## **PREFACE**



## Herman J. C. Berendsen

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How honorable that we, daughters of Herman Berendsen, may provide the preface for this special issue of The Protein Journal, an edition dedicated to our father as a scientist and professor. We would like to add our perspective of Herman as our father.

Our dad was a special and remarkable man, a true scientist. Professor in physical chemistry, a man of reason and analysis. Very curious and eager to learn. His deep drive was fueled by curiosity, thinking of the next step and sharing his knowledge with colleagues, students and PhD students around the world to become even better together and discover even more. As Dad said "I solve problems".

He was ahead of his time and thought independently, single-mindedly. Convinced of his line of thinking, not bothered by anyone else's thought, he always saw added value in connecting knowledge beyond the boundaries of separate fields.

He was also a warm family man. When we were together as a family he was extremely happy, cheerful and interested. He loved his family and grandchildren as much as we loved him.

Early years.

Dad was born on September 22, 1934. The son of a family of gardeners, his father and grandfather were gardeners to the Queen (Wilhelmina and Juliana) at the Loo Palace. The family lived for a period in the beautiful gardener's house on the grounds of Paleis het Loo in Apeldoorn.

We last visited this house with Dad in 2017 on his 83rd birthday, a beautiful day that he enjoyed intensely.

Dad had a 6-year older brother, Karel, who was taken away by the Germans for the "Arbeitseinsatz" (forced labor) in World War II. This made a deep impression on Dad, who

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was about 9 years old at the time. He wrote down this poignant event narratively in a small booklet.

Seventy-five years later, the two brothers, shortly before Karel's death, recalled these memories. Karel also appeared to have written everything down and they exchanged each other's notes (Fig. 1).

Study.

At school, Dad skipped two classes, so he went to Utrecht to study Physics at the age of 16. At about the age 18, Pa met our mother Lia Stöpler in Utrecht during a dance night. All her life our mother had a good laugh at the way Dad pretended to be able to tango at the time. They got engaged on June 5, 1954 and married on August 10, 1957 (Fig. 2).

USA and PhD.

Our parents left in their early twenties for the USA where Dad started his PhD. They became friends with Warren McCulloch and his wife Ruth. Warren was a neurophysiologist and cyberneticist who had also studied psychology and philosophy(Fig. 3). An encounter that shaped them as human beings. Free thinking, open minded, in touch with other cultures with science as the connecting factor (Fig. 4). In 1962, Dad earned his PhD with the dissertation, called "An NMR Study of collagen hydration" (Fig. 3). Groningen, Zuidhorn and our vouth.

In the early 1960's our parents returned to the Netherlands where they went to live in Groningen. We were born in 1962 (Astrid) and 1964 (Fredericke). We moved to Zuidhorn in 1968, where we had a wonderful childhood (Fig. 5a and b). A beautiful house, our home as a permanent warm place.

As children we never realized that Dad's intelligence was exceptional. When we became adults ourselves and different frames of reference presented themselves, we were better able to interpret our father. His extreme focus and drive in his work made him achieve remarkable scientific results. Combined with an amiable personality, this led to enthusiastic collaboration with colleagues and PhD students from all over the world.

We were privileged with a childhood in which we had frequent contact with foreign scientists. They came to our home and had dinner with us, sometimes with their families.



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Fig. 1 Herman (left) with his brother Karel during a visit at Paleis het Loo in 1994



Fig. 2 Herman and Lia on their wedding day, August, 10, 1957

Then their children went to school with us. For us, this was natural. In retrospect, this was formative, enriching and instructive. The common thread of the meetings was always science as the connection between the worlds at the table. The meetings became friendships in Argentina, USA, India, France, Sweden, Switzerland, Italy and the UK (Fig. 6).

Focus and everything is solvable.

His scientific hunger and focus also had another side: Dad was always working. Dad was his work. He particularly enjoyed weekends and vacations, running extensive computational programs at the lab. Or at the CECAM computing center in Orsay near Paris where he often spent summer vacations. Unfortunately, we were not part of his focus in those days. As 12 and 14 year olds, we independently

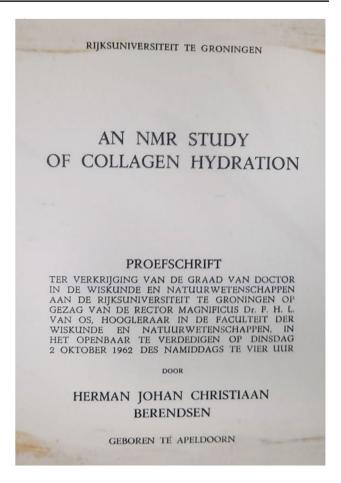


Fig.3 PhD Dissertation



Fig. 4 Lia, Herman and Warren McCulloch during the PhD October 2, 1962



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Fig. 5 a Herman's daughters, 1968. Astrid (right) 6 years old and Fredericke, 4 years old (authors of this preface). b Our home in Zuidhorn



**Fig. 6** The end of Herman's career was graced with a royal decoration (Knight of the Order of the Dutch Lion), 2000, April 30

travelled by train to Paris to spend a few days with our father. He visibly enjoyed that and so did we.

