popular imitations of Greek sculptures or vases, furniture in the style of the Renaissance, the Baroque, Rococo and Classicism.493

Paradoxically, the lower classes, as far as they were able to afford to do so, equally made use of this aesthetic in the social positioning of their own class. Industrial furniture production catered to these representative desires and manufactured reproductions of expensive furniture, cheap in both quality and design. From the mid nineteenth century, formerly costly, hand-crafted and finished wares could, for the

493 Cf. Thomas Mann, Confessions of Felix Krull, Confidence Man, Memoirs Part I, translated by Denver Lindley, (London 1977), p. 10-11: “Our villa was a charming little estate on a gentle slope that commanded a view of the Rhine. (…) As for the interior decoration of our house, it was, in accordance with my father’s taste, both cozy and cheerful. Pleasant nooks offered repose, and in one corner stood a real spinning-wheel; there were innumerable knick-knacks and decorations—conch shells, glass boxes, and boxes of smelling-salts— which stood about on étagères and velvet-covered tables; countless downy cushions covered in embroidered silk were strewn everywhere on sofas and daybeds, for my father loved to have a soft place to lie down; the curtain rods were halberds, (…)“.
first time, be manufactured on a large scale in industrial production and thus be sold as cheap reproductions.

Using these means, the rising lower middle as well as the upper working classes could now at least in terms of household furnishings emulate the dwellings of the middle classes and through a grand display of art and craft objects supposedly boost their social ascent. At the same time, it served to cut them off from the classes below them.

However, for those who, like Wolf, were engaged in the cause of the lower classes, this type of class struggle was heading in the wrong direction. For in this culture of ‘appearances’, in the furnishing of apartments with reproductions of upper class residential culture, lay an absurd contradiction: whilst the daily life of the lower classes was characterized by the ongoing struggle for sheer survival and exploitation by the ruling classes, this went hand in hand with the glorified imitation of the excessive, capitalistic life style led by precisely those who were their exploiters. Wolf heavily condemned this denial of working class identity in the form of obscuring reality through the adoption of a style of furnishing not appropriate to their class, as counterproductive for a long-term improvement of living standards and advance in the class struggle. In a 1921 lecture manuscript, he criticizes this pseudo-culture built upon deception and appearances including its resultant attitude of mind:

494 Hermann Muthesius writes in 1907, on the phenomenon of the aesthetic bourgeoisie within society: “In the struggle of the social classes for predominance a social pretension has resulted. The middle classes achieving social status experienced a need for ornament, which they could only satisfy with external, little costly means, which they, however, held to be necessary, in order to compete with the traditionally advantaged classes, if not to outdo them. This was wholly new state for the middle classes. The pretension, the obsession, to seem to be more, than one really is, became almost a habit in the bourgeois circles of the 19th century. (...)Unfortunately, the furnishings of the living rooms of the house, based on social pretension dominates our entire German past, and an art industry working merely with imitations and surrogates delivers the necessary material.” Hermann Muthesius, “Die Bedeutung des Kunstgewerbes“, Lecture at the Handelshochschule Berlin in 1907, in: Zwischen Kunst und Industrie. Der Deutsche Werkbund, (Stuttgart 1987), pp. 41-42.

495 Cf. Otto Wagner, Modern Architecture, (Vienna 1902), (transl. H.F. Mallgrave, Santa Monica 1988) p. 82: “A certain practical element, with which man is imbued today simply cannot be ignored, and ultimately every artist will have to agree with the following proposition: “SOMETHING IMPRACTICAL CANNOT BE BEAUTIFUL. (...) An apartment house that for no reason parades projections, towers and domes or that sags under the mask of a palace, and
Clothes make the man, houses make the man, titles make the man, money makes the man; do we really have the right to wonder and complain of the hollowness and falsity of our time?496

Kleider machen Leute, Häuser machen Leute, Titel machen Leute, Geld macht Leute; haben wir wirklich ein Recht uns über die Hohlheit und Verlogenheit unserer Zeit zu wundern und zu beklagen?

And a few lines later, he writes:

The intellectual struggle against the desire for the bourgeois world, which it itself has long since overcome, is the most difficult! (...) Were I to make the effort of putting a three room apartment at the disposal of the comrade, instead of the narrow two room one, afterwards the three room one would be even narrower, stuffed full of (...) buffets, consoles, mirrored cupboards, wardrobes.497


With these words, Wolf damns the escapist flight by means of theatrical stage props and the consolations of the comforting plush sofa after the working day, since optical distraction from the daily hard and unjust reality does not have the power to make man become ‘new’. Wolf is convinced that this can only occur by consistently making the lower classes cognisant of their own needs and necessities, of their own identity and their own life style. In a poem of 1928, which carries a title similar to his

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496 Friedrich Wolf, handwritten lecture manuscript, 15 pages, heading: “Remscheid, Der Stadtarzt, 1921“, FWA 158/1. Cf. Josef August Lux, Geschmack im Alltag. Ein Lesebuch zur Pflege des Schönen, (Dresden 1908): “The whole masquerade of falsity and hypocrisy has a corrupting influence unto the very innermost constitution of the soul and determines not only the outer image of life, as far as it concerns houses, appartments and in part clothing, but also traffic with one’s fellow men, forms of association, the contorted and decorated being, groundless formalities, addiction to titles..., inhumanity, lack of feeling and suppression of the others”.

497 Friedrich Wolf, handwritten lecture manuscript, 15 pages, heading: “Remscheid, Der Stadtarzt, 1921“, FWA 158/1.
famous socialist programmatic essay “Kunst ist Waffe!” (“Art is a weapon!”)\(^498\), Wolf calls for active struggle to improve living standards, closely linked to conscious support for one’s own class and the discovery of a confident workers’ culture:

Do not allow yourselves to be deceived by the weapon / by nonsensical plush commode lies / today we no longer fight with bow and arrow / Katy of Heilbronn is not our salvation / today we have other weapons and goals / another life and other ... games / if we only want them! Even if it is hard / we play out our present / we flee not to past things / when all before us people suffer / (...) It is all up to you: Break your wall of silence! / Demand your life, your games; create them for yourselves proletarian! / Art is a weapon!\(^499\)

Laßt Euch um die Waffe nicht betrügen / mit plundrigen Plüschkommodenlügen / wir kämpfen heute nicht mehr mit Bogen und Pfeil / das Käthchen von Heilbronn ist nicht unser Heil / wir haben heut andere Waffen und Ziele / ein anderes Leben und andere ... Spiele / wenn wir nur wollen! Ist sie auch hart / wir spielen Unsere Gegenwart / wir fliehen nicht in Vergangenheiten / wenn handbreit vor uns Menschen leiden / (...) Ihr habts in der Hand: Zerbrecht Eures Schweigens Wand! / Fordert Euer Leben, Eure Spiele; Schaffe sie dir selbst Prolet! / Kunst ist Waffe!

This campaign against “nonsensical plush commode lies” is a strong appeal to the lower classes to live in the present day and face the pertinent social problems with strength of purpose. Wolf believes that only thus can the old class system be dispatched for good, and the longed for departure into a new, classless era and the building of a better world finally become reality.

In displaying an illustration of a Makart interior with the caption, “then”, Wolf is purposefully symbolically portraying his concept of the enemy of his social goals and their invalidity. This illustration thus becomes an explicit representation of the counter world of the ‘New Man’, for Wolf embodied by *Neues Bauen*, as its exact aesthetic counterpart.


