

RAUMGESTALTUNG

The land issue.
Theories and models of housing
Forschungsfeld
SS 2020

Rheinisch-Westfälische Technische Hochschule Aachen
Fakultät für Architektur

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Figure front page:

Bernoulli-Häuser, Zurich, Switzerland

Architect: Hans Bernoulli

Redrawing: F.Kramer, 2019

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Forschungsfeld, 6CP (Prüfungsordnung M.Sc.2019)
Forschungsfeld 1/2, 3+3CP (Prüfungsordnung M.Sc.2016)

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The land issue

Hans Bernoulli

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*„Bodenparzellierung ist Sache der Spekulation.
Die Bauweise, die Hausform und die Wohnungsproduktion werden
durch die Spekulation bestimmt.“*

Eberstadt, Rudolf, *Die Spekulation im neuzeitlichen Städtebau*, Reprint of the publication from 1907, London, 2018, p. 1,

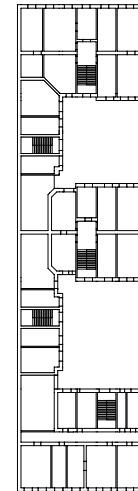


Fig. above: a floor plan of a typical Mietskasernenblock, Berlin; Rudolf Eberstadt criticizes the living conditions as too dense and unhuman, the typology of the Mietskasernenblock represents the outcome of speculation phenomena and the Prussian legislations; Redrawing after N. Fanelsa, *Das europäische Wohnhaus*; F. Kramer; 2019

I. Research seminar

The land issue. Theories and models of housing

Preface

The idea of the research seminar „*The land issue. Theories and models of housing*“ arose from the scientific question of my ongoing PhD thesis, which deals with the land issue as a controversial debate in architecture and investigates under which conditions the plotification of land influenced housing during the first half of the 20th century.

Recently, the land issue returned to the focus of public attention, due to the re-emerging debate on land and rental market prices in Germany and other European countries. However, the land issue exists as a (political) topic in architecture since common land disappeared and land became a product.

The debate reached a climax in the late 19th century due to the ongoing industrialisation and the oppressive living conditions resulting from the densification process of big cities like Berlin or Frankfurt. One of the reactions was the *Garden City Movement* in England and Germany, which has been expressed in numerous writings about the land issue and can be understood as a counter position to the existing.

My research examines selected publications from the German-speaking countries, written at the beginning of the 20th century. One of the protagonists is the economist and urban planner Rudolf Eberstadt, to which the Swiss architect Hans Bernoulli refers to in his publications on the land issue. In this context Hans Bernoulli can be seen as a key figure, who acted as a political architect, as described in the latest publication by Sylvia Claus and Lukas Zurfluh. At the same time, especially after coming back to Switzerland, he designed various housing projects (Baugenossenschaftliche Siedlungen) against speculation phenomena and densification processes. His way of thinking architecture makes reference to Camillo Sitte and his book *Der Städtebau nach seinen künstlerischen Grundsätzen* from 1889.

The PhD thesis takes the relationship between Sitte and Bernoulli as a framework and understands Sitte's writings as the starting point of a new discussion on the land issue, exploring in how far Hans Bernoulli's publication from 1946 (*Die Stadt und ihr Boden*) can be seen as an end point of this debate.

In three chapters the thesis clarifies the cultural-historical background of the land issue, contextualises the land issue in urban planning the-

ories of the first half of the 20th century and shows by examining built examples how the influence of the land issue became visible in the selected housing projects. This third and last chapter of the PhD thesis is the initial point for the research seminar with the aim to critically examine the role of the selected housing developments of the 1920s. The aim is to describe and analyse the built phenomenon in its context, so that conclusions can be drawn for future urban developments, addressing new questions of housing.

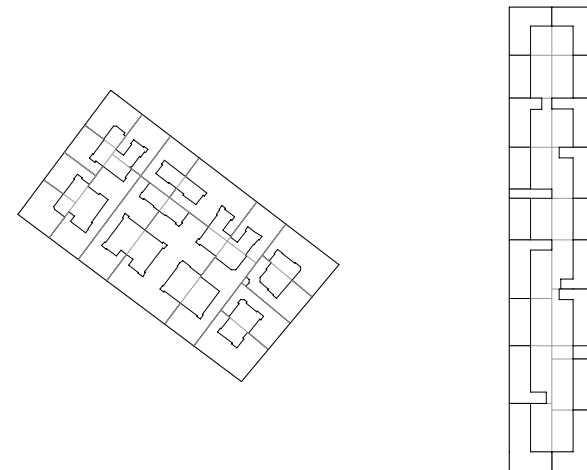


Fig left: Mietskasernen, present condition of an urban block in Berlin Prenzlauer Berg, Redrawing: F.Kramer, 2019, Source: Geodaten Berlin; Fig. right: urban block as designed and proposed by Rudolf Eberstadt, as a pre-study for the Groß-Berlin Competition, Redrawing: F.Kramer, 2020

