

150th Anniversary of Moscow Zoo International Jubilee Conference

Sustainability and Welfare

A Principle of modern Zoo Architecture and Exhibit Design

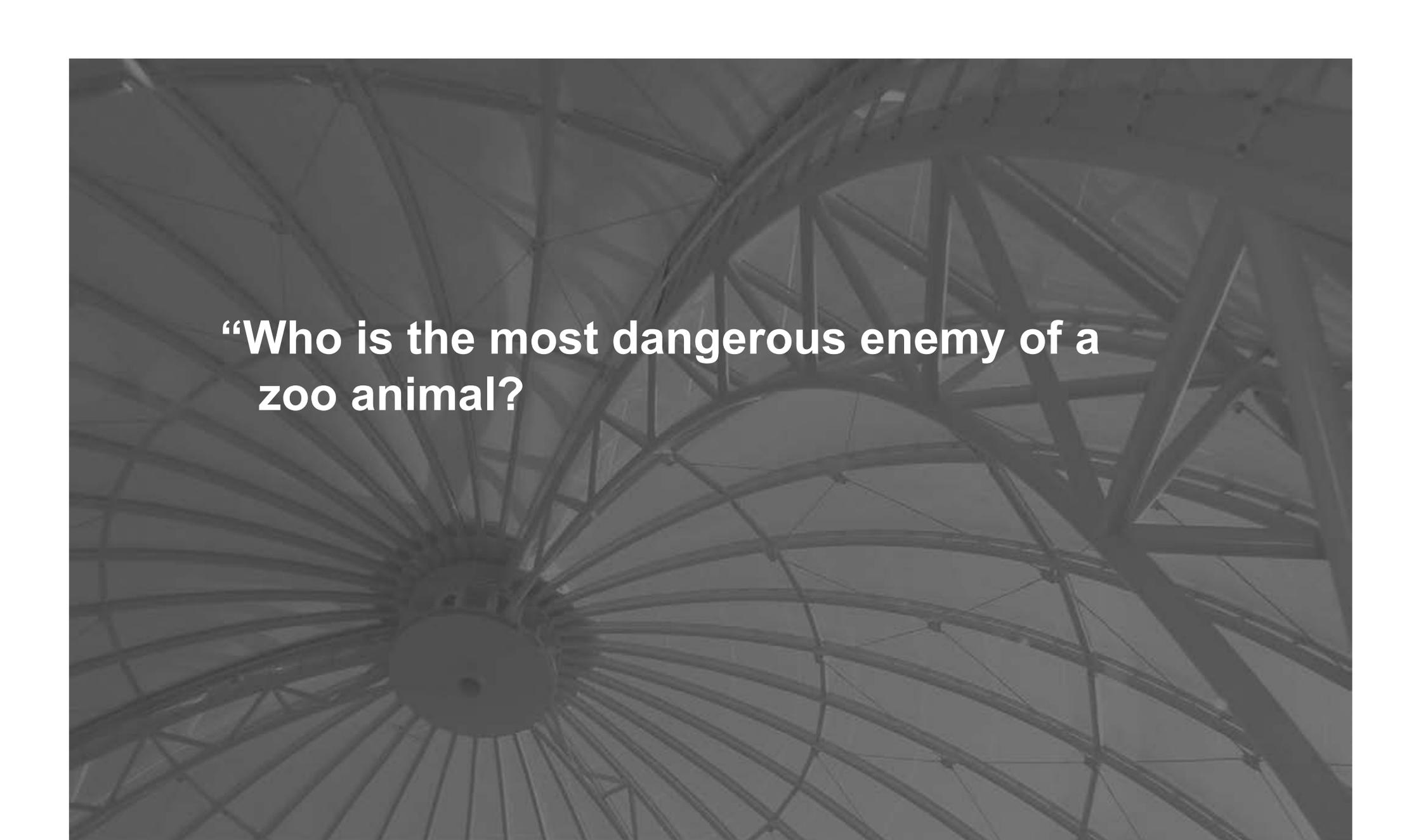
by

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ZOOQARIUMDESIGN

by Dr. rer. nat. Stephan Hering-Hagenbeck & Dipl. Ing. Sezai Candan
