Still Craving a Porsche

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Abstract. Reminiscence of my private and professional experiences with Gerd.

Gerd and I were colleagues at the Institute for Applied Information Technology (FIT) of the Gesellschaft für Mathematik and Datenverarbeitung (GMD) at Schloß Birlinghoven in Sankt Augustin, near Bonn. Gerd joined the new Expert Systems group, soon to be led by Thomas Christaller, in 1984, at about the time he completed his diploma in Computer Science at the University of Bonn. I had started working at GMD a bit earlier, in the Spring of 1983, as a member of the Research Center for Information Law headed by Herbert Fiedler, one of the founders of legal informatics in Germany. As luck would have it, the two groups were located on the same floor of the same building. Gerd's office was located almost directly across from mine on the other side of the building. All of us had private offices back then, which seems like a luxury today. But thanks to a coffee room and twice a day coffee breaks, when just about everyone took the time to met to chat and socialize, another luxury, we weren't at all isolated and got to know each other well.

As it happens, I had been hired by Herbert Fiedler to conduct research on legal expert systems, so the founding of an expert systems research group on the same floor was a happy coincidence, one of many in my career. I had just completed a law degree at the University of California, Davis, and was in Germany to be with my future wife, Ines. (At that time, I still believed this would be a temporary visit, just long enough for Ines to finish her doctorate, but here I am, still in Germany, more than 30 years later.) Herbert Fielder was nearing retirement and his research group was moving to a location nearer to the law school of the University of Bonn, where he held his professorship. I made the wise decision to take the opportunity offered to me to switch to the Expert Systems group. Due to our shared research interests we had been working together closely anyway, so this just formalized the status quo.

Gerd and I, along with Ulrich Junker, shared an interest in nonmonotonic logic. Gerd had already done some research on the topic for his diploma thesis. I had been trying to model legislation using Horn clause logic in Prolog and struggling to find ways to handle legal rules with exceptions and priority relations among conflicting rules, which became the subject of some of my first publications [7, 8]. I remember the three of us spending hours at the chalk board exchanging ideas and helping each other with our research. And I would like to

think the legal examples I introduced helped to shape our common understanding of some of the problems, such as the insufficiency of specificity as a principle for prioritising default rules. The law recognizes a variety of principles for prioritizing conflicing rules, such as preferring rules from a higher authority (Lex Superior) and preferring newer rules (Lex Posterior), in addition to prefering more specific rules (Lex Specialis).

Later Gerd and I had an opportunity to intensify our collaboration, by working together in the TASSO project [5] funded by the German Federal Ministry for Research and Technology and headed by Wolfgang Bibel at the Technical University of Darmstadt. Other members of the project included Josef Schneeberger and Torsten Schaub, in Darmstadt, along with Dieter Bolz, Hans-Werner Güsgen, Peter Henne, Joachim Hertzberg, Ulrich Junker, Rüdiger Kolb, Gerhard Paaß, Franco di Primio, Erich Rome, Günther Schmitgen and Karl-Heinz Wittur at GMD. During this time, Gerd, Josef, Torsten and I all were or became PhD students with Wolfgang Bibel, our "doctor father", which makes us I suppose "doctor brothers". I have fond memories of this period as being especially productive and enjoyable, with a great, harmonious team and nearly perfect research conditions. It seems that back then it was easier to obtain funding for large, long research projects.[1]

Gerd was a guest researcher at the International Computer Science Institute (ICSI), in Berkeley, California, from 1991 to 1992. Since I lived in California for many years and had family there, I flew over regularly and remember visiting Gerd and his family at their home in Berkeley.

It wasn't until 1994, both of us still at GMD, that Gerd and I wrote our first article together, "How to Buy a Porsche" [1], for the AAAI-94 Workshop on Computational Dialectics in Seattle, Washington [11], which Ron Loui and I organized. The paper presented a new logic for decision-making, called Qualitative Value Logic, as part of our work in the Zeno project [9] on developing methods and tools for supporting argumentation about the pros and cons of alternative options in deliberation dialogues. The leading example in the paper was about a deliberation between a husband and wife, purely fictional of course, about whether to buy a Volvo or Porsche. Our wives and children were with us in Seattle, and I remember a nice day trip after the conference with our families to visit a nearby forest, where we were astonished by the tame deer.

In 1996, Gerd and I organized a second computational dialectics workshop [2], which took place in Bonn as part of the Fundamentals of Applied and Practical Reasoning (FAPR) conference. It was there that Douglas Walton and I met for the first time. Doug became my principal collaborator in the Carneades project several years later.

[1] I am deeply grateful to Wolfgang Bibel for pulling strings to have me accepted as a PhD student, despite my lack of computer science degree and my inability to write German. And also for his guidance and continued encouragement, also many years later. And while I am thanking people, let me also acknowledge Torsten Schaub for helping me to obtain an honorary professorship at the computer science department of the University of Potsdam.

Gerd and I remained in contact over the years. I remember visting him in Vienna during his first professorship there. And also visiting him several times in Leipzig, which after all is not so far from Berlin, where I now work, including a very enjoyable workshop in 2009 on computational models of argument that Gerd hosted. Other participants I remember include Leila Amgoud, Tony Hunter, Henry Prakken, and Stefan Woltran.

The original Carneades model of argument and burden of proof [10] was limited to cycle-free argument graphs and not based on Dung's work on abstract argumentation frameworks [6], the leading model of argument in the computational models of argument community. I asked Gerd if he would be interested in helping me to overcome the cycle-free limitation by finding some mapping from Carneades argument graphs to Dung abstract argumentation frameworks, and thus also bring Carneades in line with the mainstream of the field. A short time later he contacted me to tell me he had found another way to overcome the limitation, based on a new model he had developed with Stefan Woltran, to be called "Abstract Deliberation Frameworks". I hope I remember this story correctly, but my recollection is that I suggested calling them Abstract *Dialectical* Frameworks (ADFs) instead, to avoid confusion with deliberation in argumentation theory, where it is a kind of dialogue, but also to resonate with our prior work on computational dialectics. This suggestion was adopted in their KR 2010 paper presenting the system [4]. It was noted that the work on ADFs had started as an attempt to add proof standards of the kind modeled in Carneades to Dung frameworks, but the paper stopped short of showing how to reconstruct Carneades, without the cycle limitation, using ADFs. This was done shortly thereafter in a paper Gerd was invited to present at the 2010 Computational Models of Argument (COMMA) conference [3].

I consider Gerd a good friend, perhaps I should say old friend by now, if that is appropriate on this occasion. I have always enjoyed his company and good humor. We share several interests, including being hobby musicians. I remember Gerd accompaning me on bass when I played a few songs at the party to celebrate the completion of my PhD. Perhaps we will find further opportunities to collaborate professionally. Certainly work remains to be done on relations between computational models of argument and practical decision-making. Perhaps the time will come to continue our work on "How to Buy a Porsche". Neither of us has one yet.

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