Aldo Rossi: L'architettura della città, 1966

„Le case d'abitazione e l'area su cui insistono diventano nel loro fluire i segni di questa vita quotidiana. Guardate le sezioni orizzontali della città che ci offrono gli archeologi; esse sono come una trama primordiale e eterna del vivere; come una schema immutabile. Chi ricorda la città d'Europa dopo i bombardamenti dell'ultima guerra ha di fronte a sé l'immagine de quelle case sventrate dove tra le macerie rimanevano ferme le sezioni dei locali familiari con i colori sbiaditi delle tappezzerie, i lavandini sospesi nel vuoto, il groviglio delle canne, la disfatta intimità dei luoghi. E sempre, stranamente invecchiate per noi stessi, le case dell'infanzia nel fluire della città. Così l'immagine, incisioni e fotografie, degli sventramenti, ci offrono questa visione; distruzioni e sventramenti, espropriazioni e bruschi cambiamenti nell'uso del suolo così come speculazione e obsolescenza, sono tra i mezzi più conosciuti della dinamica urbana; cercherò per questo annalzarli compiutamente.“

from the introduction of Aldo Rossi's L'Architettura della Città, 1966 (Reprint, Milan, 2018)

In his book *L'Architettura della Città* from 1966 Aldo Rossi refers to the Swiss architect Hans Bernoulli. He doubts that Bernoulli's idea to bring back the land into the public authorities would lead to a better architecture or create specific typologies. Rossi agrees with Bernoulli that the influence of speculation (economic forces) on city building has not yet been fully addressed but is important fact that leads to a spatial change in urban planning.

Regarding the land issue, he asks:

„Abbiamo anche visto come questi piani, dal punto di vista costituivo si pongano alla pari di qualsiasi altro fatto urbano determinato; in questo caso essi costituiscono un inizio. Tra le forze che presiedono in massima parte ai questi piani vi sono le forze di natura economica ed è interessante studiare, dato che la possibilità di questo studio ci è offerta da un ampio materiale, come queste forze si applichino. Questa applicazione si manifesta nella città capitalistica attraverso la speculazione; questa rappresenta una parte del meccanismo, dei modi, attraverso cui le città crescono.“

cf. Aldo Rossi L'Architettura della Città, 1966, p. 179 (Reprint, Milan, 2018)

Hans Bernoulli: Die Stadt und ihr Boden, 1946

„Mit andern Worten: All den schönen und guten Dingen, die sich aus der Untersuchung alter Städte ergeben, all den großartigen

Entwürfen zu neuen, unerhörten Schöpfungen fehlt vorerst einmal die Hauptsache, der Grund und Boden, auf dem sie entstehen können und sich danach frei entwickeln sollen. Der gewissenhafte junge Mensch stellt die Bücher, die er so sorgfältig durchgelesen, wieder in ihre Reihen. Er ist zweifelnd geworden und unsicher: Mit dem Grund und Boden scheint da etwas nicht in Ordnung zu sein,...“

from the introduction of Hans Bernoulli's Die Stadt und Ihr Boden, Zürich, 1946

The Swiss architect and urban planner Hans Bernoulli publishes in 1946 the book *Die Stadt und ihr Boden*. In the introduction he refers to the important writings of Le Corbusier (*Städtebau*), Raymond Unwin (*Die Grundlagen des Städtebaus*) and Cornelius Gurlitt (*Handbuch des Städtebau*). But, according to Bernoulli, the essential question has not been bespoken in one of the publications: the land on which all the beautiful and good designs can become an architectural being. The young man who reads the books has become doubtful: „there must be something wrong with the land“, he writes.

To follow the property question, Hans Bernoulli publishes numerous articles and writings regarding the land issue, with the aim to claim for the return of the land to the public authorities. Only this procedure, he is convinced, would lead to a beautiful and good architecture. Whoever writes about *Stadtbaukunst* ignores one question, the prerequisite of all work, the land property, he says. Bernoulli follows this topic under the pressure of the seriousness of the situation, (Bernoulli means the reconstruction of the cities after WWII) and therefore his book can be understood as a research about the land issue by analysing historical, political and formal conditions in landscapes and cities. According to Bernoulli, the property question is the essential subject for understanding transformation processes in urban planning.

