

To Enrich Life

2nd edition

Klaus-Jürgen Bathe

Positive attitude

Responsibility

Integrity

Determination

Enthusiasm

... a **PRIDE** that leads to Success

**This book is dedicated to all those
who helped me to find happiness**

Preface	ix
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**Part 1 My Early Life in Germany and South Africa —
The Formative Years**

Chapter 1 My Infancy	3
Chapter 2 Growing up in Germany	9
2.1 Some Events in Hannover	9
2.2 The Excitement of Travel	12
2.3 A Critical Event in my School Education	17
2.4 The Formative Years in Oldenburg	20
2.5 Leaving Germany — but Never in my Heart	25
Chapter 3 Five Wonderful Years in Southern Africa	29
3.1 Cape Town and the Travel to South West Africa	29
3.2 On the Farm in South West Africa	32
3.3 Working in a Gold Mine	36
3.4 Working on Road Construction	39
3.5 My Studies at the University of Cape Town	52

Part 2 My Way Forward to New Endeavors

Chapter 4	My Graduate Studies in Calgary and Berkeley	69
4.1	A Student at the University of Calgary	70
4.2	Starting at UC Berkeley as a Doctoral Student	76
4.3	My Doctoral Research — a Great Experience	79
Chapter 5	Three Years in Berkeley as a University Research Engineer and a Consultant	85
5.1	To Advance Finite Element Methods	85
5.2	The Development of SAP IV and NONSAP	90
5.3	The Creation of ADINA	99
5.4	An Interview and Hired at M.I.T.	102
Chapter 6	Professor at M.I.T.	107
6.1	My Teaching and Research at M.I.T.	108
6.2	Connecting with Academia and Industry	120
6.3	The M.I.T. Conferences on Computational Fluid and Solid Mechanics	129
6.4	Awards and "Real" Rewards	134

Chapter 7 The Thriving of ADINA	145
7.1 Founding ADINA R & D, Inc.	147
7.2 A Small Company in Competition	148
7.3 Computational Engineering Greatly Enriches our Life	154
Chapter 8 Building Happiness	165
8.1 My Base for Happiness	165
8.2 A Quest for Contributions	168
8.3 The Joy of Helping Others	171
Epilogue	181

Preface

This book is the second edition of the book "To Enrich Life". I obtained a most wonderful response of appreciation for the first edition, much to my surprise, for which I am naturally very pleased. Hence I decided to update the book for a second edition, with more to tell of my life than what I wrote many years ago.

Years ago, I had to ask myself "Why would I like to write the book and why might anybody be interested in reading it?" My answers are "I will much enjoy writing the book" and "The book will tell about the life of a person who enthusiastically worked very hard, followed his values, and found much happiness – and that may be of interest".

My life can be thought of as a journey of two parts. In the first part, called Part 1 in the book, I grew up in Germany after World War II, left Germany for South West Africa (today's Namibia), went to South Africa to work in the mines and road construction, and finally studied at the University of Cape Town, UCT. Having finished a B.Sc. degree at UCT, I had established the values and wishes for my life. For these early years, I will therefore tell many personal events which formed my values, attitudes and ambitions,

and which I like recalling. Now the foundation had been laid in me to go out and enrich life — my life and the life of others, all within my modest capabilities.

Therefore, for the second part of my life journey, described in Part 2 of the book, from the end of my studies at UCT to the present, I will only focus on my professional and very limited philanthropic activities, and events that happened during these activities, including on my trips and engagements. I will focus on the positive aspects that I have experienced in my life, and for which I have been very blessed.

As I tell in the book, Beethoven has been my hero since high school, for how he has enriched life with his wonderful music, and amazingly he gave us some of his best music while he was losing his hearing. Of course, there have been many great people who have enriched life with great accomplishments. My dream has been to achieve as much as I could with my only fair abilities.

I remember the important events of my life very clearly. Throughout the book, I tell the events as they happened, and I use the actual names of persons and places.

While I focus in the book on my life and my experiences, I also strive to tell that engineers, in general, have contributed immensely to how wonderfully we live today — much more than generally acknowledged. The enrichment of life by engineers has been particularly profound during the recent decades, including through the relatively young field of "computational engineering" that I have worked in — namely, the "enabling of simulations of natural phenomena on the computer". Hence the book may be of particular interest to engineers and scientists who would like to read about my experiences on how this field has developed.

In closing, I would like to thank Victor Lee of my company ADINA R & D for his help in the proof-reading, typesetting and his arrangement for the publication of this book.

Klaus-Jürgen Bathe

Part 1
My Early Life in Germany and South Africa —
The Formative Years

Chapter 1 My Infancy

I was born in May 1943 in the middle of the Second World War, in Berlin, Germany, two years after my brother Volker, and six years prior to my sister Ingeborg. I remember nothing of the Berlin at that time. All I can recall of my very early years is what my dear mother told me over many years at a later age.