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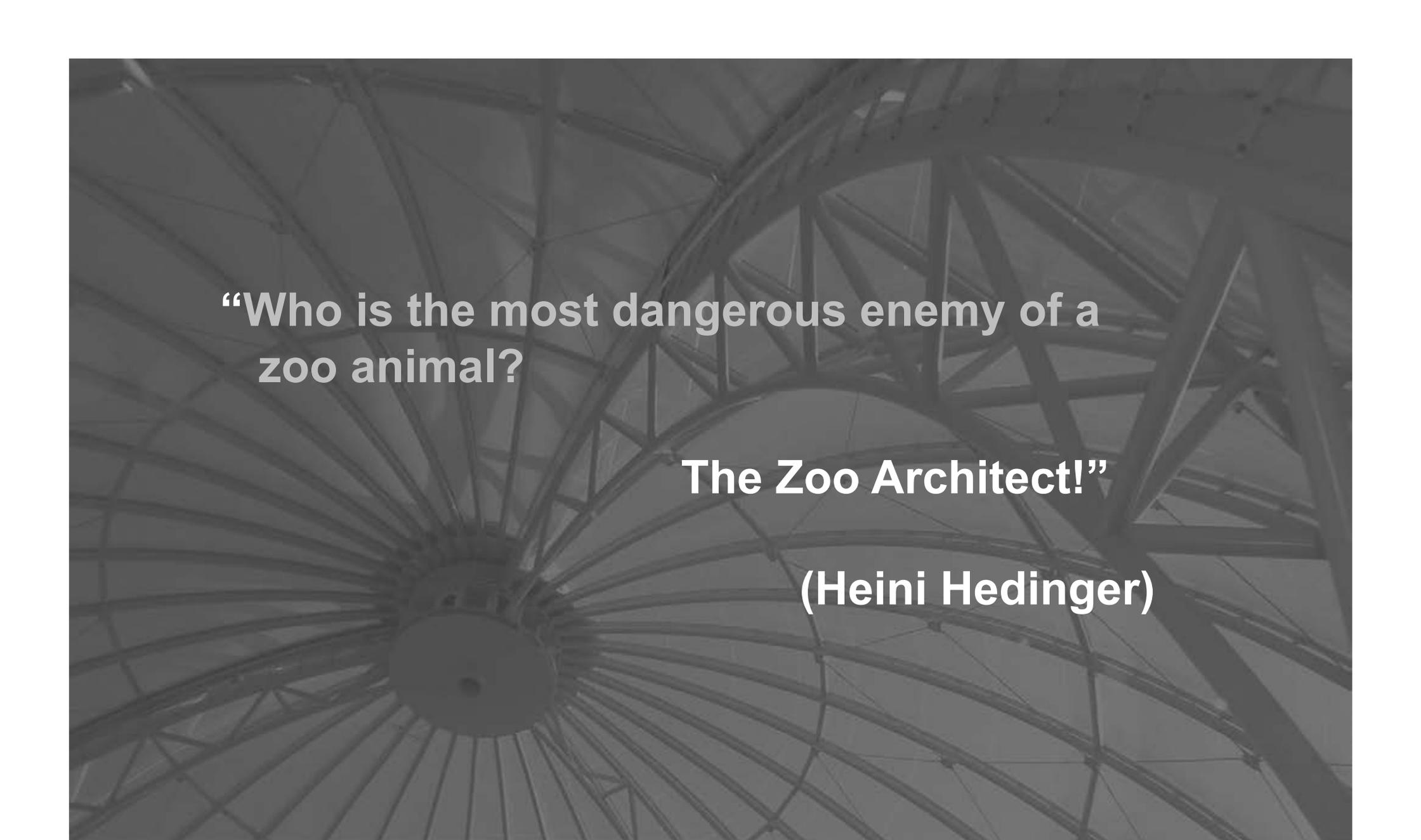


**“Who is the most dangerous enemy of a
zoo animal?”**

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Introduction



**“Who is the most dangerous enemy of a
zoo animal?**

The Zoo Architect!”