The origin of his position arose as a counterreaction to industrialisation processes and the spatial effects of the city expansions in Paris, London, Barcelona and Berlin. He criticises the housing production during that time as speculation-friendly and the living conditions as too dense and unhuman. His book can be therefore described as a polemic against speculation phenomenons and as a claim for a change in urban planning.

References: The Garden City Movement

One reference for Bernoulli's ideal is Raymond Unwin, his projects and the Garden City Movement in England (1898) and Germany

(1902). The influence of the Garden City Movement is obvious in Bernoulli's built work. As a spatial composition his realised housing projects in Switzerland reveal a different architectural position which further develops the idea of the Garden City Movement. Bernoulli designed low-rise and dense housing quarters for several Swiss Housing Cooperatives (*Baugenossenschaften*) with the aim to avoid speculation phenomenon. The influence of Raymond Unwin relates as well to formal questions. One of the typological examples is the applied idea of a living courtyard (*Wohnhof*) that has been finally realised in his project at Hardtturmstrasse in Zürich (1923-1930) and refers directly to Unwin's studies of Garden City Letchworth.

References: Rudolf Eberstadt

To understand the origin of Hans Bernoulli's ideas and ideals, the work of Rudolf Eberstadt seems to be an essential one. As part of the introduction of *Die Spekulation im neuzeitlichen Städtebau* from 1907, with the title *Das Spekulationsproblem*, the main point of interest is mentioned: the economic growth from the end of the 19th century onwards and the associated densification processes of the cities. According to Eberstadt, these conditions prepared the road for speculation. Furthermore, he mentions another topic: the relationship between construction, form, housing production and speculation.

„Bodenparzellierung ist Sache der Spekulation. Die Bauweise, die Hausform und die Wohnungsproduktion werden durch die Spekulation bestimmt.“

cf. Eberstadt, Rudolf, *Die Spekulation im neuzeitlichen Städtebau*, Reprint of the publication from 1907, London, 2018, p. 1,

Eberstadt states, that he will concentrate on the topic of land speculation. In accordance with the turn of speculation-theory in the outgoing 19th century he sees production and speculation as two opposite factors. Therefore, he analyses speculation as an independent factor.

The very few images used by Eberstadt to underline his examinations are floor plans of Berlin's well known typology of the *Mietskaserne* and a housing type which can be found in the industrial cities in the Ruhr Area. He evaluates them as good working class houses, which have their origin in the medieval three-window-house typology (*Dreifensterhaus*).

References: Camillo Sitte

Hans Bernoulli's formal position arose at the beginning of his education as an architect in an environment of teachers, who referred to Camillo Sitte's artistic principles in urban planning at southern German Universities (TU München/TU Darmstadt), such as Theodor Fischer, Friedrich Pützer and others. The publication *Der Städtebau nach seinen künstlerischen Grundsätzen* from 1889 has been a key-literature for Bernoulli's teachers regarding the meaning of public spaces and their composition. An underestimated part of the book deals with the controversial debate in urban planning on infrastructure and hygienic conditions. Sitte speaks about the important role of a good plotification for urban planning:

„Damit ist auch das richtige getroffen, denn in technischer Beziehung wurde tatsächlich viel, in künstlerischer aber fast nichts geleistet und stehen die großartigsten neuen Monumentalbauten meist ungeschickten Platzformationen und Parzellierungen der Nachbarschaft gegenüber.“

cf. Sitte, Camillo, *Der Städtebau nach seinen künstlerischen Grundsätzen*, Wien, 1909

To give an idea about a contraposition to the existing, he further analyses different situations like squares and streets to explore the conditions that led to these beautiful spaces. The publication can be understood therefore as an archive and handbook of beautiful spaces.

„Die hohen Preise der Bauplätze veranlassen ferner noch deren möglichste Ausnützung, weshalb neuerdings eine Menge wirkungsvoller Motive in Wegfall kommen und die Verbauung jeder Parzelle immer wieder dem Typus des modernen Bauwürfels entgegenstrebt.“

cf. Sitte, Camillo, *Der Städtebau nach seinen künstlerischen Grundsätzen*, Wien, 1909

Sitte's publication from 1889 can be seen as the starting point of a controversial discussion about the land issue. Hans Bernoulli's publication can be understood somehow as the end of a discussion by pointing on the ambiguous relation of the land issue and compository questions in architecture and a problem that has not been solved, yet.

