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Foreword

GERD FOLKERS AND MARTIN SCHMID

Some-day is probably the best way to describe the definition provided by the Swiss Federal Institute of Intellectual Property: "A design is a unique creative form that you can protect by registering it. This includes two-dimensional designs such as fabric patterns and bottle labels as well as three-dimensional forms such as watches, lamps and chairs."

The German car designer Gert Hildebrand (who has worked for carmakers including Opel, SEAT and Mini) stated in an interview with Der Spiegel in 2017 that designers are "toombuilders". Philippe Starck, world-famous French designer and one of the most well-known representatives of New Design, told the German monthly art and lifestyle magazine Monopol in 2014 that "only dumheads are interested in design."

Design for dummies, by troublemakers? Opinions on what design and designers should be and which roles they should fulfil seem to diverge greatly. Starck sees his own creations, from a lemon squeezer to a passport photo booth, as “democratic design”, since they were not made for elites. That is understandable. And yet, the term “democratic design” is just one of numerous word creations in this field. Others include “intelligent design”, “social design”, “design thinking”, etc. Behind many lies a world view, an entire philosophy.

So what is the situation at universities, in particular at ETH Zurich? In a university context, the term design is interpreted in very different ways. At ETH Zurich, for example, this interpretation is closely intertwined with the university’s long tradition in engineering sciences, mathematics and fundamental research. Design at ETH Zurich ranges from the theoretical description of certain material properties to their experimental testing, including aircraft, robots, and the codes that control them. Design plays a major role in simulating human behavior, developing new learning and teaching systems, and planning the future of waste disposal. Indeed, one is tempted to say that the question about whether or not something qualifies as design – the issue of *design or no design* – ultimately comes down to the assessment of the researchers themselves.

Design is not local; it has no borders. This is also the framework within which this book is being published as

part of “ETH meets Davos” and the “Rethinking Design” pavilion at the 2019 World Economic Forum in Davos. Design spans the globe. The event in January 2019 will bring together representatives of ETH Zurich and international experts from the fields of science, culture, politics and business to exchange innovations and visionary ideas that have emerged or are currently emerging in Zurich. In doing so, ETH Zurich will provide an insight into the cutting-edge research being carried out at the university – and, thanks to this book, also into its background and history of innovation.

We, the editors of this book, approached a select group of professors at ETH Zurich and asked each of them to write an essay on the topic of design from their own personal point of view. Of course, we are fully aware that it is impossible to provide a representative overview of design at ETH Zurich in just 100 pages. That, however, is not our goal. We aim not to provide an exhaustive list and treatise on the various design concepts at ETH Zurich but instead a collection of surprising, exciting stories that, while certainly not representative, nevertheless illustrate the wide range of scientific work being carried out at ETH Zurich. Above all, these essays are aimed to give you one thing: reading pleasure. They should also whet your appetite for more stories still yet to be written and encourage you to explore diverse forms of scientific design that will be created at ETH Zurich in the future or that have been forgotten over time.

We also invited artist Florian Dombois to react to our book from an artistic perspective. His intervention shows us that there are always two elements that go into the design of a book: text and layout. Therefore, Dombois gives extra space to these two mostly independent design processes, showcasing the work of textual and material designers: (i) He invited various artists, more and less famous, to act with him as anonymous readers and to enter into personal dialogue with one of our texts. We do not know who they are; we know only their handwriting. (ii) And secondly, he changed the background color from sheet to sheet, as well as the color of the thread-stitching so that we can see what holds our book together inside. We are also very pleased that Florian Dombois agreed to contribute a short text of his own.

This book contains a total of ten essays. It tells stories about scientists and their work from the period when ETH Zurich was founded (back when it was still known as a “polytechnical school”), but also stories about research groups who are probably in their laboratories right now advancing their work – work to refine existing designs, but perhaps also work to create new, exciting breakthroughs.

Special thanks go to all authors who, in addition to their daily duties in the academic world, found the time to write an essay. We would also like to thank Florian Dombois, whose artistic interventions manage to set impressive visual counterpoints to the texts. Finally, we

would like to thank Paul Skandera and his translation team for translating the essays from the original German into English and adapting their style in accordance with the literary customs of the English-speaking world.