My mother told me, prior to her passing away in 1998 at the age of 84, that I was a very quiet baby. I hardly cried and mostly slept. During these years of the War, Germany proper and the German occupied lands were of course under attack. And one day, in Lissa, today's Leszno in Poland, my mother had forgotten that her quiet baby was still in the garden in the baby carriage. I was sleeping in the garden during another airplane attack, and did not wake up. That seemed to have been many times the case. Indeed at some occasion, I was sleeping in the garden and forgotten by everybody.

This ability to sleep soundly even when severe events occurred did not last many years. While I certainly could, and would, take a lot of pressure later in my years, my ability to take it easy, and soundly sleep through 'pressured times' is long time gone.

My mother spent much time in Berlin with her two children, while my father was at the Russian front. My grandmother from my mother's side died shortly after the War in Berlin from hunger. Of course, I cannot remember her. Her husband, my grandfather



Our parents with Volker, left, and myself

Günther Martini, after then leaving Berlin finally found refuge in a small village, called Dinklar, near Hannover. He had been a high-ranking Navy officer during World War I but retired from the Navy and became a journalist before Hitler came to power. I

always had a tremendous admiration for my grand-pa. He had been a very successful Navy officer with commands over many large



My grandfather Günther Martini

battle ships during his career. I still remember photos of about a dozen ships he commanded, photos that my mother inadvertently

lost or discarded during one summer while I was on travel, far from home.

However, what perhaps impressed me most, later on, was that my grand-pa Martini was very much against Hitler and the Nazis. In fact, he warned my mother, his only child, that Hitler will do bad, very bad. How right he was! My young mother and father, unfortunately, were under the spell of Hitler and did not listen. My mother was simply in awe with the new exciting life in the 1930s, but my father clear-mindedly took part in the new movement in Germany. He only rather late realized the terrible nature of Hitler. I never understood why it took my father that long to realize that Hitler was bad for Germany and the world.

On my father's side, my grand-pa died as a young person, and I only saw pictures of him. He had been a high-school teacher, and had obtained a doctorate, which in the early 1900s was a tremendous achievement. His wife, my grandmother was a very quiet, religious and thoughtful person. In my teens, I developed a very special relationship with her, as I shall describe later.

My mother many times told me that she left Berlin with my brother and myself on one of the last trains from Berlin to the West of

Germany. The train was only carrying women and children, and wounded people, and it was clearly marked as a Red Cross train. However, on the way to the West of Germany it was attacked by British fighter planes which indiscriminately shot at the train wagons and at the people, who, when the train stopped, tried to flee into the forests. My mother was struck by this experience. We were lucky to make it through to the West, where after a stay with friends we finally settled on a farm in Borsum, not far from Dinklar, where our grand-pa Martini had found refuge. These villages are close to Hannover, the capital of Lower Saxony.

I remember that the times in Borsum were hard. Mostly we ate sugar beets, potatoes, nettles as spinach, and perhaps once a week an egg. There simply was no food available.

Early after the War, Gisela, a sister was born. My mother tried to obtain food and soap, and went to beg for it at the British garrison because Gisela was becoming rapidly weak. Unless better fed, she would clearly not survive. However, the officers refused to give any help. Gisela passed away shortly thereafter.

This experience with the British soldiers made us very sad. Of course, Germany was the cause of all pain inflicted onto many

people, but still, I could not understand why the soldiers did not help my mother and sister on a personal level, now that the War was over. Here I learned that it is very important to be able to forgive in life — although that can be very difficult — but doing so can much enrich life.

However, while these experiences are part of my life, I never had any bad feelings towards the British people and have made many friends among them. In fact, it is clear that the British have made great contributions to our life on this planet, including their efforts and sacrifices in the two World Wars.

My father had studied law. He obtained first a job as a clerk in the new German government, but later advanced to finally reach a much respected and quite well-paid position, called Oberregierungsrat. This meant, however, that we moved about every three years, first to Sarstedt, then to Hannover, then to Osnabrück, and finally to Oldenburg i. O., where I graduated from high-school and left Germany for other shores. But before telling about those years, I shall tell a little more about my growing up in Germany.

3.4 Working on Road Construction

A German company, called Labor, was building a road near Nelspruit, not far from Swaziland, towards the North. I was employed to help the surveyors.

This was a wonderful job. I lived in a rondavel (a round hut made of tin) out in the bush where the road was to be built. I helped to stake out the road and to make cross-sectional maps of the road. These cross-sections were used to estimate the amount of soil and rock that had to be moved in order to build the road.

I quickly realized that using the surveying equipment could not be too difficult. And so I took some books from the trailer where we worked on the maps, and in the evenings I studied in my rondavel the theory of using the surveying equipment. It was largely geometry that I had learned in high-school and was good at. Soon I knew how to stake out a road, to use all the surveying equipment, and then I was again quite lucky.