This is also confirmed by the text in the foreword accompanying the illustrations, in which Wolf does not oppose the ideal of a hygienic living situation as expected with the explicitly unhygienic, but with the socially and aesthetically degenerate: "simplification", "authenticity", "reality", "cleanliness", "clarity", and the brightness of Neues Bauen encounter "plush museums (...) with the boy pulling a thorn from his foot, clay pug dogs and bolsters", "dusty habits", a "world of sham feelings" and thus, without exception, the props, which stand for the "chaos of the sham Baroque" and the generally ornament-addicted, double-morale, mendacious, false, murky, twilight culture of the "Gründerzeit".500

"Twilights and moods", 501 plush sofas and reproductions of Greek vases are ultimately all visualised counterparts of the world view, which Wolf deplores, which is directly antagonistic to the world of the 'New Man'. Thus, the reader implicitly becomes aware that in constructing a new world (following the model of Neues Bauen), it is not a retreat into the private sphere, but rather political activism, which is needed; not shutting out the masses by means of fortress-like buildings and murky twilight, but rather transparency and lucid brightness by means of borderless transition from interior to exterior; not soporific sinking into soft upholstered furniture, but rather hard, functional seating apparatus that encourages a general state of alertness, and that enables sudden action at any time; not knick-knacks to be spread all about, but rather reduction and concentration on approaches to the essential problems of our time; not "more", but "less"; not complicated interior furnishings, which swindle you into believing in the scenery of another world, but instead simple, authentic furniture, adapted to contemporary life and thus in constant contact with the present; not stylistic eclecticism, which legitimises the existence of the upper classes, but rather ignoring history by renunciation of all ornamentation and reduction to the smoothest, most simple forms, which makes a classless, new beginning possible.

Thus, Wolf antithetically contrasts the central two world views of the inter-war period, translated into architectural images: what Wolf therefore sketches out in the

501 Ibid.
foreword to his work is the struggle of new, classless man against the old man, solidified in the clutches of a sham bourgeois culture. Using the offensive confrontation of the revolutionary’s ‘tabula rasa’ with the ‘horror vacui’ of the ruling classes, Friedrich Wolf stages a class struggle armed with aesthetic means.\(^{502}\)

That he succeeds in this, without the reader immediately noticing that the content conveyed is not concerned with hygienic necessities alone, is above all due to the fact that the pictorial manifestation of prototypically hygienic architecture exactly corresponds with that aesthetic that metaphorically stands for Wolf’s conception of a new, classless, just world.

As a result, in the context of the contrasting interior styles discussed in the foreword, the terms “then” and “now” can be understood as synonyms for the terms “unhygienic” and “hygienic”. A prerequisite for the synonymous understanding of these terms is (using the example of the described mechanism of Klee’s “Angelus Novus”, who gives, by taking) that in a medical sense hygiene always presupposes reduction and that simultaneously, following Wolf’s ideology, reduction is indispensable in the building of a new, future society.

Finally, the whole discourse on the meaning of Neues Bauen in Wolf’s Die Natur als Arzt und Helfer can be summed up with one single issue: this is the aforementioned quote from Paracelsus, “I want a simple garb for the ill, in which they can become healthy”, which Wolf places at the very front of his whole medical treatise. With the knowledge that Wolf’s entire aspirations were ultimately directed towards social goals, the shell theory, until now related to the sequence ‘body-clothing-house’, can now be extended to cover the sequence ‘human body-architectural body-social body’, and is thereby raised to a social-metaphorical level. For, according to the ‘Paracelsian principle’, ‘healing through simplicity’, it is similarly Wolf’s aim to heal

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\(^{502}\) How politically explosive the socialist world view was, as symbolised by Neues Bauen, and shared by Wolf and the majority of the architects of Neues Bauen, is demonstrated particularly clearly by the vehement conservative attacks on the representatives of the architectural modern. Included in this was the sharp refusal of the so-called ‘international style’ of the modern, by the conservative Stuttgart School, the racist attempts to defame the ‘Weissenhof Estate’ with names such as ‘new Jerusalem’, ‘Arab village’, the personal disparagement of the architects of ‘Weissenhof’ as ‘collectivists’ or ‘cultural bolshevists’, and finally the demolition of the exhibition estate in Stuttgart, planned by the Nazis.
the human body, architectural body and social body by means of simplicity. Besides
the ill, who by means of the ‘simple garb’ of Neues Bauen should be healed, Wolf
equally demands the enfolding of “the ill”, and especially the ill society, in the
“simple garb” of a plain, natural, i.e. socialist social body, in order to enable the
longed for healing of the ill society to become reality.503

6.3. The profitable aspect of the interrelation of hygiene and
architecture for the architects of Neues Bauen

Hygiene: promotion of style and healing of bad taste

Undoubtedly, hygiene was not the only aspect that lead to the strict, clear lines and
spaces and lack of ornament that are characteristic of Neues Bauen. The radical
renunciation of historicism, eclecticism and every form of architecture that was
concerted with a particular style, brought forth a new formal language, whose clarity
and purity are to be understood as antithetical to the over-laden aesthetic of the late
nineteenth century. At the same time, it was the claim to design buildings restricted
to the essence of the task, using new materials such as steel, concrete and glass and
applying new methods in industrial production that led to a style conveying this
objectivity and functionality.

However, of all arguments put forward in favour of Neues Bauen, outside of
architectural circles, the hygiene aspect was the one that could be most clearly and

503 Wolf clearly shared the view of Ernst Bloch in this understanding of the area of responsibility of
doctors. Bloch sardonically points out that the “clean hands of the doctors and shiny instruments
alone” would not help anything, while “society itself... was dirty and sick”, and society before all
else required “clinical observation”. Further, he writes: “This might also be obvious to a doctor,
whenever he goes to the slums. A German pediatrician wrote in 1931, with a common sense that
should have had certain non-bourgeois consequences: ‘to implement cures, curare, care for
someone, is avoid their health being disturbed at all. Should this happen anyway, the doctors’ curs
should be directed towards altering the person’s circumstances to provide optimal conditions for
his health’. A good aim, sparing of people, but one only to be achieved in a socialist society. As it
now stands, is demonstrated [...] Capitalism is unhealthy – even for the capitalists. ...Like being
born anew: that is the meaning of the ground plan for a better world, as far as the body is
concerned. People, however, do not have an upright gait, where the life of society itself still lies
crookedly”, in: Ernst Bloch, Das Prinzip Hoffnung, (Frankfurt/Main 1959), p. 545.
simply conveyed. In this way, the hygiene argument was used to give aesthetic principles a hygienic legitimacy.

Putting forward the argument of hygiene, the unaccustomed architectural features of Neues Bauen, which met with a lack of acceptance from the general population, could be justified. This argument based on hygienic principles was conveyed to the layman as follows: the reason that furniture was simple, was that it was hygienic and easy to clean; interior design was reduced to its essential components because this helped to prevent disease; and a façade that had as many large openings for light as possible was able to heal your disease. Ultimately, the architects of Neues Bauen, if they wanted to follow the Mies formula that form should always be the inner result of a specific task and should never just come about by itself, found that they were in constant need of proof and substantiation for their new style, and could use hygiene as a valid argument, wherever there was need for aesthetic justification. The overlap of hygienic criteria with the design principles of Neues Bauen – less was not only more, less was also more hygienic – made this easily possible.