Die Bodenfrage

The land issue discusses the accessibility of land and the relationship of land, ownership and capital. It includes the transformation processes from agricultural land to buildable land, as well as mechanisms related to ownership and land policy. The land issue describes the formal outcome of the transformation processes in landscapes and cities.

As a consequence of the industrialisation in the second half of the 19th century, land became a product. The increase of inhabitants in the big cities and the city extensions of Paris, London, Barcelona and Berlin, provoked the discussion about the availability and the value of the land. An outcome of the relationship between land price and housing became visible by the phenomenon of the Mietskaserne.

The contemporary debate about the land issue focusses on the political aspect by criticizing the increase of rental prices and the impact of globalisation processes on local housing markets.

Apart from historical and political aspects no research about the relationship between the land issue and (housing) and typologies has been developed, yet. Going back to the theoretical discussion of the positions of Sitte, Eberstadt and Bernoulli, the seminar's aim is to follow these theories and to close the research gap regarding the impact of the land issue on formal questions in urban planning.

Research seminar

By a precise analysis of the different theories, the research seminar *The land issue. Theories and models of housing* will examine the built work of selected architects and urban planners with the aim to create a catalogue of various housing projects (Siedlungen) and to explore the land issue's influence on plotification layouts and spatial composition.

The seminar's argumentation follows Bernoulli's thesis and tries to evaluate in which way the relationship between the land issue, the plot and the spatial composition can be described. Therefore, the seminar discusses on the one hand the theoretical debate of the land issue during the first half of the 20th century and on the other hand its impact on the pre-selected cases.

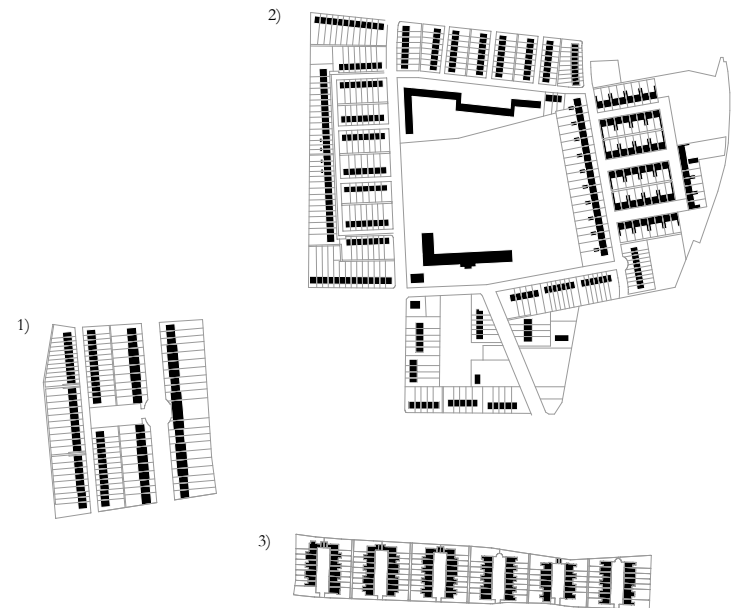


Fig. above: 3 Projects by Hans Bernoulli: 1) Im langen Lohn, Basel; 2) Hirtzbrunnenquartier, Basel; 3) Bernoulli Häuser, Hardtturmstrasse, Zürich, Redrawing by F.Kramer,2019

II. Case studies: Siedlungen

a) *Siedlung Britz*, Berlin, Bruno Taut, Martin Wagner, Leberecht Migge, 1925-33; b) *Siedlung Onkel Toms Hütte*, Berlin, Bruno Taut/Hugo Häring/Otto Rudolf Salvisberg, 1926-28; c) *Siedlung Westhausen*, Frankfurt, Ernst May, Ferdinand Kramer, 1925-30; d) *Siedlung Römerstadt*, Frankfurt, Ernst May, 1925-30

The pre-selected case studies have been designed and built from the 1920's to the 1930's in Germany. During this period - from the end of *Kaiserreich* to *Weimarer Republik* - mass unemployment was one of the main problems as well as the housing shortage that lasted until the more stable period of the *Weimarer Republik* began in 1924. As described in the article written by Steffen Krämer the impact of the first world war and the rationalisation of building materials was still visible. From 1924 onwards, with the stabilisation of the economy and the introduction of the *Hauszinssteuer* building activities reinitiated.

cf. Krämer, Steffen, *Das Münchner Wohnungsbauprogramm von 1928-1930* in *Schriftenreihe der Winkelmann Akademie für Kunstgeschichte*, München, 2013

One of the projects that has been built during the early period is the project *Alte Heide* in Munich designed by Theodor Fischer. The project has been realised by a „non-profit“ housing company, supported by different other housing companies and can therefore be understood as a housing project for the working class in an early form of a companies housing project (*Werkwohnungsbau*).