Cleaning the rondavel on the site North of Pretoria

The company Labor had another job of road construction and desperately needed a fully educated road surveyor, but could not find one rapidly. The directors, Mr. Beigl and Mr. Horn came to visit the Nelspruit site and heard of me, and that I had learned surveying in about three months on this job. They asked me whether I was prepared to take on this new job, which normally



Some of the fully funded young researchers attending
the 2nd M.I.T Conference, June 2003

These three M.I.T. Conferences were largely financed by contributions from industry; each time about 20 companies generously sponsored — but only after quite some struggle and convincing from my side. I financially also contributed very substantially to all three conferences from my personal savings, which I did because the aim was to help some young researchers. The Conferences were clearly a great success.



Receiving the hon. doctorate at the University of Madrid in 2005

The hon. doctorate from the University of Bucharest, Romania, was another great reward. I was surprised to learn how much the colleagues in Bucharest had used my books and computer programs, for decades, in their works, in academia and industry — and all that despite Romania was in the East behind the ‘iron

First of all, since I had been given a scholarship at the University of Cape Town in the 1960s, I wanted to reciprocate by establishing in the 1990s, as earlier mentioned, the KJ Bathe Scholarships at UCT. These scholarships have supported since then three students continuously to complete their studies.

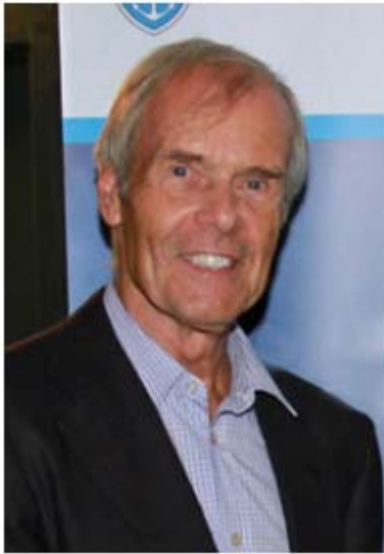
However, with time, I thought about how I could make a much more important contribution to South Africa and developed the idea that I should start a Program at the University of Cape Town, to support students to become excellent leaders of South Africa and the countries nearby. South Africa is a country with many resources, but tremendous challenges ahead for its young democracy. I would like to help in developing the country to be able to provide well for all of its citizens.

To this aim, based on my initial donation, the KJ Bathe Leadership Program was established at UCT in 2014, and Professor Alphose Zingoni of UCT took on the role of the Program Director.²⁵

We decided that the primary goal of the Program is to produce graduates with outstanding leadership qualities and a strong sense

²⁵ <http://www.kjbatheleadership.uct.ac.za/>

of social justice — for leadership positions in business, government, industry and civil society in South Africa and the



"I love South Africa. To ensure a prosperous and peaceful future for all its citizens, the countries in Africa, as all nations worldwide, need excellent leaders. With good leadership, the dream of prosperity and peace for everyone will be realised."

Professor

Klaus-Jürgen Bathe, Feb. 2016

- Founder of the Program

Taken from the web site of the Leadership Program²⁵

countries nearby. Leaders can come from any discipline and hence the Scholarships are open to all UCT undergraduate students irrespective of discipline.

The aim of the Program is expressed succinctly in the text attached to the above given photo taken at the 2016 dinner of the scholars. The text is used on the Program web site.

So far I have funded or am funding 50 scholars, each for at least 2 years to study towards their degrees and focus on developing leadership qualities. It was wonderful to bring the current scholars yearly each February together for a dinner and speeches. At these dinners the new cohorts of students were given a little present and the award document.

A wonderful surprise for me was that Teresa, my first love and steady girl friend during my studies at UCT (see Section 3.5) contacted me, having found me on the web. She was seeking to get



At the Scholars Meeting in February 2018, congratulating a student

curtain'. The ceremony was marvelous, and I shall never forget the wonderfully inspiring music after my lecture.

The ceremony for the hon. doctorate from the University of Miskolc, Hungary, was another great event. The faculty and students assembled in a large and impressive hall, wonderful music was played, and I was congratulated individually by each dean of the faculties. I could feel the warmth and appreciation of all colleague professors.

Many people regard Buenos Aires, Argentina, to be the Paris of South America, and I was immensely proud to be awarded the hon. doctorate from the University of that wonderful city. A number of my doctoral students came from Argentina, notably Eduardo Dvorkin, and hence I felt already somewhat connected to the city, and the connection then grew by the award of the hon. doctorate.

A very special event was to obtain the hon. doctorate from the University of Cape Town in 2013. As I had spent four wonderful years at UCT and had received my B.Sc degree from UCT, with a D.Sc. in 1981, and had visited the University a number of times thereafter for conferences, I felt strongly connected to the University and was very glad to receive the wonderful award. My

The author, born during World War II, grew up in post-war Germany, left his home in the early 1960s for South West Africa (today's Namibia) to work on a farm, ventured to South Africa to work in a gold mine and on road construction, studied at the University of Cape Town, went to Canada and the US for graduate studies and through a myriad of events finally became Professor at the Massachusetts Institute of Technology. While Professor at M.I.T. he founded the company ADINA R & D, which develops the software product ADINA used world-wide

for the analysis of engineering designs and, in general, for the prediction of nature. The author describes how he tried to enrich life through his activities, and found much happiness and success.



In Cape Town, Feb. 2018

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