Despite the lack of understanding and rejection of Neues Bauen from a large part of the population, the new style could still be sold by employing hygienic argumentation, because the value of hygiene was no longer questioned and could therefore be used as a particularly effective sales argument. At the same time, supporters of Neues Bauen hoped to be able to initiate a large-scale re-education of the ‘style consumer’ using the argument of hygiene, which, as Josef Frank ironically commented in 1927, was ultimately an attempt at “healing of bad taste” (Geschmacksgesundung). Thus, hygiene was employed to deconstruct rejection of this new architectural style, and catchphrases such as “simplification” and “objectivity”, which had no immediate significance for the major part of the population, were replaced by terminology that was immediately clear for everyone. The sociologist, Alfred Weber, describes the mechanism, which was needed to perform this, in his 1928 lecture on the occasion of the Munich ‘Werkbund’ conference:

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504 Josef Frank, “Neue Sachlichkeit auch im neuen Heim - ???”, Das ideale Heim, vol. 6, 1927, p. 342.
"If, however, this modern expression is revolutionary, then, as sociologists know, even if it is often seen in quite the other way in public – it naturally comes from above. They come from a small minority that has called a progressive, revolutionary theory "avant-garde", and which, by simple observation and without any value judgement, one can call a curiously formed part of the human whole that has some type of productivity urge and is forced by this productivity urge to come to terms with the substance, which surrounds it, and that thus makes fate in general to its own fate, at the same time naturally sounding out, anticipating the fate of the whole." 505

Ist aber dieser moderne Ausdruck revolutionär, so kommt er, daß wissen wir Soziologen, wenn es auch meist in der Öffentlichkeit anders gesehen wird – selbstverständlich von oben. Sie kommen her von einer kleinen Minderheit, die eine fortschrittliche revolutionäre Theorie als „Avantgarde“ bezeichnet hat und die man ohne irgendwelche Wertbetonung, wenn man die Sache einfach konstatiert, als jenen eigentümlich figurierten Teil der menschlichen Gesamtheit bezeichnen kann, der irgendeinen Produktivitätsdrang hat, durch diesen Produktivitätsdrang gezwungen ist, sich mit der Substanz auseinanderzusetzen, die ihn umgibt, und der von daher das allgemeine Schicksal zu seinem Schicksal macht, dabei natürlich das allgemeine Schicksal vorfühlt, vorerlebt.

According to Weber, the intentions of the leading, and yet "small minority", will only become effective when a “broad receptive social class” can be found, for which they really offer a “proper expression of existence”. 506 However, the receptive class is the same class that has already managed a complete social detachment from past traditions, and already lives in the structural form of "large-dimensional existence", and has already adopted the new life design as their own.

The difficulty that Neues Bauen had to face, therefore consisted in the fact that this social class was in fact made up of a very small number of individuals and not, for example, the masses of the industrial working class, who had not yet even begun to have any notion of "large-dimensional existence", and as a result were not able to identify themselves with the new architectural style. Weber continues:

506 Ibid.
I am not sure whether the industrial working class that I mean, is already adopting this new urge for beauty in form, this austere and sparse will. (…) I am also not entirely sure, whether they will only fully grasp the meaning of the whole work, when they, like in housing co-operatives, appear to have a say about the work themselves. (…) When therefore (I will always illustrate here with the example of Neues Bauen) a power, a receptivity, a readiness of feeling and desire comes from below from this minority, naturally the traditional class that lies between, finds itself in a very unpleasant cross fire. (…) Because what happens to them must seem abominable to them. Because of course: they can’t feel it, and that is why it must be so unpleasant.

Ich bin nicht sicher ob die industrielle Arbeiterschaft, die ich damit meine, den Schönheits–Formwillen des neuen Strebens, diesen herben und kargen Willen schon aufnimmt. (…) Ich bin auch nicht ganz sicher, ob sie den Sinn der ganzen Arbeit selbst dann stets voll ergreift, wenn sie, wie in Baugenossenschaften, selbst über die Arbeit anscheinend mitbestimmt. (…) Wenn also von unten her (ich exemplifiziere hier stets an diesem Beispiel des neuen Bauens) eine Kraft, eine Aufnahmefähigkeit, eine Bereitwilligkeit dem von dieser Minderheit Gefühlten und Gewollten entgegenkommt, gerät natürlich die dazwischen liegende traditionelle Schicht in ein sehr unangenehmes Doppelfeuer. (…) Denn was ihr geschieht muß ihr ja abscheulich vorkommen. Ganz selbstverständlich: sie kann es ja nicht fühlen, darum muß es ihr zuwider sein.

Consequently, the goal of the architects of Neues Bauen must be to extend the receptive class. If, according to Weber, will for beauty and form could not be taken up by the industrial working class, then the missing aesthetic motivation must be replaced by a pragmatic or functional motivation, in order to implement aesthetic principles by means of such pragmatic arguments. Support from the working classes and the still timid middle classes, who do not feel and therefore can only be convinced by purely rational arguments and not by aesthetic ones, could consequently only be reached by means of those factors, which had an immediate significance in the lives of the people making up these social classes. Hygiene was such a factor. What was termed ‘will for beauty and form’ for the intellectual elite, was therefore hygienically transformed for the middle and working classes, re-packaged and re-dressed to enter their ranks ‘incognito’ as a catchphrase, such as ‘health’, ‘freedom’, ‘light’, ‘brightness’, ‘sun’, ‘cleanliness’, ‘fitness’ and

507 Ibid.
‘unburdening the housewife’: catchphrases, which were already very familiar in these social classes due to extensive health education programmes. Weber’s résumé takes up this idea:

But I am entirely sure that they would feel no pain in missing columns, capitals, cosy pediments and whatever else they have, and that they would greet with lively happiness the fact that these houses unburden their housewives that they are healthy that they have sun, freedom, light and brightness. 508

Aber ich bin ganz sicher, daß sie ohne Schmerz Säulen, Kapitelle, trauliche Giebel und was es da alles gibt, an ihren Häusern vermissen und daß sie es mit lebhafter Freude begrüßen wird, daß diese Häuser ihre Hausfrau entlasten, daß sie gesund sind, daß sie Sonne haben, Freiheit, Licht und Helle.

As early as 1905, Joseph August Lux had shown in Die Moderne Wohnung und ihre Ausstattung, where hygiene, in its function as a pragmatic motivating force, enters this mechanism in order to ultimately enforce aesthetic norms. He writes:

To find confirmation of the new domestic aesthetic in all the details of the living room, is almost unavoidable. The point of departure for this new aesthetic is however that we do away with all the so-called luxury in our houses and return to rectitude and simplicity, if we wish art to begin again at home. 509

„Es ist fast unausweichlich, in allen Einzelheiten des Wohnraumes die neue Wohnungssästhetik zu erhärten. Der Ausgangspunkt dieser neuen Ästhetik aber ist, daß wir allen sogenannten Luxus aus unseren Häusern fortschaffen und zur Aufrichtigkeit und Einfachheit zurückkehren, wenn wir wollen, dass die Kunst wieder im Hause beginne.“

Precisely how to announce the banishment of “so-called luxury” from the house in order to direct the way to a new art of living, only becomes clear a few pages later:

However, since each aesthetic question is essentially a pragmatic one, perhaps this matter can be approached from the hygienic aspect. (...) Such anti-cultural snobbery at the expense of cleanliness and hygiene 508

508 Ibid.
should not be supported in our houses. (...) This feeling for cleanliness and brightness must be reawakened, otherwise there will be no progress.\textsuperscript{510}

Weil aber jede ästhetische Frage im Kern eine praktische ist, so läßt sich dieser Sache vielleicht von der hygienischen Seite beikommen. (...) Einer solchen kulturwidrigen Vornehmtnerei auf Kosten der Reinheit und Hygiene soll in unseren Häusern nicht Vorschub geleistet werden. (...) Diesen Sinn für Reinlichkeit und Helligkeit muß man wiederbeleben, sonst ist nicht vorwärts zu kommen.

In the 20 years that followed, very little about this argumentative mechanism changed. In the same way as Lux had written, it was not the “amalgamation of art with hygiene”\textsuperscript{511} that was being discussed everywhere, but rather about how to lead to art through hygiene. A newspaper article from 1928 testifies to precisely this mechanism. At the very beginning, we read:

Today, the hygienic aspect has taken the foreground. (...) Today, one requires of an ideal home that it be healthy and practical. Hence, it is first necessary to free oneself from sentimental preconceptions and in breaking with old habits not to renounce one’s own personality. Most people have accumulated far too many things in their homes. One has to have courage to throw away all this superfluous stuff, penny bazaar merchandise, knick-knacks, pigs with four-leafed clovers in their mouths, heads of famous men in the guise of inkwells, dust-gathering velvet drapes, paper flowers etc.\textsuperscript{512}


\textsuperscript{510} Ibid., pp. 29-30.