The project *Siedlung Alte Heide* by Theodor Fischer, can be seen as the initial point of the collection of case-studies and can be described as the first slab building (*Zeilenbau*) of that time. In the following years this type hasn't always been the preferred one, as for instance the settlements of *Das neue Frankfurt* express a various range of different spatial composition. Therefore the projects *Das neue Frankfurt* represent a spatial experiment of housing of the 1920's.

From the second half of the 1920's onwards, different housing programmes have been initiated by the local city administrations, e.g in Frankfurt, Berlin and Munich. The research seminar will focus on Frankfurt and Berlin and will examine the impact of the mentioned representative projects during that period until today.

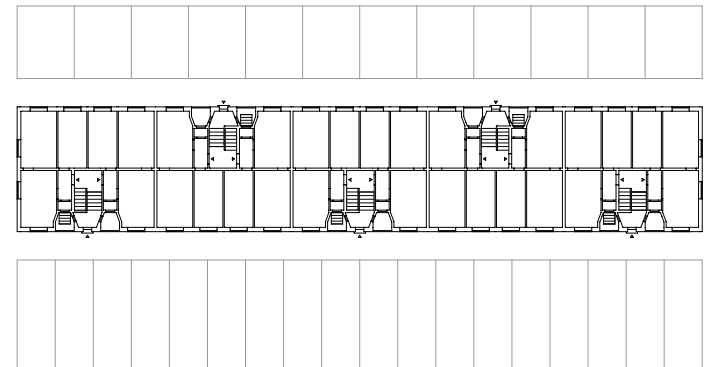


Fig.: Theodor Fischer, *Siedlung Alte Heide*, München, 1918-1927; Redrawing:F.Kramer, 2020; floor plan with plots used as a kitchen garden;

III. Ambitions and output

The research seminar's aim is to explore the relationship between the land issue and housing. How is the influence of the land issue represented in the selected projects? Which idea/imagination of city and its spaces has been developed under the impact of the land issue? How can these processes be described and represented?

An important aspect will be to analyse the spatial qualities of the case studies by the precise analysis and review of the literature and existing plans. The precise description through words and drawings will be part of the seminar.

Part I - Theories

The first part is dedicated to the theoretical and historical background of the projects and the architects. The task is to write a short article on a self-chosen topic, reflecting the significant aspects of the architect's work and discussing them in their cultural-historical context.

The length of the article should not exceed 3500 words and should not be less than 2500 words (including footnotes and quotations). In addition, an abstract of not more than 350 words should be added. The formal conditions, for example font sizes, quotation rules and the font will be given in a template. The article should be written in English (or in German). The work on the article shall be done as a team work of two persons.

The question of the article should/can be dedicated to the following key words: *The land issue - property questions - standardisation and building methods - typological questions - administration backgrounds - spatial composition;*

The article should/can be furthermore structured according to the following aspects or should contain them:

Introduction - biographical notes on the author - historical background - description of the project (taking into account the chosen topic(s)) - conclusion/comment;

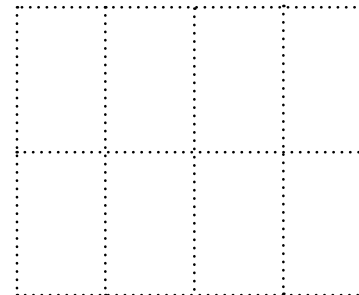
The first part of the research seminar corresponds to the procedure of a Call for Paper typically published by scientific journals or magazines. The different steps of the production process of the article will be discussed in group meetings via Skype or Zoom. We will follow the same procedure for part two.

Part II - Models

The task of part two is to create precise drawings of the projects in different scales:

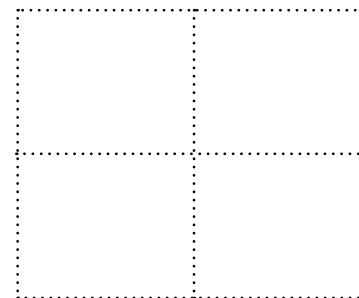
- 1:66 for a *significant detail* of the project;
- 1:333 for the *floor plans, views and sections*;
- 1:2500 for the *figure ground plan; plotification plan and site plan*;
- *Isometric view*; showing the different space building elements
- *Rot-Blau Plan*;

The aim of Part two is to reproduce a realistic, but abstract image of the projects on the basis of the existing literature and plans. You should follow the given drawing template and be precise about the relevant details of the projects, according to the scale. The Isometric view should represent the whole area of the project and should include the plots and space-building elements, such as walls or niches. The significant detail should concentrate on one of the row houses or on one apartment section and include the connected public pathways, as well as the private gardens and common spaces.



