TALKING HEADS

From Karlsruhe to Kraków

Jaap van den Herik

It took forty years from Karlsruhe to Kraków. Then, in 1983, it was rather hot in Karlsruhe when Luc and I exchanged our ideas on the future of AI. At the IJCAJ Luc told me that he had just been appointed, or was about to be appointed, as the first AI professor of in Belgium with the task of founding an attractive AI centre at the Vrije Universiteit Brussels. Bob (Wielinga) and Jaap (van den Herik) listened to his plans with interest, approval and well controlled eagerness to learn from him how to handle the mind setting of the European Academies towards AI.

Luc was the youngest of us and nevertheless the most successful researcher so far. We did our best, but still we had to gather more signs of competence to be appointed as an AI professor. Luc was the first one and encouraged us: "*Guys, in the Netherlands, in Amsterdam and in Delft, it must happen. AI needs to mature and you should help to do the job.*" We nodded positively and took up the task to follow his lead. In retrospect we may state that we succeeded. Thanks, Luc, for the encouragement; thanks Luc, for the successful continuation of our cooperation. Today we celebrate a successful follow-up of **forty years**.

1 AI in the Low Countries

In 1982, a group of 21 people in Amsterdam founded the NVKI (Dutch Association for Artificial Intelligence). Bob had already initiated an European Conference on Artificial Intelligence (ECAI) earlier (1978). In 1983 we attended the IJCAJ (International Joint Conference on Artificial Intelligence), the 8th edition took place in Karlsruhe.

The entire AI world at the time was there. In our group we talked about knowledge representation and KADS (Bob), chess, search and learning (Jaap) and robots, language and constraints (Luc). With these topics we envisioned a fruitful AI development and the promising line of Artificial Intelligence research in the Low Countries.

2 Arthur Samuel

Sometimes there was silence on the square or in the hall. That happened when Arthur Samuel walked along or passed by or entered. He was a legend to all of us; he was the founder of *machine learning*. His application area was checkers (draughts on the 64 squares). Nowadays we would say: it was about *parameter tuning* or assigning weights to parameters. His merits were great. He was honored in Karlsruhe as a pioneer in AI. As a result, he again felt obliged to attend many sessions. He enjoyed the honor he received and we, budding AI researchers, enjoyed his presence.

3 Doug Lenat

If we check the list of participants in the IJCAI 1983, we find many well-known names, each with their own merit. The fact that I emphasize Doug Lenat here has everything to do with *performance*.

Doug Lenat (1950) had developed the EURISKO program in 1981. In 1983 he was formulating ideas for the Cyc project that would start in 1984. Cyc (pronounced syke, short for encyclopedia) would become one of the most ambitious AI projects ever – we then thought so- Karlsruhe was the testing ground for Lenat. The invited talk (keynote address) was in the context of *Learning and Knowledge Acquisition*. There is no abstract in the Proceedings, the talk was ideas, ideas and more ideas.

Lenat conveyed the ideas with much enthusiasm and showed even incredibly more research ambition. At that time it was still possible to use overhead sheets. He had a pointing stick and simultaneously used his fingers to indicate the relations between the entities. At some point he had taken a new baton. The audience missed it and we saw how he pointed with his fingers parts of world knowledge that should be included in rules in Cyc. Then he walked away from the projector, raised his hands demonstratively and said, "*how should this be done*?" However, his hand remained with its fingers on the screen. The audience was shocked for a short while (what is happening here?). Then there was applause. This was *performance*. This was a keynote performance, this was the future. This was CYC.

4 Luc in Brussels

After Karlsruhe everyone went their own way. Luc started building his AI lab in Brussels. It turned out to be a beautiful challenge. I soon found an invitation in my mailbox: "*Jaap, wouldn't you like to come and give a lecture at the AI lab, preferably about chess? Thanks for coming, Luc.*"

The presentation was a great success and Luc explained how he did it. "*Every time an American AI researcher flies over Belgium, I ask the plane to land and the researcher to give a lecture at the VUB AI lab. It works fantastically.*"

Step by step, Luc expanded his AI laboratory, it became a great success, and everyone enjoyed visiting Brussels.