\textsuperscript{511} Heinrich Pudor, “Wohnungskunst und Hygiene”, in: Die Hygiene, vol. 17, 1911/1912, p. 387: “The time has passed, when we didn’t desire to hear anything about an amalgamation of art with hygienic questions. To an increasing extent, hygiene is making its influence felt in all areas of human life. And especially in the decorative arts, this influence is very much justified. Because as with our life, our life tools must follow the laws of hygiene, and thus especially architectural art will doubtless stand in the sign of hygiene in the near future.”.

berühmter Männer als Tintengefäß, staubhaltende Plüschvorhänge, Papierblumen usw. fortzuwerfen.

The author only mentions the real purpose of his article right at the very end in a single sentence, namely to recollect the artistic in the design of domestic living space, in short, the domestic or living aesthetic:

What the modern aspires to, is not an arbitrary emptiness and bleakness, as many of its opponents maintain. It seeks a cleansing from all arbitrary excesses and thus a stronger emphasis on the artistic aspect. Just as intervals in music are significant for individual notes, so in the three-dimensional picture, emptiness is significant for the artistic effect.\(^{513}\)

Was die Moderne anstrebt, ist nicht eine willkürliche Leere und Oedigkeit, wie viele Gegner behaupten. Sie will aber eine Reinigung von allem Überflüssigen, Willkürlichen, dabei stärkeren Betonung der künstlerischen Seite. Genau so wie in der Musik das Intervall von Bedeutung ist für den einzelnen Ton, hat im Raumbild die Leere Bedeutung für die künstlerische Wirkung.

Straight to the point, this was reported to a specialist audience, as were the readers of the official newspaper of the ‘Deutscher Werkbund’, Die Form. There Wilhelm Lotz writes in 1928:

This cleansing process, however late it comes, is very important, for it smoothes out the pathway for a new relationship to beauty and simplicity of form. The moment in time appears to have come, when finally, after a quarter of a century, ‘Werkbund’ ideas are slowly beginning to penetrate the broad mass of product manufacturing.\(^{514}\)

Dieser Reinigungsprozess, wenn er auch etwas spät kommt, ist doch sehr wichtig, weil er den Weg ebnet für ein neues Verhältnis zur Schönheit und zur einfachen Form. Der Zeitpunkt wo endlich nach einem Vierteljahrhundert die Werkbundideen auch langsam in die breite Masse der Warenerzeugung dringen, scheint gekommen zu sein.

The overlap in content between hygiene and objectivity also helped a rhetorical shift in the hygiene theme to take place: from the patient who is infected with tuberculosis

\(^{513}\) Ibid.
to the patient whose aesthetic taste is infected; from the cleaned flat to a cleaned aesthetic; and from the dwelling disease to the disease of the dwelling itself. In this sense, the French doctor Henry Cazalis (who as a poet called himself Lahor) writes in 1902:

Art is as much a necessity as light, air and our daily bread for the people, as it is for us. In our own interest, in the interest of that, which I could call aesthetic hygiene, we should not leave the people to wallow in loathsome ugliness, which, rather than being revolted by it, they actually appear to enjoy. These monstrosities, which disseminate foul odours and an unhealthy atmosphere, are like a seed of infection for taste and art.515

Die Kunst ist aber wie das Licht, die Luft und das tägliche Brot, für das Volk genauso unentbehrlich wie für uns; und in unserem eigenen Interesse, im Interesse dessen, was ich ästhetische Hygiene nennen könnte, dürfen wir das Volk nicht in seinen abscheulichen Häßlichkeiten lassen, an denen es Gefallen zu finden scheint, anstatt sie zu revoltieren. Diese um sich herum Gestank und ungesunde Atmosphäre verbreitenden Abscheulichkeiten sind so etwas wie ein Infektionsherd für Geschmack und Kunst.

A similar approach can be found in Gustav Pazaurek’s remarks on good and bad taste in decorative arts:

One would have to be an incurable optimist to maintain that it is possible to effect a lasting cure of the lack of taste of even a fraction of the population. Moreover, we should already be content and will only achieve this with much effort, if the present situation in general is not only maintained, but the relationship of the healthy to the sick is slowly but continuously improved. Just as the doctor is unable to eradicate diseases from the world, and even if he has managed a fortunate decrease in dangerous epidemics, he is forced to witness the appearance of new seeds of infection and as yet unknown disease pathogens, so good taste is gradually vanquished by insidious and astonishingly tenacious enemies, against which one has to continuously and energetically defend oneself, in order not to suffer the greatest losses of aesthetic values.516

Man müßte ein unverbesserlicher Optimist sein, wollte man es für möglich halten, auch nur einen nennenswerten Teil des Volkes von Geschmacklosigkeiten dauernd heilen zu können. Wir können vielmehr schon zufrieden sein und werden dies nur mit vieler Mühe erreichen, wenn der derzeitige Stand im Allgemeinen nicht nur festgehalten, sondern das Verhältnis der Gesunden zu den Kranken sich langsam, aber stetig verbessert. Ebenso wie der Arzt Krankheiten nicht aus der Welt schaffen kann, ja selbst, wenn er gefährliche Epidemien glücklich niedergedrungen hat, sehen muß, daß neue Seuchenherde, ja früher ganz unbekannte Krankheitserreger auftauchen, so wird auch der gute Geschmack auf Schritt und Tritt von tückischen und erstaunlich lebenszähigen Feinden überfallen, gegen die man sich unausgesetzt energisch wehren muß, um nicht die größten Verluste an ästhetischen Werten zu erleiden.

Another ten years had to pass, before finally, 40 years after the discovery of the invisible disease pathogens, Neues Bauen delivered the formal language that was able to give form to the theoretical concept of hygiene, and in this way also brought a new aesthetic, which was the remedy sorely needed to heal ailing architecture and infected taste. Just as the condition of the desperately sick architecture had become critical, Neues Bauen arrived just in time to save it with the medication of simplification, which would return it to true health, by freeing it from all superfluities.
7. Conclusion

This investigation of the interrelation of Neues Bauen and hygiene, by means of a microscopic view on Neues Bauen, has in effect served to once more reveal an aspect of modern architecture, which, perceived with the naked eye, has been invisible up until today.

Since the tuberculosis bacillus - vanquished by antibiotics following the Second World War - has lost the former terror it invoked, since the last remaining sanatoria were closed in the 1960s or converted back into hotels and since the unreserved euphoria, with which science was still viewed at the beginning of the twentieth century, has been replaced by sobering criticism, the observer, one hundred years after the discovery of the tuberculosis pathogen, is unable to perceive the impact of hygiene on architecture. This discourse, however, has allowed intellectual attention to become once more focussed upon this subject. And thus, this thesis is not to be understood in first place as criticism, but rather as an optical or reading device that, by adding a hygiene lens, will provide today’s observer with an altered view on Neues Bauen.

The marking of the sanatorium as a model for Neues Bauen together with the integration of hygienic criteria originally formulated for hospital and sanatorium architecture into residential architecture of the 1920s, suggest a new interpretation of the history of the architectural modern. In this way, Neues Bauen can be understood as a product of the integration and implementation of hygienic demands, as they were formulated by hygienists at the end of the nineteenth century.

This investigation makes clear that within the process of integrating disease prophylactic factors into the architecture of Neues Bauen, an over-fulfilment of hygienic demands had developed, and hygiene ultimately advanced from being a purely functional element to a formal element. It became crucial to use the
appropriate formal language to consciously communicate not merely cleanliness, but the *impression of cleanliness*, not only the *absence of germs*, but the *presence of hygiene*, and thus, hygiene ultimately became an integral factor of *Neues Bauen* in the sense of a proper *hygiene aesthetic*.

The interrelation of architect and hygienist functioned as a driving force in the development of an aesthetic of hygiene, as in the example of the intensive exchange we have seen between, on the one hand, the medical doctor Friedrich Wolf, and on the other, the architect, Richard Döcker, the Bauhaus artist, Oskar Schlemmer, and the architecture critic, Adolf Behne. The building of a residential house by Richard Döcker for Friedrich Wolf and the presentation of *Neues Bauen* as a prototypically hygienic architectural form in the architecture chapter of Wolf’s medical guide, are paradigms for the manifestation of hygienic-architectural exchange.

