FUTURE HEALTHCARE FACILITIES

EVOLUTION OF TYPOLOGIES & NEEDS
FUTURE HEALTHCARE-FACILITIES
EVOLUTION OF TYPOLOGIES & NEEDS
historic stages of development
evolution of building-typologies

1890…1960…1975…1990…2010 … what's next?

Hospitals of the 18th and 19th centuries:
Collection centre for people with an unclear chance of survival
Care was in the foreground – diagnostics were just invented

Strategy: gathering of patients in shared rooms
evolution of building-typologies

1890…1960…1975…1990…2010 … what’s next?

Hospitals of the 18th and 19th centuries:
Collection centre for people with an unclear chance of survival
Care was in the foreground – diagnostics were just invented

Strategy: gathering of patients in *shared rooms*

Expansion of the care areas in particular
Separation largely by gender
evolution of building-typologies
1890...1960...1975...1990...2010 ... what’s next?

Hospitals of the 18th and 19th centuries:
Collection centre for people with an unclear chance of survival
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Strategy: gathering of patients in ventilation halls
Hospitals of the 18th and 19th centuries: Collection centre for people with an unclear chance of survival
Care was in the foreground – diagnostics were just invented

Strategie: gathering of patients in shared rooms
evolution of building-typologies
Draft layout | New North Zealand Hospital  2013-2014
Arch. Herzog & deMeuron

Typological transformation
Overlay of flexible care structures with highly functional socket functions
Landscape reference and living environments
evolution of building-typologies
Kantonsspital Baden, CH – ward levels 3-5 2016
Arch. Nickl & Partner

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institution for people with an unclear chance of survival
Clear focus on care – diagnostics were just invented

Hospitals since the 1960s:
Milestone: Klinikum Altona: new objectivity reaches the hospital
The pane as a clearly structured structure - but rigidly zoned
Expansion and renovation impossible!

Strategy: Concentration of bed capacities in high-rise building
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Milestone: Klinikum Aachen as a radical machine:
Milestone: Klinikum Grosshadern (LMU)
Pure functionalism - radically short distances (but rigid)
Renovation impossible!

Strategy: Concentration of bed capacities
Maximum functionality: The "machine"

„Magistrale“ as a development "spine"
of very large clinics (>1,200 beds)
evolution of building-typologies
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Klinikum Großhadern   Arch: Schwethelm/Schlempp/Eichberg
evolution of building-typologies

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Hospitals in the mid-1990s:
“Magistrale“ as a clear form of organization and development –
linearly expandable – but endless?

Strategy: Extensibility was the measure of all things
(lessons learned from the typologies of the 1970s)
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Typologies: End of the „spine“ layout?
Typologies: adaptable and efficient layout
Future needs and requirements

„We have been talking about adaptability for a while now, but what can be considered efficient – and successful?“
growth and change
demographic impact

Comparative age pyramid:
Fewer people (staff) will need to take care of aging generation 65+

Quelle: Statistisches Bundesamt
evolution of building-typologies
1890…1960…1975…1990…2010 … what’s next ?

Relevance of outpatient care and home-care (2010 ff.)

Functional areas are growing
They need to be better networked and expanded capacitively

Nursing areas are concentrated
The inpatient care of the future will hardly grow, but rather condense: ICU / IMC / HighCare

Multidisciplinarity
Nursing areas must be flexibly transformed:

Interdisciplinarity
The pandemic taught us to create definable areas
„spine“ structure + connected pavilions
UKE Chirurgie (Hamburg, Eppendorf)

Universitätsklinikum Eppendorf
(design-competition 2004)
„spine“ structure + connected pavilions
UKE Chirurgie (Hamburg/Germany)
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UKE Chirurgie (Hamburg/Germany)
„radial“ typology
UKE Herzzentrum (Hamburg/Germany)
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Klinik Favoriten, Vienna
(design-competition 2008)
„radial“ typology
Klinik Favoriten (ehm. KFJ) Vienna/Austria
„radial“ typology
Klinik Favoriten (ehm. KFJ) Vienna/Austria
"radial" typology
Klinik Favoriten (ehm. KFJ) Vienna/Austria
Kantonsspital Baden (CH)
design-competition 2016
„radial“ typology
KSB Kantonsspital Baden (CH)
„radial“ typology
KSB Kantonspital Baden (CH)
"radial" typology