**Part I
Articles**

**Abstract: 350 words max.
Full Paper: 3500 words max.**



**Part II
4 projects - drawings**

**1:66, detail
1:333, plans
1:2500
Isometric view
Rot-Blau Plan**

IV. Meetings

Date and time	Place	Topic	Date and time	Place	Topic
Part I - Theories 3CP*			Part II - Models 3CP		
09.04.20 [Thu] 14:00-16:00	Zoom Meeting I	Round Table; Introductory talk: <i>Hans Bernoulli and the land issue</i> ; Methodological introduction;	28.05.20 [Thu] 14:00-16:00	Zoom Meeting I	Introductory talk: <i>Redrawing projects</i> ; Methodology, drawings and organisation;
16.04.20 [Thu] 14:00-16:00	Zoom Meeting II	<i>Group discussions</i> on the literature; <i>Proposal of keywords and a topic</i> ;	04.06.20 [Thu] 14:00-16:00	Zoom Meeting II	<i>Group discussions</i> on the drawings; 1:2500/1:333 <i>Proposal of the selected drawings</i> ;
23.04.20 [Thu] 14:00-16:00	Zoom Meeting III	<i>Group discussions</i> on the literature/article; <i>Proposal of the abstract</i> 5 min. presentations by groups	12.06.20 [Thu] 14:00-16:00	Zoom Meeting III	<i>Group discussions</i> on the drawings; 1:2500/1:333 <i>Proposal of the selected drawings</i> ; <i>5 min. presentations</i>
30.04.20 [Thu] 14:00-16:00	Zoom Meeting IV	<i>Working group discussions</i> on the article; <i>Proposal of the paper, 1000 words</i>	18.06.20 [Thu] 14:00-16:00	Zoom Meeting IV	<i>Group discussions</i> on the drawings; 1:2500/1:333 <i>Proposal of the selected isometric view</i> ; <i>5 min. presentations</i>
07.05.20 [Thu] 14:00-16:00	Zoom Meeting V	<i>Group discussions</i> on the article; <i>Proposal of the paper, 2000 words</i> ; 5 min. presentations by groups	25.06.20 [Thu] 14:00-16:00	Zoom Meeting V	<i>Group discussions</i> on the drawings; all scales <i>Proposal of the selected detail in 1:66</i> <i>5 min. presentations</i>
14.05.20 [Thu] 14:00-16:00	Zoom Meeting VI	<i>Working group discussions</i> on the article; <i>Proposal of the final paper, max. 3500 words</i>	02.07.20 [Thu] 14:00-16:00	Zoom Meeting VI	<i>Group discussions</i> on the drawings; all scales <i>Presentation of all drawings</i> ; <i>5 min. presentations</i>
22.05.20 [Fri] 14:00-16:00	Zoom Meeting VII	<i>Critic I</i> <i>Presentation of the full paper</i> ; <i>10 min. presentations by groups</i>	09.07.20 [Thu] 14:00-16:00	Zoom Meeting VII	<i>Group discussions</i> on the drawings; <i>Upload/Print of the final drawings</i>
			15.07.20 [Wed] 16:00-18:00	Zoom Meeting VIII R209	<i>Final critics</i> Presentation of part I+II

* notes on the „Workload“:
Part 1 = 3CP (3x30hrs) = 90 hrs
Part 2 = 3CP (3x30hrs) = 90 hrs

Contact details: fkrameraachen [Skype]; fkramer@raum.arch.rwth-aachen.de [Zoom]

V. Appendix
Hans Bernoulli

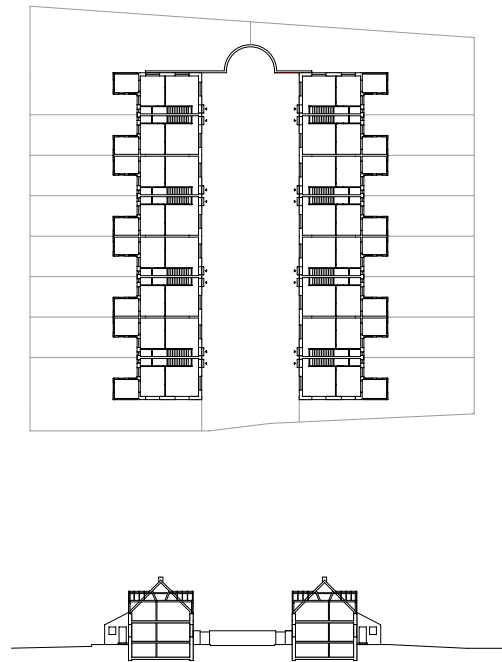


Fig.: Hans Bernoulli, project Im Vogelsang, Basel, Picture from 2019 by F.Kramer/P. Schneider [p.18]; Hans Bernoulli, Bernoulli Häuser, Hardtturmstraße, Zurich, 1923-1930; Redrawing, F.Kramer, 2019 [p.19]