Architects, hygienists and doctors alike exploited the overlap of hygienic criteria with the design principles of *Neues Bauen* in their pursuing of goals, which were only indirectly related to hygiene. Out of all the arguments that were being used in favour of *Neues Bauen*, outside architectural circles, the hygienic aspect was the one, which was the easiest to convey, and by using the argument of hygiene, aesthetic principles could be given hygienic legitimacy and be thus enforced. This was especially important in view of the lack of understanding and rejection of *Neues Bauen* on the part of the majority of the population. If the potential ‘style consumers’ of *Neues Bauen* could not be convinced by its aesthetic or by associated concepts such as objectivity and functionalism, then these intellectual concepts had to be replaced with factors that had immediate significance for the majority of people – and hygiene was one of the most important of these factors.

Hygienists in turn found comrades-in-arms in the architects of *Neues Bauen*, who were in the position of giving form to the theoretical concept of hygiene. For the first time since the breakthrough in bacteriology at the end of the nineteenth century, the hygienic style of *Neues Bauen* produced a clear, formal language, which not only entirely fulfilled hygienists’ demands, but also gave them means of visual expression. Moreover, with the visualization of hygiene, a style could be propagated, which could not only be sold as being hygienic and therefore also socially-aware,
advanced and modern, but which promised to bestow *convalescence* upon the crisis-
shaken, diseased people in body, mind and soul of the 1920s. Since recovering health
is always a process of renewal and, according to Bloch, it goes hand in hand with the
removal of the superfluous, i.e. with simplification and reduction, (renewal therefore,
which results from simplification), hygiene was an indispensable symbol of an era
that passionately demanded the *new* and *healthy* on all levels and radically negated
the *old* and *sick*. In other words: hygiene that embodied the process of convalescence
through reduction was the ideal metaphor for a society that above all was pervaded
with a strong desire for renewal.

The common goal of recovering health through simplification and reduction,
conveyed through the *hygienic architectural shell*, made architects and hygienists
become inseparable partners. Man, reduced to his original form and therefore naked,
and the naked skin-and-bones-architecture of *Neues Bauen* (as captured in the picture
of the naked Friedrich Wolf on the terrace of his residential home designed by
Döcker), were understood by both architects and hygienists alike to be elements of
renewal, which were in complete symbiosis with one another, and whose
multiplication would ultimately bring forth a renewed, future society. The crisis-
ridden times would be overcome by the new, strong, hygienic man, moulded by a
hygienic architectural shell, which remains to serve as a constant reminder of
simplicity.

Despite all the euphoria regarding advances in hygiene in the home and the improved
standard of living that this meant for the dweller, the microscopic view only allowed
the architects of *Neues Bauen* a rather limited field of vision and therefore resulted in
a one-sided viewpoint. Of all people, Adolf Behne, one of the most determined
patrons of *Neues Bauen*, was among the first to point this out. As early as the end of
the 1920s, he criticized the fact that the architects of the day were more hygienic than
the hygienists themselves, and that hygienic architecture’s claim to create hygienic
human beings would inevitably lead to a dictatorship where dwelling was concerned.
“Never,” he prophesied as early as 1928, would “bare forms be able to educate
anyone”. In his Dammerstock review that serves as a pre-post modern critique,
Behne intuitively anticipates, in ironic style, the negative consequences of this
The modern housing block (Zeilenbau) wants to solve and heal as much as possible with regard to dwelling and, in so doing, is without a doubt concerned about mankind. But, in reality, it is exactly this, which turns the human being into a concept, a figure. Man has to dwell and to become healthy by means of living, and his precise dwelling regime in all its detail is dictated to him. If one takes the consistent architects, he has to face east when he goes to bed and west while he eats or answers mother’s letters, and the house is in fact organised in such a way so as to prevent him from doing it any other way (...). Here, in Dammerstock, man becomes an abstract being of dwelling, and in the end, with all the well-meant rules of the architects, he may well groan out loud “Help, I must dwell!”.

Der Zeilenbau will möglichst alles von der Wohnung her lösen und heilen, sicherlich im ernsten Bemühen um den Menschen. Aber faktisch wird der Mensch gerade hier zum Begriff, zur Figur. Der Mensch hat zu wohnen und durch das Wohnen gesund zu werden, und die genaue Wohndiät wird ihm bis ins einzelne vorgeschrieben. Er hat, wenigstens bei den konsequenten Architekten, gegen Osten zu Bett zu gehen, gegen Westen zu essen und Mutterns Brief zu beantworten, und die Wohnung wird so organisiert, daß er es faktisch gar nicht anders machen kann. (...) Hier in Dammerstock wird der Mensch zum abstrakten Wohnwesen, und über allen den so gut gemeinten Vorschriften der Architekten mag er am Ende stöhnen: „Hilfe ... ich muß wohnen!"
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Stiftung Bauhaus Dessau, Bereich Sammlung, Dessau
Figures
Wie die Tuberkulose übertragen wird.

Ansteckung durch ausgehustete Tröpfchen.

Ansteckung durch tuberkel-pilzhaltigen Staub.

Ansteckung durch verschmierten Schmutz.

Ansteckung durch ungekochte Milch tuberkulöser Kühe.

Fig. 1: tuberculosis: ways of transmission; Deutsches Hygiene Museum (DHM), 1925
Die ersten Anzeichen der Lungentuberkulose

Mattigkeit, Blässe

Mangelnde Appetit, Abmagerung

Abwechselnd Frost- u. Hitzegefühl, Steigerung der Körpertemperatur

Stathes Schütteln mithin, besonders gegen Morgen

Husten, Stiche in Brust und Rücken

Fig.: first signs of tuberculosis; Deutsches Hygiene Museum Dresden (DHM), 1925
Beim bleichen lichtenwohnnten Stubentodker
scheiden sicb Krankheitserreger viel leichter an
als beim braunengebräubten
Luftgewöhnten Menbchen.

Fig. 3: Lightless stay-at-home; sun tanned healthy person, DHM Dresden, 1925

Abtötung von Bakterien
durch Licht

Fig. 4: Killing of bacteria with light, Deutsches Hygiene-Museum Dresden, 1925
Fig. 5: healthy and unhealthy dwelling, Deutsches Hygiene-Museum Dresden, 1925
Fig. 6: Mortality rate of tuberculosis in Germany

Fig. 7: housing misery in Berlin, Thomas Theodor Heine, *Simplizissimus*, 1912
TUBERKULOSE-ARBEITEN
1890—1909
AUS
DR. TURBANS SANATORIUM DAVOS
BEI ANLASS DES ZWANZIGJÄHRIGEN BE-
STEHENS DER ANSTALT GESAMMELT UND
MIT EINEM VORWORT HERAUSGEGEBEN
VON
DR. K. TURBAN
GROSSH. BAD. GEHEIM.-HOFRAT

VERLAGSANSTALT
BUCHDRUCKEREI DAVOS A.-G., DAVOS-PLATZ
- 1909 -

Fig. 8a: front cover, Karl Turban, 1909
Fig. 8b: tuberculosis sanatorium for England, Karl Turban, 1902, architect Jacques Gros, Zurich

Fig. 8c: tuberculosis sanatorium for England, ground plan of the upper storey, Karl Turban, architect Jacques Gros
Fig. 4. Drehbare Lieghalle mit beweglichen Rückwänden.

Fig. 8d: tuberculosis sanatorium, England, rotating rest hall, Karl Turban, after drawing by Jacques Gros.

Fig. 1 Südwand der Schlafzimmer.

