

Preface

It is time I stepped aside for a less experienced and less able man.

Scott Elledge, Goldwin Smith Professor of
English Literature at Cornell University on
the occasion of his retirement



The scientific papers compiled in this book are dedicated to Prof. Reinhold Kienzler on the occasion of his 66th birthday and retirement from Bremen University. From a topical point of view, they reflect the various scientific activities of Reinhold during his professional life. Therefore, it is only appropriate to dwell briefly on his achievements and to highlight the important steps in his career.

Reinhold Kienzler was born on 29th of August 1950 in Naumburg/Wolfhagen in Northern Hesse. He attended the local high school (Friedrichsgymnasium) in Kassel from 1961 to 1969 and obtained his high school diploma (Abitur) in 1969. After that, he went to the Technische Hochschule Darmstadt from 1970 to 1976 in order to study civil engineering and obtained his doctoral degree from the Department of Mechanics on December 17, 1980. His thesis entitled “Eine

Erweiterung der klassischen Schalentheorie; Der Einfluß von Dickenverzerrungen und Querschnittsverwölbungen” was supervised by Profs. Walter Schnell and Dietmar Gross. In fact, plate and shell theory has been an ongoing scientific topic of Reinhold ever since. In this context, it is fair to say that he always emphasized a straightforward, “rational” approach instead of intelligent patchwork as it is very common to this engineering discipline of linear elasticity.

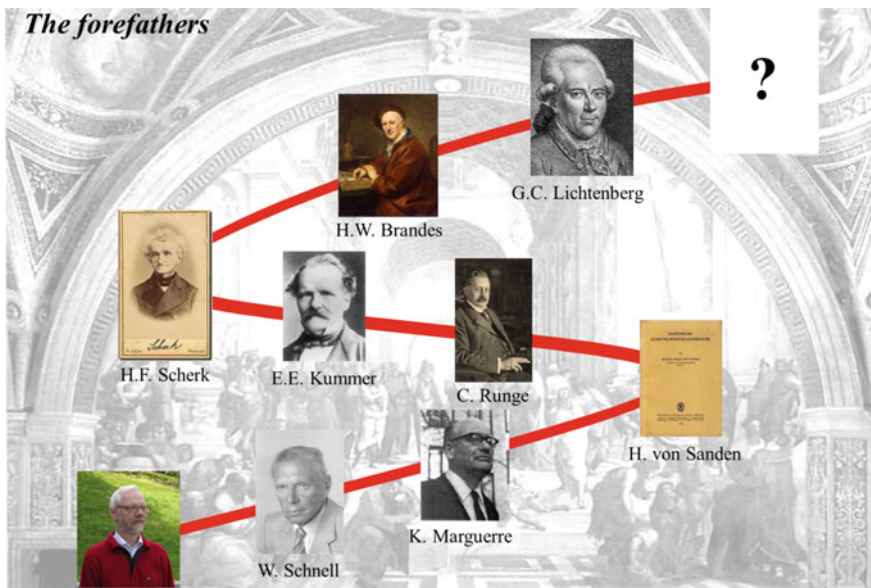
After his dissertation, Reinhold went to Stanford University from 1981 to 1983 as a postdoc with Prof. George Herrmann from the Department of Applied Mechanics. Moreover, from 1983 to 1991, he worked as an engineer at the Fraunhofer Institut für Werkstoffmechanik in Freiburg/Breisgau. These activities sparked his interest in the fundamentals of fracture mechanics and in damage theory of materials. In this context, his monographs “Konzepte der Bruchmechanik: Integrale Bruchkriterien” (habilitation thesis) and “Mechanics in Material Space—With Applications to Defect and Fracture Mechanics” (co-authored with George Herrmann) are of particular, everlasting importance to our community.

In 1991, Reinhold received a call for the Professorship of Applied Mechanics at the University of Bremen, where he stayed until his retirement despite many other prestigious offers that were made to him after.

His principle of leadership is simple, effective, and unpretentious: His intention was never to aim for quantity but always for the highest quality instead. Therefore, the size of his group was always such that he had enough time to spend for intensive, individual discussions with every member. Nine dissertations and one habilitation are the fruits of his efforts, all within the fields of fracture and damage mechanics of materials and plate and shell theory. He is the author to more than 110 papers in peer-reviewed journals and eight books including four textbooks on Engineering Mechanics. Since 2004, he is the Editor-in-Chief of the journal *Archive of Applied Mechanics*—one of the oldest German journals in the field of mechanics.

For many years, he was (co)-organizer of the workshop series *Mechanics of Materials* at the Mathematisches Forschungsinstitut Oberwolfach, the German–Greek–Polish Symposium on Recent Advances in Mechanics, and the International Symposium on Defect and Material Mechanics. In 2002, he was Co-Chair of the EUROMECH Colloquium 444 “Critical Review of the Theories of Plates and Shells and New Applications.” In 2004, the proceedings (co-edited with Holm Altenbach and Ingrid Ott) were published in the Springer’s series “Lecture Notes in Applied and Computational Mechanics” as volume 16.

Reinhold was awarded the Berninghausen-Preis for excellence in teaching at the University of Bremen in 1996. He became an Honorary Member of the Polish Society of Theoretical and Applied Mechanics in 2011 and of the Hellenic Society of Theoretical and Applied Mechanics in 2013. He received a Distinguished Visiting Fellowship Award of the Royal Academy of Engineering, London, in 2013. In 2016, Reinhold was awarded an Honorary Doctor by the Ilia Vekua



Institute of Applied Mathematics in Tbilisi, Georgia, for his engagement in the promotion of Georgian-German advancement in the sciences.

Now that we have explored Reinhold's scientific legacy, let us take a look at his scientific heritage (see picture). To be more precise, we shall explore who the doctor fathers of his doctor father were. It has been mentioned above that Reinhold graduated with a doctoral thesis under the supervision of Walter Schnell (1924–1999) who was one of the iconic figureheads at the Faculty of Mechanics at Darmstadt University right after the war. Schnell's supervisor at Darmstadt was Karl Marguerre (1906–1979), who is well known for his contributions to stability analysis and plate theory. He in turn was trained by Horst von Sanden (1883–1965), who worked in various fields of technical mathematics. The next in line is Carl Runge (1856–1927), whose name is immortal in numerical analysis, notably in the Runge–Kutta scheme. Runge in turn was educated by Ernst Eduard Kummer (1810–1893), who is famous for his work in the confluent hypergeometric function. The presence of the next doctor father, Heinrich Ferdinand Scherk (1798–1885), does not only explain Reinhold's passion for mathematic stringency (Scherk was a mathematics professor in Königsberg). He also connects Reinhold to Bremen, Reinhold's main place of activity, since he was born there. Now, we leave mathematics. The next supervisor of days passed was Heinrich Wilhelm Brandes (1777–1834) who worked in meteorology. Finally, the last one in Reinhold's scientific lineage is Georg Christoph Lichtenberg (1742–1799), who allegedly had no doctoral supervisor, was a physicist, and is known for his witty remarks. For example, "Es ist fast unmöglich, die Fackel der Wahrheit durch ein Gedränge zu tragen, ohne jemandem den Bart zu versengen." ("It is nearly impossible to carry the torch of

truth through the crowds without scorching someone's beard.”) Reinhold surely never minced his words when he had some truth to proclaim and in this sense is a worthy representative of his ancestor.

The editors would like to wish Reinhold and his family all the best for the future and many more years of active scientific life. We continue to need his presence and advice!

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