Case studies - plans

Berliner Siedlungen

a) *Siedlung Britz*, Berlin, Bruno Taut, Martin Wagner, Leberecht Migge, 1925-33; b) *Siedlung Onkel Toms Hütte*, Berlin, Bruno Taut/Hugo Häring/Otto Rudolf Salvisberg, 1926-28;

Das neue Frankfurt

c) *Siedlung Westhausen*, Frankfurt, Ernst May, Ferdinand Kramer, 1925-30; d) *Siedlung Römerstadt*, Frankfurt, Ernst May, 1925-30

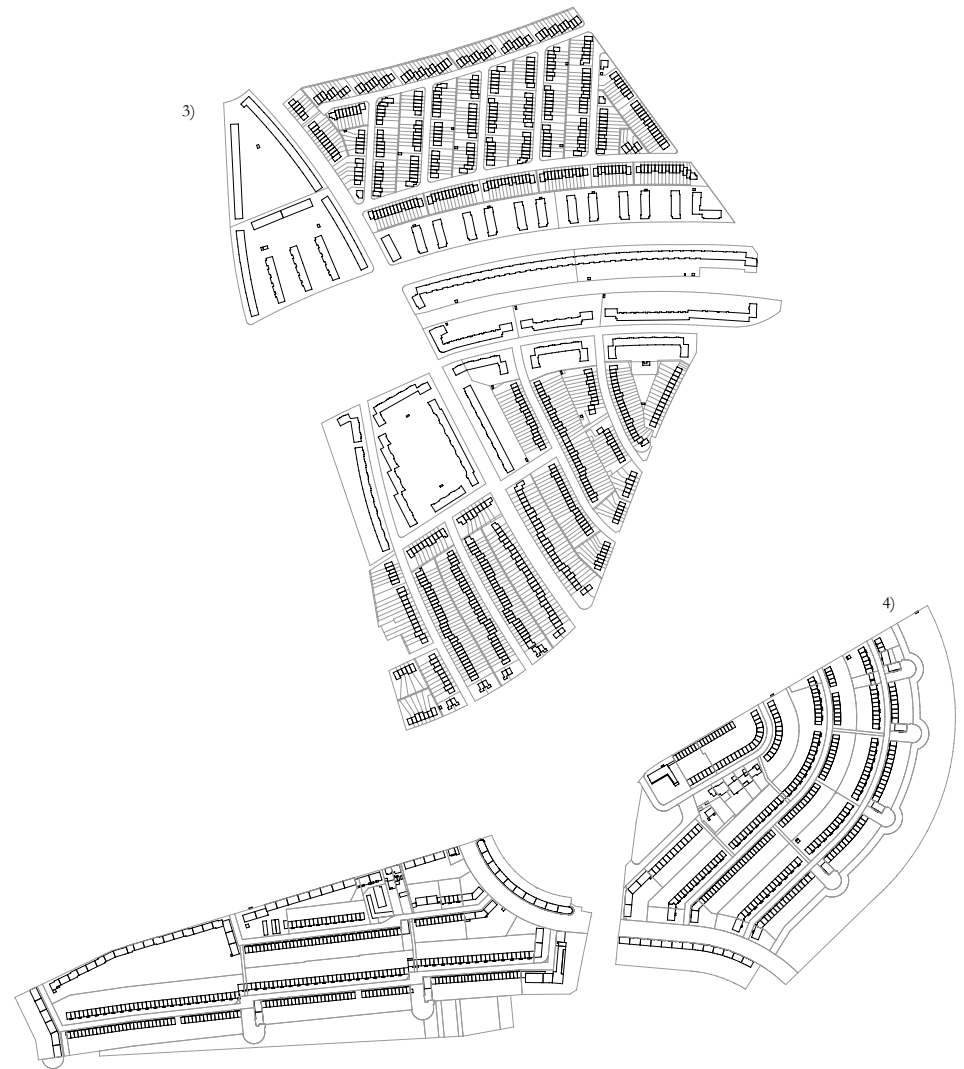
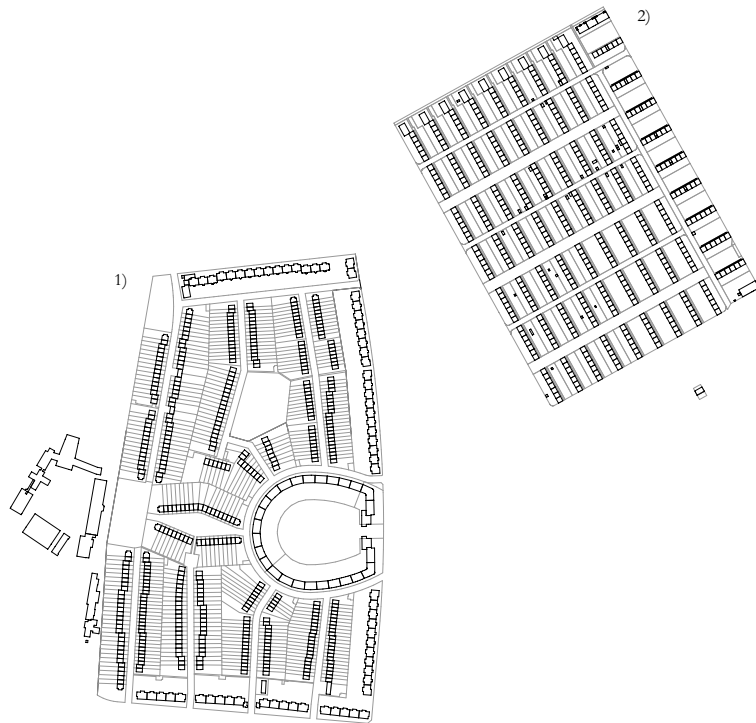
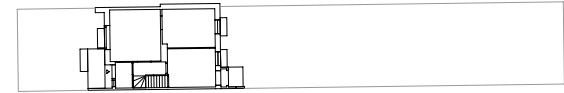
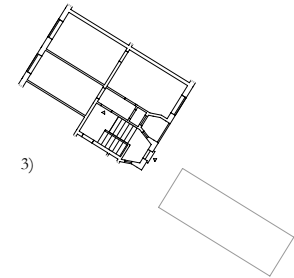