(Heini Hedinger)

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Introduction

Modern Zoo Architecture has to serve:

- The Animal
- The Visitor
- The Operator

According to:

- Building regulations
- Safety regulations
- Best practice experience

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We have to be the model...



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Why do we present animals in Zoos?



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**Population explosion with
increasing urbanisation...**



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**Loosing understanding of
nature and of natural coherences.**

Why do we present animals in zoos?

- To make people enjoy and appreciate nature
- To make people appreciate wild and exotic animals
- To experience animals with all senses
- The zoo animal should be the ambassador of the few remaining animals in the wild
- To forward our conservation message to a wider public
- To educate a large amount of people about animals and complex natural systems
- To enable natural sciences to do basic research for a better understanding of natural coherences



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Our goal: Give the zoo animal the opportunity to be an ambassador...



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...and not reduce it to an animal in captivity.



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**...in this case our conservation message
runs free.**



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There are no grey species, ...



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...only grey exhibits.



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Our goal: Satisfied animals result in satisfied visitors.



Only what we know, we will appreciate-
Only what we appreciate, we can love-
Only what we love we will protect...

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Our basic Principle is...

What can the Zoo Animal offer as an ambassador:

- make people enjoy and appreciate nature
- make people respect wild and exotic animals
- experience animals with all senses
- forward a positive conservation message to a wide public
- educate a large amount of people about the biology wild animals
- enable natural sciences to do basic research



We have to provide them with the right exhibits to enable them to do so...

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Ambassadors of a shrinking number of fellow creatures in the wild...



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**Welfare and Conservation starts
with the right exhibit design...**



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Sustainable building?



**Sustainable Project,
Sustainable Planning,
Sustainable Products,
Sustainable Costs,
Sustainable Operation,
Sustainable Demolition.**

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Sustainability as a holistic approach

Sustainable Project:

- **The Project should be chosen carefully (feasibility study)**
- **One should always rather improve or replace the old existing displays than plan new ones**
- **The project should not financially burden the next generation**
- **Technical investments should not have an amortisation period longer than 10 years**

Sustainable Planning:

- Integrated planning out of the view of the animal, of the visitor and the operator (keeper and institution) – in this order
- Fit the project to the budget but also to the operational budget
- Create sustainable *ex situ* breeding facilities
- Build according to best practice and not to minimum standards!
- Do plan the project ahead the opening day – remember the animal will live there a life long, 24h a day!

Sustainable Products:

- **not only while building their should be a high concern of using sustainable and environmental friendly products**
- **be concerned about the environmental impact of your building (e.g. use OrniLuxGlas if outside, etc.)**
- **ideally also only companies should be chosen which follow this principle**

Sustainable Operation:

- **Develop intelligent, innovative and sustainable water and energy concepts in order to keep the investment and running costs at an reasonable level – to prevent to be vulnerable in front of the public.**

Sustainable Demolition:

- **do not create buildings that create immense costs when they have to be demolished again**
- **do not use materials which create a problem when they need to be disposed**



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Experience animals close up and with all senses...



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**...but give them the opportunity to decide
where they want be.**