Fig. 9: south wall of the bedrooms, Karl Turban.
Fig. 10: tuberculosis sanatorium for England, sick room, hygienic interior, Karl Turban

Fig. 11: tuberculosis sanatorium, England, hygienic stairway, Karl Turban
Die Anstaltsfürsorge für körperlich, geistig, sittlich und wirtschaftlich Schwache im Deutschen Reiche in Wort und Bild
II. Abteilung

DEUTSCHE LUNGENHEILSTÄTTEN
IN WORT UND BILD

Redigiert von

PROFESSOR DR. NIETNER
IN BERLIN

HALLE a. S. : CARL MARHOLD VERLAGSBUCHHANDELUNG : 1913
Fig. 12b: single sick room
Fig. 12d: forest rest halls

Fig. 12e: forest school

Fig. 12f: bedroom in summer
DAS FREILUFTHAUS

EIN NEUES BAUSYSTEM
FÜR KRANKENANSTALTEN
UND WOHNGEBAUDE

PRÄMIERT MIT DER GOLDENEN
MEDAILLE VOM INTERNATIONALEN
TUBERKULOSEKONGRESS IN
WASHINGTON 1908

VON

DR. MED. D. SARASON
BERLIN

NEBST ERläUTERUNGEN DURCH

H. CHR. NUSSBAUM
PROFESSOR DER HYGIENE
A.D. TECHN. HOCHSCHULE
HANNOVER

HEINRICH BECHER
INGENIEUR IN BERLIN

DR. N. BARDSEWELL
ARZTlicher DIREKTOR DES
KÖNIG EDUARD VIL.-SANATORIUM IN HEILBRONN

MIT 6 TABELN UND 32 FIGUREN IM TEXT

J. F. LEHMANN'S VERLAG, MÜNCHEN
1913

Fig. 13: front cover, Das Freilufthaus, (Open Air House), David Sarason, 1913
III. Allgemeines Freiluft-Krankenhaus

mit 100 Betten. Sehr billiges Projekt. Außerste Raumausnutzung

Querschnitt

3. Etage

2. Etage

Souterrain

1. Etage

Fig. 14a: general open air hospital, David Sarason, 1913
V. Freiluft-Sanatorium

für 72 Betten

- 6 Zimmer à 1 Bett
- 14 Zimmer à 2 Betten
- 2 Zimmer à 3 Betten
- 2 Zimmer à 4 Betten
- 3 Säle à 8 Betten
B. Wohnhäuser

I. Fünfgeschossiges Arbeiter-Wohnhaus
nach dem Freihausystem mit Quergebäude

Wohnungen von 1—3 Zimmern
entworfen von Arch. Gust. Bähr

11.400 cbm groß

1. Etage

3. u. 4. Etage

Parterre-Etage

2. Etage

Fig. 14c: tenement house, David Sarason, 1913
II. Freilufthaus für Kleinwohnungen

3 Wohnungen zu 1 Zimmer, Küche, Bad usw.
3 Wohnungen zu 2 Zimmer, Küche, Bad usw.

Fig. 14d: open air house for small flats, David Sarason, 1913
Schnitt A-B

III. Freilufthaus für Kleinwohnungen

2 Wohnungen zu 2 Zimmer, Küche, Bad usw.
4 Wohnungen zu 1 Zimmer, Küche, Bad usw.

Fig. 14e: open hair house for small flats, David Sarason, 1913
Fig. 15: terraced house with workers' flats, H. Sauvage, C. Sarazin, 1909

Fig. 16: terraced house with lifts, Antonio Sant'Elia, 1914
Fig. 17: Grandhotel Babylon, Adolf Loos, 1923
Fig. 18: group of 20 villas with roof gardens, Adolf Loos, 1923
Fig. 19: front cover, Terrassentyp, R. Döcker, 1929

Fig. 20: Sanatorium Zonnestral, Hilversum, Johannes Duiker, Bernhard Byvoet, 1927
Fig. 21: children's clinic Rittberghaus, Berlin, Otto Bartning

Fig. 22: children’s hospital Harzgerode, Karl Krayl, 1928
Krankenhausanlage als Hochhaus in Amerika.


Fig. 23: high rise hospital in America

Fig. 24a: Volkshistätte Davos, Pfleghard & Haefeli, 1927
Hotel Alpina und Edelweiß in Mürren, Schweiz.

Architekt: Arnold Itten, Thun.
Ansicht vom Tal.
Abbildung aus „Das Werk“, Chell, Füssli, Verlag, Zürich.

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Fig. 36c: Weissenhof estate, house 22, female athlete, wall bars, R. Döcker, 1927

Fig. 37: Weissenhof estate, house 21, view from the garden, Richard Döcker, 1927
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Fig. 42a: Weissenhof estate, house 31/32, terraced tenement block, Peter Behrens, 1927
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Fig. 43: Weissenhof estate, house 16, living with furniture by Marcel Breuer, Walter Gropius, 1927

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Fig. 52: dentist's drill, Peter Behrens for AEG, 1908
DEUTSCHE LINOLEUM-WERKE A.G.

LINOLEUM

der ideale Fußbodenbelag
für Krankenhäuser und Sanatorien

weil
hygienisch einwandfrei, fußwarm
leicht zu reinigen, schalldämpfend
dauerhaft

Seit 60 Jahren praktisch bewährt

Fig. 53: advertisement, linoleum: hygienic floor, 1925
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Fig. 66: Friedrich Wolf, Worpswede, summer 1921
Fig. 71: Wolf as a model, in: Die Natur als Arzt und Helfer

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Fig. 72b: plates in August Froriep, 1913

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Fig. 74: front cover Kunst ist Waffe! (Art is a Weapon!), Friedrich Wolf, 1928
Fig. 75a: book cover of Friedrich Wolf's, Die Natur als Arzt und Helfer (Nature as Doctor and Helper) of 1928

Die Natur als Arzt und Helfer

Das neue naturärztliche Hausbuch

von

Friedrich Wolf

Dr. med.

11. — 20. Tausend

Mit 455 Abbildungen, 8 Farbtafeln, ausführlichem Rezeptanhang und 2 zerlegbaren Modellen

Deutsche Verlags-Anstalt Stuttgart und Berlin

Fig. 75b: first page of Friedrich Wolf's Die Natur als Arzt und Helfer of 1928
Und seine Vorbeugung und Heilung im Anfangsstadium? Man könnte kurz vorhand als Antwort den alten Spruch hier hinzufügen:

,,Die besten Arzte in der Welt, Trost aller Nieyer, aller Häser, Das sind im Bunde treu gejellt: Diät, Bewegung, Luft und Wasser."

So ruft Barker aus zum Kampf gegen die heutige „Mahrungsteu“, gegen die Verfüllung unserer Nahrungsmittel, und fordert eine Ernährung mit viel Fleisch, Obst, Vollkornbrot, Gemüse, Butter, Milch; so fordert er für die fiefende und fahrende Menscheit jeden Morgen eine Stunde kräftigen Frühmarfches; er fordert für den heute „menschentösenden Dickbarm“ einen leichten Stuhlgang, er fordert bei Darmverfimmung ein 1—2tägliches Fassen; er fordert für die abgezogene Haut, un fer wichtigen Atmungs- und Ausscheidungsorgan, morgens ein kurzes kaltes Bad mit durchgreifender Massage. Nichts weiter im Kampf gegen die große geheimnisvolle neue Peit, gegen den „großen Bürger“ Krebs? Nichts weiter!

Das Ei des Kolumbus!

Wenn diese Benanlung gar zu einfaßig, zu phantastisch einfach erscheint, für den sei das kläffische Beispiel der Beriberifrancheit und ihrer erfolgreichen Bekämpfung erzählt. Beriberi ist ein Arvenleiden, eine Nervenentartung mit

1 Der Lontener Chirurg W. Asger William schreibt hierüber: „Lange fortgesetzte Beobachtungen an Krebspatienten im Frühstadium der Krankheit haben mich davon überzeugt, daß die Mehrzahl der Patienten bekanntlich, gegenährte Menschen waren. Die kleinen, blauen, überarbeiteten Frauen von Lancashire und anderen Industriezentren werden selten von Krebs ergriffen. „Dies bestätigt die vorige Anmerkung, daß Krebs und Tuberkulose zwei verschiedene, sich oft anschließende Krankheitsanlagen sind; Krebs mehr die des Wohlsstands, Tuberkulose mehr die der Armut.