Fig.1: Siedlung Britz, Hufeisensiedlung, Fig. 2: Siedlung Westhausen, Fig.3: Siedlung Onkel Toms Hütte, Fig. 4: Siedlung Römerstadt; Source: Geobasisdaten Bezirksamt Neukölln-Berlin; Geobasisdaten, Copyright: Stadtvermessungsamt Frankfurt am Main, Stand: 25.02.2020

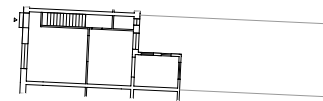
Case studies



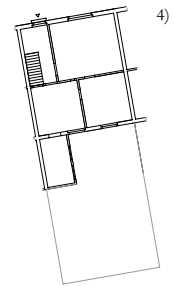
1)



3)



2)



4)

Fig.1: Siedlung Britz, Bruno Taut/Martin Wagner/Leberecht Migge; Fig. 2: Bernoulli Häuser, Hans Bernoulli, Zürich, Fig.3: Siedlung Alte Heide, Theodor Fischer, München; Fig. 4: Im Vogelsang, Basel, Hans Bernoulli ; Redrawings by F.Kramer, 2020; Pictures on page 22: F.Kramer/A.Biggeri, Hufeisensiedlung in 12/2019, Eingangssituation Hufeisen, „Boomerang“, rote Front;

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The land issue

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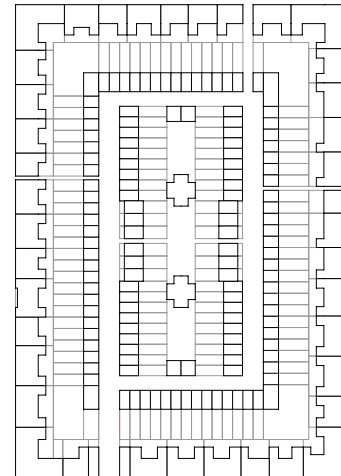


Fig.: Rudolf Eberstadt, design for a renewal of the urban block; Redrawing, F.Kramer, 2020; source: Eberstadt, Rudolf/Möhring,Bruno, Gross-Berlin, Ein Programm für die Planung der neuzeitlichen Grosstadt, Berlin, 1910;