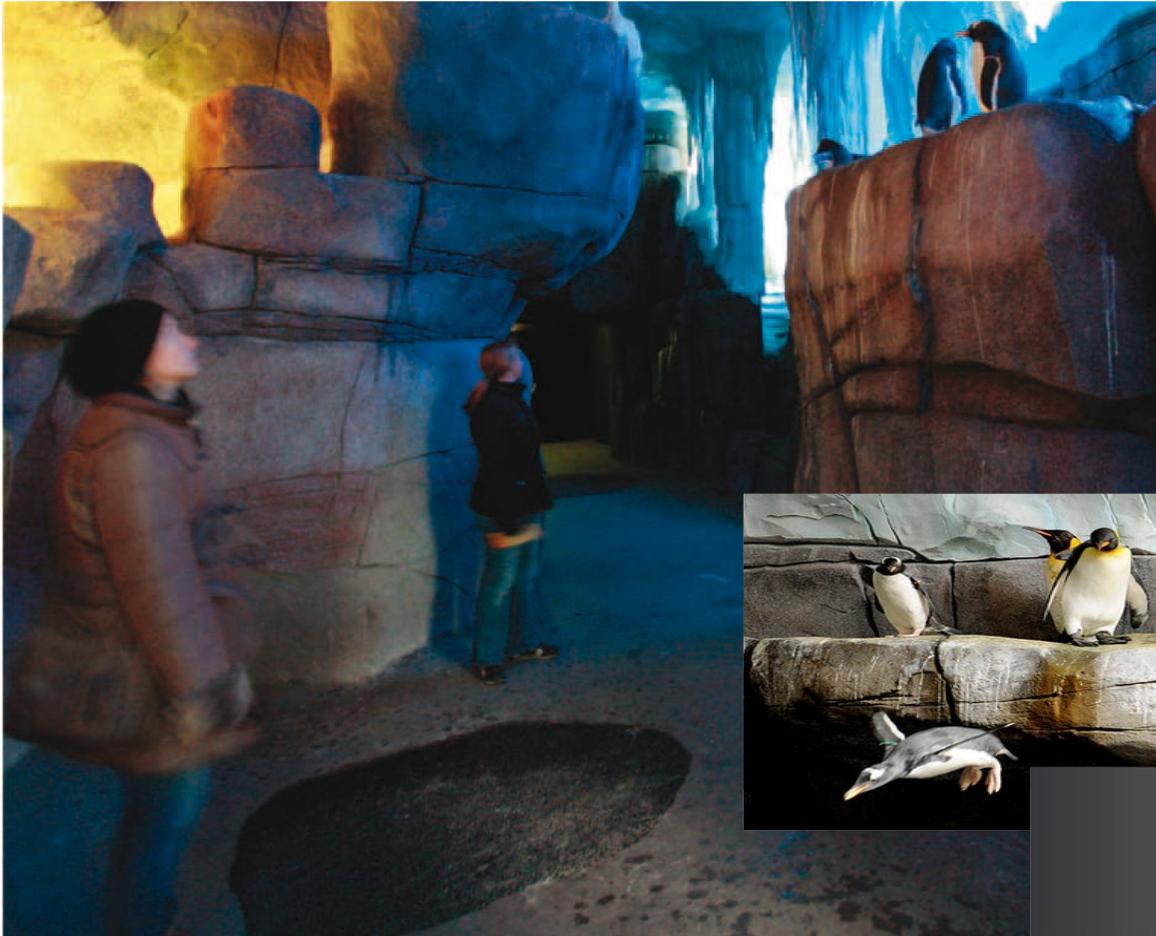
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Take nature as a model...



**Environmental enrichment:
The Penguin Circle**



Keeping animals active through environmental enrichment ...



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Environmental enrichment: Do not only create views for visitors but also for the animal...