On the weekends, we would sometimes go to the lab with our dog. We ran through the long slippery dark corridors of the lab past the experiment rooms with test tubes, with a dime on our way to the choco vending machine. We made a game of slipping down the corridor in socks as if it were an ice rink and then quickly rounding the corner to the next corridor with the dog following us, who couldn't take the turn so sharply. He slipped and sailed straight ahead. As if in a slapstick with ears that caught wind.

Striking and again appropriate was that Dad only accepted one's thoughts if he could make the train of thought himself. He had to reason it out himself otherwise it wasn't so. Appointments almost always went wrong for that reason because Dad "thought" better to appear at a different point at a different time, or cut a road, or did something else for a while. Often to the understandable despair of our mother.

The advantage was that Dad almost always saw a solution to everything. After all, he could reason everything out. At least he thought so himself. Very inventive and positive. It made him never shy away from anything. He took on everything and so did we. It led to pleasantly crazy games and events. But it also gave us, especially during



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sailing, exciting moments. Those were the sailing adventures in the early eighties. In storms on the IJsselmeer, Dad fell asleep in the cabin because he loved the swell. During a crossing from Den Helder to Lowestoft we ended up in dense fog on the North Sea with a container ship within earshot and on the way back we almost missed the message that cables were stretched under the water surface. But it all went just fine. And we too learned that you can solve almost anythin. Dad sailed not only with us, but also with colleagues, PhD students and later with his grandchildren. (Fig. 7a–d).

Grandchildren.

That open-minded, playful demeanor with plenty of humor typified Dad and he maintained it into old age. We had a lot of fun and experienced many crazy things which continued with our children (born in 1993 and 1995). He was a beloved grandfather, full of attention, playing, joking and teaching (Fig. 8).

He had a deep bond with all three grandchildren. He was proud when they graduated and we all celebrated graduation in "his" Academy Building in Groningen. Of



Fig. 8 Herman and his grandchildren in Switzerland, 2005

course, we always went to the senate room where Grandpa hung his painted portrait. (Fig. 9a-d).









**Fig. 7** a Herman during a storm at the North sea, 1969. **b** Herman (left) and Ed Samulski (right) sailing with postdocs and colleagues (1970). **c** Herman (right) preparing navigation of a 36 h triathlon at

the Dutch 'Waddensea' (Sailing, Biking, Running), together with his daughters and sons in law. 1990, June. d. Herman in the small sailing boat of his grandchildren (Friesland, 2000, August).



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Fig. 9 a The 'Academiegebouw' of the University Groningen. b Herman at the senate chamber, pointing at his portrait (Groningen, 2018). c, d, e. Herman at the graduations of his grandson Tim en granddaughters Esther and Anouk (Groningen, 2018, 2017)

Figure 6 The end of Herman's career was graced with a royal decoration (Knight of the Order of the Dutch Lion), 2000, April 30

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Getting older and being older.

In 1999, our father retired and received a Royal decoration (Fig. 6). After his retirement, Dad was invited to guest lectureships and summer schools abroad. There our parents went together where we then visited them regularly. It is a rich feeling to have been given their broad outlook. A basic attitude in which hierarchy plays no role and curiosity is as boundless as it is connecting.

Our mother passed away in 2015. It was a huge disruption for us all and specially for Dad. After some time he found balance in his life again and was able to enjoy music and lectures at the lab. He joined us on vacation, content, always a pencil and paper in his breast pocket to 'solve a little problem' while reading Einstein's theory.

Frederieke traveled with him when, after his retirement, he received an honorary doctorate in Bucharest (2014) and the Berni J. Alder Prize in Moscow (2015). Dad was already suffering considerably from heart failure but even then his tidy nature and inventiveness helped.

In recent years, the roles reversed, but Dad retained his independence. We helped him, the grandchildren visited him and made sure he was equipped with state of the art cell phones and other gadgets. He noticed that he was declining and regularly we discussed the value of life and his outlook on it.

Dad was appreciated for his humble nature. He taught us to always think in terms of opportunities. If you can no longer walk, you can drive quite fast in a mobility scooter



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Fig. 10 Herman loved to speed up at the bicycle path

(Fig. 10). He taught us to follow our path, to keep direction, not to be afraid. (Almost) everything is solvable.

Proud.

When his heart failure got worse he extrapolated his decline and concluded his end of life was near. Dad did not want hospital interventions because he had no prospect of improvement, so he said. He passed peacefully away on Oct. 7, 2019 at his own home, in our presence,

He lived his life mightily beautiful. We are proud to say that he lives on in us. We are proud of Dad as our father, grandfather and scientist. And it all comes together particularly beautifully in this wonderful edition of *The Protein Journal*.

We say cheers and thank you all very much for this unique edition. Many thanks to everyone who has worked diligently on it. How fantastic! We were already proud and remain proud by your contributions.



Cheers! (2018, Sept 22) Herman's birthday. Herman (middle left) Frederieke Berendsen (front, middle) and Astrid Berendsen (rear, middle), our children and partners.

On behalf of our father much love from the grateful daughters, children and partners.

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