Fig. 76a: Die Natur als Arzt und Helfer, Friedrich Wolf, 1928
10 Minuten Morgenübungen.

Wert und Wirkung der Gymnastik auf Lunge, Herz, Stoffwechsel, Haut und Musculatur sehen heute im Zeitalter der Stadien und Sportstätte jedem ja täglich vor Augen.


1. Übungsfolge

I. Aufstehen möglichst bei Tagesanbruch!
II. Kräftiges Dehnen und Erwärmen im Bett; nach dem Aufstehen Dehnübung (Abb. 245) möglichst bis zum Gähnen!
III. ReibMassage = 1 – 2 Minuten (Abbildung 8 und 67).
IV. Feuchte Selbstmassage = 1 Minute (Abb. 229 – 234).

Fig. 76b: Die Natur als Arzt und Helfer, Friedrich Wolf, 1928
Abb. 227. Körpermassage mit feuchtem Handtuch
Treibt das Blut in die Haut, erwärmt stark und erfrischt!

Abb. 228. Abkühlung mit feuchtem Handtuch

rechte Hand über linke Schulter, Streckseite Arm/Hand ... dann Beugeseite Arm/Hand ... ebensolche linke Hand über rechten Arm ... beide Hände wieder auf Brust ... Einatmen! Diese Streck- und Abstützungs :

massage 10–20mal bei guter Atemung! Das treibt, wärmt, behebt die Morgenstarrheit

Fig. 76c: Die Natur als Arzt und Helfer, Friedrich Wolf, 1928
und seinen Kumpf hoch — langsam wieder zurück zur Grundlage! Bald wird das Kind allein seinen Dämmen fassen und sich von selbst ausrichten (Abb. 284).1


Kindergymnastik.
Bewegungsspiele.

Junge Kinder — junge Hunde! Beide wollen nach Herzenslust tollen, sich ihrer Glücks freuen! Jede Freude drückt sich beim Kind noch in Bewegung aus, in einem „Freudenprung“, jedes Erlebnis im Spiel. Drumm zieht einen Kindern seine Kleider an, die „verdorben“ werden können, keine weißen Köpfchen und langen „Matrosenbosen“, steckt sie in Spielhöschen, laßt sie nüchtern springen!


1 Sämtliche Übungen nach Neumann-Neurodes „Säuglingsgymnastik“.

Fig. 78d: Die Natur als Arzt und Helfer, Friedrich Wolf, 1928
Mageres Fleisch und Kief enthalten kein A in nennenswerter Menge, auch nicht das äußere Fettgewebe, der Speck, wohl aber das Organfett von Leber, Niere, Herz.


Das A-Vitamin wird vor allem durch die ultraviolette Strahlen des Lichtes geweckt und erneuert.

Das wasserlösliche Komplettin C.

Schon in ältesten Zeiten wusste man, daß Seefahrer auf weiten Reisen, wo sie auf Pestfleisch und Mehl tofst angewiesen waren, von einer schweren Blutkrankheit, dem Föro- oder Scharbock, befallen wurden. Man wüsste auch, daß Grünkrautsuppe und Kohlbrot das Leiden beheben.

Fig. 76e: Die Natur als Arzt und Helfer, Friedrich Wolf, 1928
Fig. 76f: Die Natur als Arzt und Helfer, Friedrich Wolf, 1928
Erziehung zur Gesundheit

Was sollen wir essen?

Weißt du, was du zum Leben brauchst?

Im ersten Teil des Buches lerntst du die Beispielsätze, den Aufbau und den Leistungsgrad deines Körpers kennen. Wir sagten, ein Fahrer wird sich in seinen Wagen oder auf sein Motorrad legen, ohne über die Steuerung, die Bremsen, die Kupplung und den Motor im Flaren zu sein. Wird er aber auf längere Fahrten losfahren, ohne zu wissen, wieviel Benzin er braucht, wieviel Öl für den reibungslosen Gang, ohne sich zu vergeissern über den Kühlmantelstand und die Fettung der Achsen?

Du kennst zwar keinen Lehn und Behag, keine Einnahmen und Ausgaben, du weißt, was du am Tage ist, vielleicht auch vieler du ist. Weißt du aber, wie wenig du zum Leben brauchst, weißt du, daß dein Nahrungsmittel zufällig dein Nahrungsmittel, deine beste Lebensbedingung ist? Weißt du, daß neun Zehntel aller chronischen Krankheiten, aus dem Bauch kommen", ihren Grund in falscher oder übermäßiger Nahrungsernährung haben? Weißt du, daß unser ganzes wirtschaftliches, unser bäuerliches und öffentliches Leben ein neu Erleuchtet, wenn wir... die Befriedigung unseres Nahrungsbedarfs kennen?

Friedrich Nietzsche schreibt: "Ich glaube, daß die Vegetarier mit ihrer Vorschriften, weniger und einfacher zu essen, mehr zutraut haben als alle unsere Moralpolizes zu fesseln... Es ist in Zweifel, daß die einzigen Erzieher der Menschen auch wieder eine strengere Diät vorschreiben werden." (Bd. X. S. 235.)

Wechsel der deutsche Hilfskreuzer "Kronprinz Wilhelm" kapitulieren mußte!

Fig. 76h: Die Natur als Arzt und Helfer, 1928
Fig. 77: stage setting for Friedrich Wolf's play 'Der arme Konrad', Volksbühne Berlin, Oskar Schlemmer, 1924
Fig. 78a: material of teaching unit 'The human', anatomy, Oskar Schlemmer, 1928

Fig. 78b: material of teaching unit 'The human', anatomy, Oskar Schlemmer, 1928
Fig. 79: Deutsches Hygiene Museum Dresden, Wilhelm Kreis, photograph around 1930

Fig. 80a: poster, Franz von Stuck, 1911
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Fig. 81b: Oskar Schlemmer, 1928

Fig. 81a: Oskar Schlemmer, 1928

Fig. 82: Friedrich Wolf, colour spheres, 1928
Fig. 83: bedroom, Bundesschule ADGB, Bernau, Hannes Meyer, Hans Wittwer, 1928-1929

Fig. 84a: portrait of Hannes Meyer. 1924
Fig. 84b: Hannes Meyer exercising

Fig. 84c: high jumper in front of the Preller house, Bauhaus Dessau, 1930
Fig. 84d: female students exercising on the roof of the Preller house, Bauhaus Dessau, 1930

Fig. 84e: female students exercising on the roof of the Preller house, Bauhaus Dessau, 1930
Fig. 84f: Bauhaus teachers and students sunbathing along the River Elbe, around 1927.
Fig. 85a: Interieur Co-op, Hannes Meyer, 1926

Fig. 85b: comparison from Adolf Behne, Eine Stunde Architektur, 1928
Fig. 85c: Erwin Piscator's flat in Berlin, Marcel Breuer, 1926
Fig. 85d: boxing in the hanging gardens, sketch, Le Corbusier, 1928

Fig. 85e: Le Corbusier boxing with Pierre Jeanneret
Fig. 86a: Rudolf Neubert, portrait

Fig. 86b: Rudolf Neubert with family

Fig. 86c: Neubert, baby gymnastics

Fig. 86d: Neubert teaching anatomy

Fig. 87: front cover, Rudolf Neubert, 1925
Frische Luft vertreibt den Tod!

Kult-Uberexposition von Dorn-Rohren-Leberflöhe!