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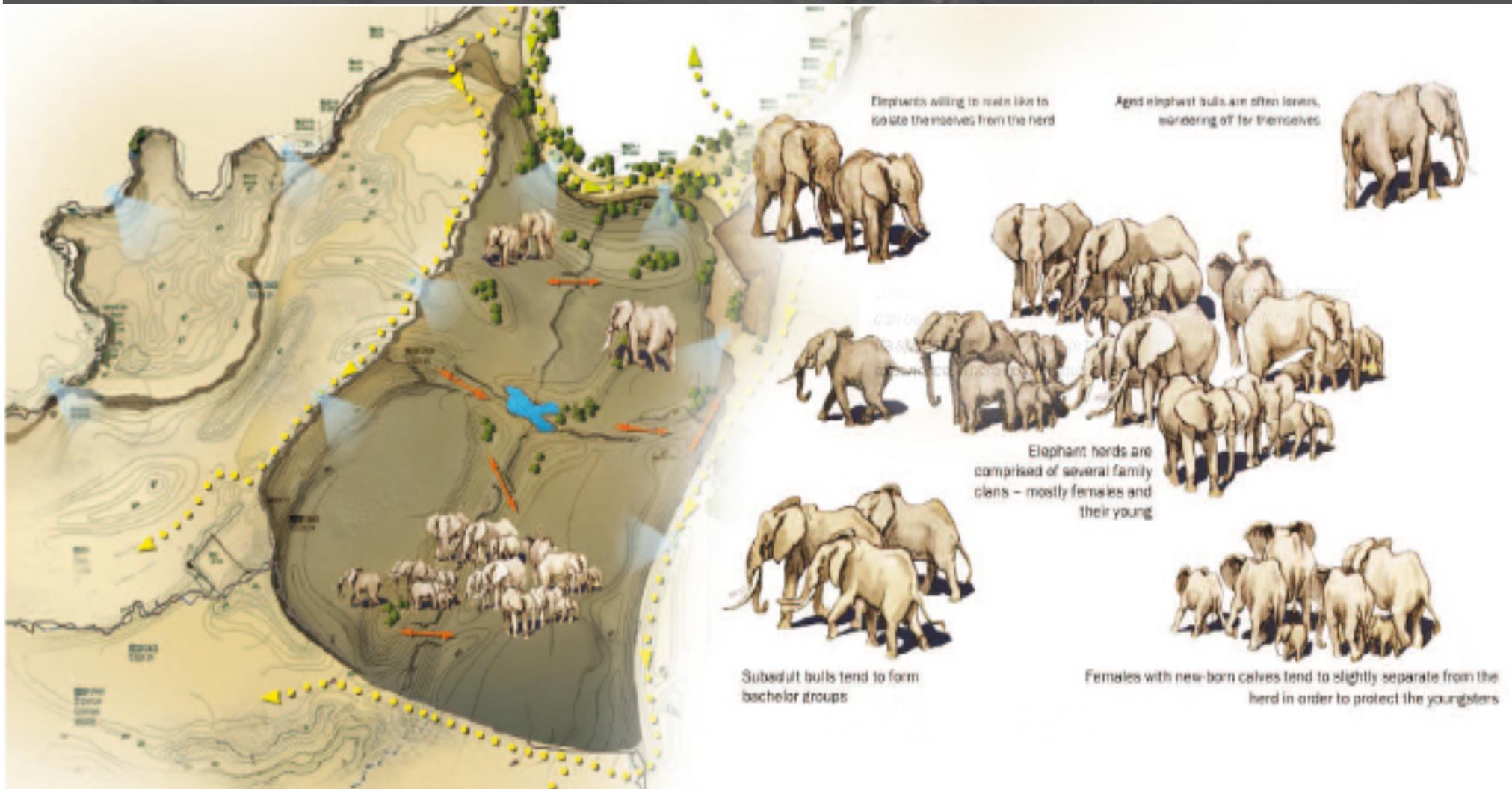
**Entertainment and enrichment
through mixed species exhibits.**



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Using the biology of the animal as a reference...





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Future Ideas

Future Focuses of ZOOQARIUMDESIGN:

- let zoo animals choose and individualize their daily routines
- develop enclosures not only for one species
- let animals circle through different enclosures
- give the animals more options to choose themselves
- develop scientifically proven methods to define the quality of an exhibit.
- try new combinations of mixed species exhibits
- use modern technology to make a visitor experience even more educational through interactive experiences.
- learn more about the biology and social systems of our guests in order to improve sustainable *ex situ* breeding successes.
- more cooperation and knowhow transfer between *ex situ* and *in situ* experts – we have the same goal!