KSB Kantonspital Baden (CH)

1. Obergeschoss
1.02. Klinischer Arzt/Arztliche Leitung
1.05. Laboratoriumsmedizin
1.13. Physikalische Therapie
1.14. Ergotherapie
1.15. Bereitschaftsdienst
4.01. Serviceeinrichtungen
4.04. Personalrestaurant
4.02. Sekretorien
6.02. Lehre
7.07. Blutspendedienst

Erdgeschoss
1.01. Aufnahme + Notfallversorgung
1.03. Funktionsdiagnostik
1.04. Endoskopie
1.07. Radiologische Diagnostik
1.17. Ambulanzen
3.01. Leitung und Verwaltung
4.01. Serviceeinrichtungen
7.01. Rettungsdienst
„radial“ typology
KSB Kantonspital Baden (CH)

3. Obergeschoss
Lüftungstechnik

2. Obergeschoss
1.09. Operation
1.10. Entbindung
2.02. Wocherinner- und Neugeborenenpflege
2.03. Intensivmedizin IPS und IMC
2.05. Säuglings- und Kinderkrankenpflege
2.11. Tagesklinik interdisziplinär
„radial“ typology
KSB Kantonsspital Baden (CH)

5. Obergeschoss
2.01. Allgemeinpflege Station 5 - 7
2.12. Palliative Care

4. Obergeschoss
2.01. Allgemeinpflege Station 1 - 4
radial typology
KSB Kantonspital Baden (CH)
„radial“ typology
KSB Kantonsspital Baden (CH)
"radial" typology

KSB Kantonsspital Baden (CH)
Klinikum Altona
(design-competition 2019)
“radial” typology
Klinikum Altona – Hamburg/Germany
„radial“ typology
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compact makro-typology

radial accessibility
(efficient traffic)

Annular connectivity
(floating-potential)

„Sandwich-level“
mechanical floor and densification

Modular room-structure
(adaptability)

„spinal“ structure of main corridors
(expandability)
“radial” typology
Klinikum Altona – Hamburg/Germany

TOP-5 criteria

Central access
(efficient distribution & wayfinding)

“spinal” corridor as main distributor
(Linear extensibility)

Clear path separation
Outpatient / Elective / Emergencies / Visitors

Cluster structure of the functions
Adaptability during operation

Large clearance of the functions
future-installation + cost efficiency
“radial” typology
Klinikum Altona – Hamburg/Germany
„radial“ typology
Klinikum Altona – Hamburg/Germany
future healthcare planning
adaptable and efficient healthcare facilities

planning criteria for the future?

Typological openness
Modular basic structure
Clear measurement order
future healthcare facilities
adaptable and efficient layout

Organisation ?
future healthcare facilities
adaptable and efficient layout – universal grid

Modularity!
Klinikum Memmingen
(design-competition 2021)
„radial“ typology
Klinikum Memmingen, Germany
„radial“ typology
Klinikum Memmingen, Germany

Volumenfindung

Campussituation: Achsen und Eingänge zur Campusmitte

Höfe: Gliederung des Volumens

Grünräume und Photovoltaik
“radial” typology
Klinikum Memmingen, Germany
“radial” typology
Klinikum Memmingen, Germany
Klinikum Memmingen, Germany

"radial" typology
„radial“ typology
Klinikum Memmingen, Germany
future healthcare facilities
1890…1960…1975…1990…2010 … let’s go different!

How should hospitals be structured in the future?

- **Linear** expandable
- **Modular** adaptable / changeable
- **Radial** connectable „floating“
- **Sectional** definable
- **Attraktive** healing environment and workplace to be

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