Zimmerschmutz aus einer Dielenritze.
Fig. 89: Bruchfeldstraße estate, Frankfurt, Ernst May, 1925

Fig. 90: Frankfurt kitchen, Greta Schütte-Lihotzky, 1926
Fig. 91a: front page, L. Migge, 1926

Fig. 91b: illustration of the new Frugès quarter in Bordeaux by Le Corbusier,
in: Leberecht Migge, Deutsche Binnenkolonisation, 1926
Unsere Wohnungs-
Untersuchungen
in den Jahren
1919-1920

Im Auftrage des Vorstandes
der Allgemeinen Ortskrankenkasse
der Stadt Berlin
Bearbeitet von
Albert Kohn

Berlin 1922

Verlag der Allgemeinen Ortskrankenkasse der Stadt Berlin
### Aufenthaltsräume in ihrer hygienischen Beschaffenheit nach Licht, Lüftung und Feuchtigkeit. 1919.

#### Vorderhaus.

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<tr>
<th>Familie</th>
<th>Beschaffenheit der Zimmer</th>
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Bei Rott** hießen wir über den Einfluss der leuchten und Elsdosen Wohnung auf den Säugling.

**Wenn man nun die drei Tatsachen zusammenfaßt, die Speisung der Sterblichkeit in den Wintermonaten die Hauptsache nach der Verhältnisse, die großen Ungleichheiten der Sterblichkeit im Westen und Südosten Europas, in denen stehen die Hygiene der Heizung und Lüftung in den Städten und Vororten, dann ist, während der letzten die oben wiedergegebenen Meinungen von Preußer gibt, und man mich schlecht, daß die bekannten Wohnungswesen diejenigen Kanons der Große, die in mancher, unfruchtbarer Wirkung auf die heutigen und Verlauf der Krankenwöhren im Säuglingsalter, so müssen, ob sie nun


Fig. 92b: Statistical study of housing hygiene in 1919 and 1920, Albert Kohn, 1922
Es genügt nicht, der Mutter von sechs Kindern zu sagen: Abtreiben ist unmoralisch und gefährlich verbietet; und sie in ihre menschenwürdige Lode von Kellerwohnung zurückzuschicken, weil sie an der allgemeinen Wohnungsnot ja doch nichts ändern lasse.

Wie helfen alle Verträge und Verflechte zur Bekämpfung der Unbeständigkeit, wenn die Geschlechterübereinkunft durch das enge Zusammenleben, durch das zwangsmäßige Zusammenleben beider Geschlechter zu früh gewirkt wird? Warum bilden wir das Geschlechtsverhütung? Dann werde

Fig. 93: breeding grounds of tuberculosis, Friedrich Wolf, Die Natur als Arzt und Helfer, 1928
Fig. 94: housing misery, Friedrich Wolf, *Die Natur als Arzt und Helfer*, 1928

Abb. 163: Hautläsionen der Rachitis und Tuberkulose. Berlin, Strahlensieder Straße

„ Zimmer und Küche für 9 Menschen; 3 Frauen und 6 Kinder.“


Wie ändern?

**Innere Kolonialität**

Die Wohnschäden, die Wohnlächer sind eine der Hauptursachen der großen Volksstunden und der festlichen Entartenungen.


247
Abb. 166/167. Die typischen „Höfe“ der Mietshäuser


Selbst Vater Damaskeins stand bei seiner äußerst gemäßigen Einstellung keinen anderen Ausweg mehr in dieser Lebenskrise unseres Volkes als den: den Boden und seine Schätze unter die Kontrolle der Gemeinschaft zu stellen, die kulturwürdigen Umländer zu enteignen und in die „Öffentliche Hand“ überzuführen. Dies selbstverständlichsten Forderungen der Bodenreform wurden jedoch an manchen Stellen wie ein Tritt ins Wespennest. Der Landrat Graf von Wissel hat sie glatt als „Dickicht“ bezeichnet, als „nasten Haub“. Ihm hat der Geheimer Justizrat Professor Dr. Ermann, Münster, in der „Östdeutschen Bodenreformwoche“ vom

Fig. 95: typical tenement block courtyards, Friedrich Wolf, Die Natur als Arzt und Heiler . 1928
"Man kann mit einer Wohnung / einen Menschen / genau so gut / töten, wie mit / einer Axt!" 

H. Pille.
Land, das heißt nur 2,5 % der Gesamtfläche! Die Ausnutzung des landwirtschaftlichen Bodens würde durch intensivere Gartenwirtschaft hierbei noch verbessert. Also selbst im Industriegebiet ist ein Eigenheim möglich!\(^1\)


\(^1\) „Bebeneform“ 1924, Heft 13.

Fig. 97: block of flats by Ludwig Mies van der Rohe, Weissenhof estate 1927, in: Friedrich Wolf, *Die Natur als Arzt und Helfer*, 1928
Die Gesellschaft, schon vor dem Kriege die Schöpferin bekannter Erscheinungen in Hampstead und Regent's Park, hat das fast unlösbare Problem gelöst, in der Welwyn Garden City eine Gartensiedlung zu schaffen, die, für Arbeiter und bürgerschaftliche Klassen bestimmt, ein harmonisches und schönes Ganze darstellt. Die Gartensiedlung, zur Zeit von fünfzehn tausend Menschen bewohnt (im Jahr 1921: 328 Straßen), bietet ihrer physischen, wirtschaftlichen und verwaltungstechnischen Struktur nach nicht nur für England, sondern für alle Industriestaaten überhaupt einen neuen Typus. Welwyn zeigt, was eine gesunde Stadtviertel ist!

Abb. 171. Niersand von heute. Ein Lichtsäulen, keine Dunkelflächen!


So wird ein gesundes billiges Wohnen und zugleich ein schnelles Erreichen der Arbeitsstelle erreicht. Heute müssen oft noch die Arbeiter, und gerade in Kleinstädten bei schlechter Bahnverbindung, Wege von 1—2 Stunden zu ihrer Arbeitsstelle machen; sie verlieren also täglich für die ermunternden Hin- und Rückwege 3—4 Stunden! Was das für einen Arbeiter täglich bedeutet, veranschaulicht die Abb. 169 auf Seite 251!


Fig. 98: tenement block, Stuttgart by Richard Döcker, 1921, in: Friedrich Wolf, Die Natur als Arzt und Helfer, 1928
Wie sollen wir bauen?
Hochbau oder Flachbau?

Die Frage lässt sich nicht schematisieren. In der „City“, im Stadtkern, werden von selbst unausgesetzt immer mehr „Türmhäuser“, Wolkenkräger, Büro- und Geschäftshäuser entstehen und aus dem gleichen Grunde (dem hohen Bodenwert) die Wohnhäuser verschwinden! Nein, gefundene ist der Flachbau, das Ein-

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Fig. 100: top: tenement blocks, bottom: horse shoe estate by Bruno Taut, Friedrich Wolf, Die Natur als Arzt und Helfer, 1928
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KAMPF gegen die WOHNUNGSNOT

Ermöglichung von Friedensmieten bei vernünftigem Bauen!

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erweiterten Zentrum der Stadt. Die Wohnungen und Räume werden in absehbarer Zeit von Geschäfts- und Bureaubauten verdrängt, die

Fig. 110b: Weissenhof estate, block of flats by L. Mies van der Rohe 1927; Friedrich Wolf, Die Natur als Arzt und Helfer, 1928

Fig. 111b: piece of woven material, Friedrich Wolf, Die Natur als Arzt und Helfer, 1928
aufhalten. Unter Schuhekleidung eines Schuhs ist kaum dehnt, haben z. Schuhen, aus der die Falten her, eines Stock und der Hals sich ein, die Schnürung durch den Stiefel und der Bretz geschoben ist ein Wunderwerk! Es beken

cuff dehnt die Beine gerader durch den Stiefel und der Stock sich in die Hosen. Das Schmuckstück ist die helle Neben der Dupe, die Stiefelbahn! (in viele Jahren besteht es auch noch historische Reliquie!) Sie bestanden das natürliche Gang und den natürlichen Gefühlsdampf von Stoff und Druck und vorzügliche Qualität mit werfenden Größen und die Hals. Eine der Mutter


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