**“Zoo Evolution:
We have to try, otherwise we will never find out!”**

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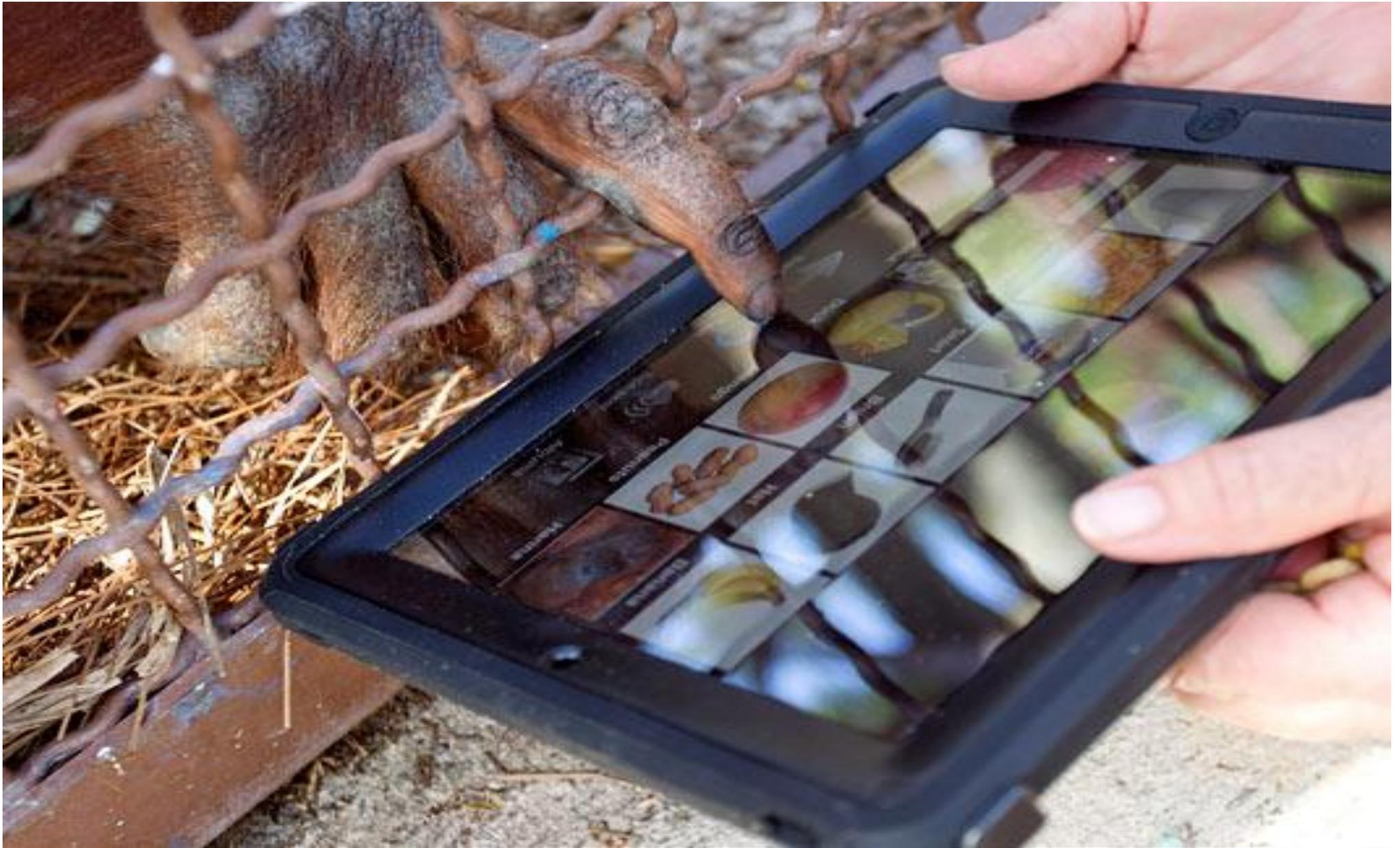
ZOOQARIUMDESIGN – Future of Zoo-Design



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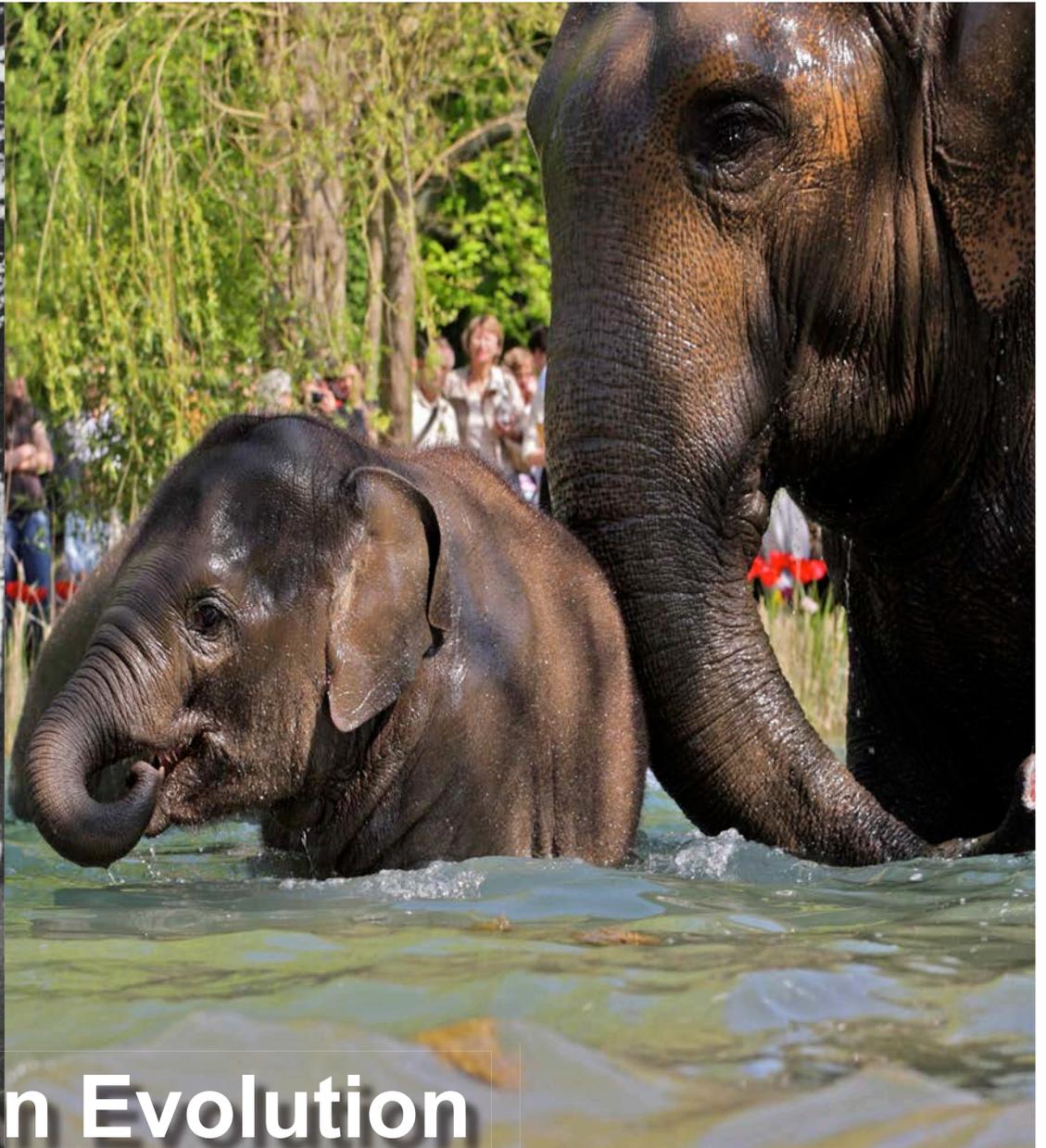
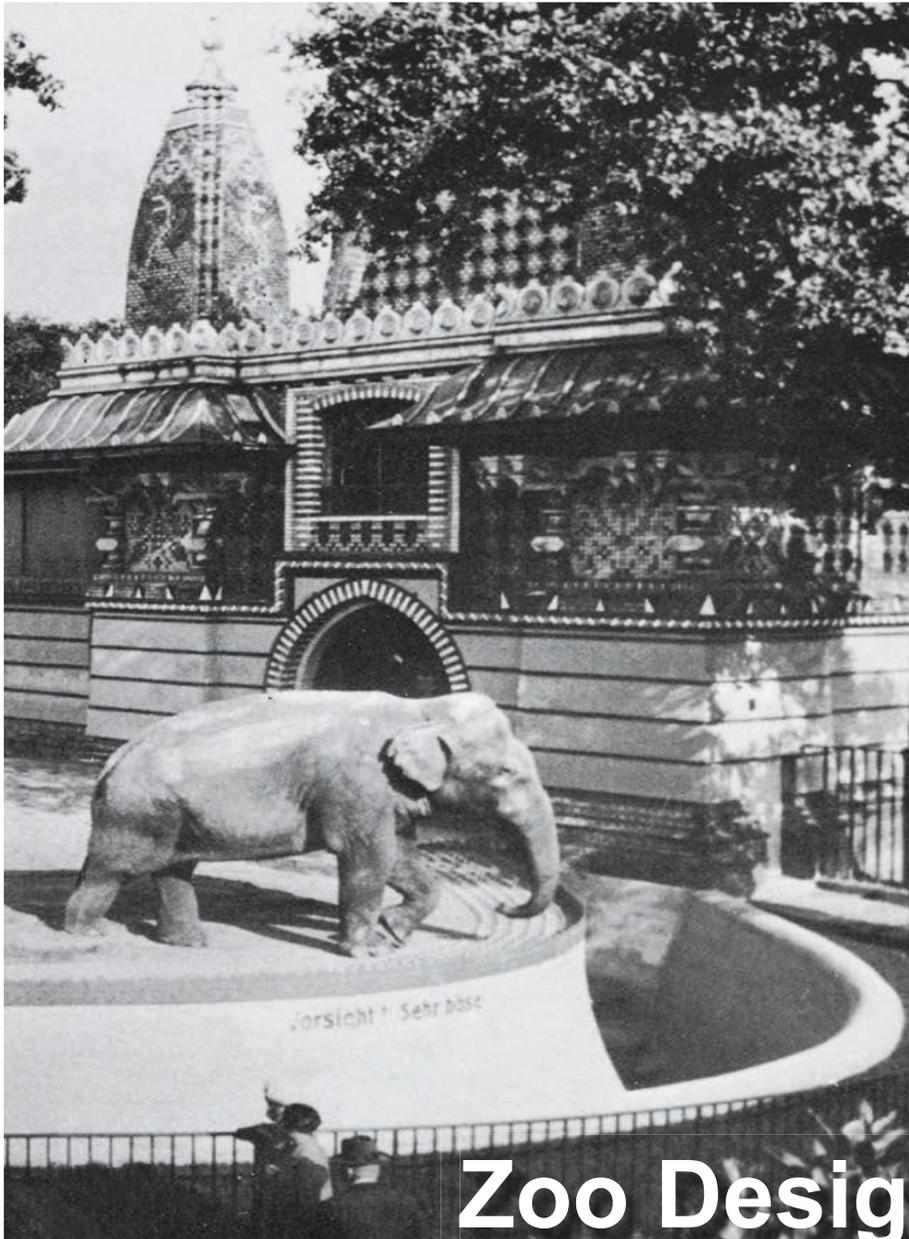
Using the habitat of the animal as a reference...



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Future Ideas



Zoo Design Evolution

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**We achieved a lot, but it is also still a long way to go!
Once go seem to be finished you start all over again!**



**Thanking
you for your
attention!**

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Dipl.-Ing. S.I. Candan



Architecture

Dr. S. Hering-Hagenbeck



Zoology



GENERAL PLANING TEAM

What we offer:

- long years experience with large-scale projects
- long years experience as Zoo architects and general planers
- long years experience as a building owner
- long years experience as a operator
- innovative individual solutions
- investment- and running costs oriented planning and building
- sustainable technical solutions
- integrated management from the beginning until after the opening

Company-Details:

Dr. rer. nat. Stephan Hering Hagenbeck
Managing Partner

ZOOQARIUMDESIGN

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