5 Luc in the Netherlands

Of course, Luc was a real Belgian, a European with an eye on America, but the Netherlands could also count on him. He has contributed greatly to the developments of AI in the Netherlands. I mention here keynote speaker of the NAIC/BNAIC (Amsterdam, Twente), keynote speaker at JURIX 1991 (Leiden), member of the KNAW visitation committee, and advisor of various projects. In Amsterdam the keynote speech was about *Talking Heads*, a very inspiring topic about people and robots.

After 1983, Luc founded *AI Communications* together with Bob Wielinga under the auspices of the ECCAI (European Coordinating Committee on Artificial Intelligence). He remained active as a co-editor until the 1990s. He then shifted his attention to France, where he founded the Sony Computer Science Laboratory in Paris in 1996. He also became the first Director there in Paris.

6 Luc's intuition for AI developments

Then already Luc showed a great sense of AI developments. He followed his intuition and saw where he ended up. It was always *terra incognita* where he managed to find the diamonds. With the help of McWhinney's theory, *Grammars of Engagement*, it is possible to further characterize Luc's position. Part of *Grammars of Engagement* is based on Jung's Personality Types, namely: **Thinking-Sensing-Feeling-Intuiting**. There are four mutual connections (N stands for Intuiting), namely: T<->S, S<->F, F<->N, and N<->T.

In Figure 1, each connection is personalized to persons previously mentioned. I would like to leave the interpretation of the names and connections to the reader.
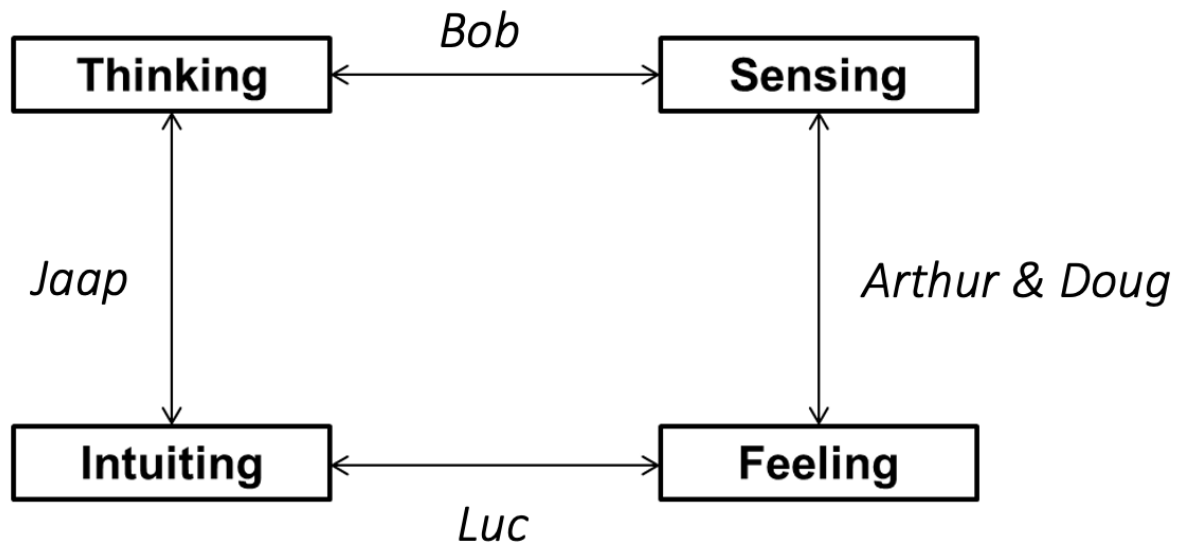

Figure 1: An instantiation of the Four Modes with Luc, Jaap, Bob and Arthur & Doug

Luc "feels" where things should go, he follows his intuition, which in turn confirms the "feeling". We have all seen the successes this leads to. Luc, we enjoyed your talents at all 40 years passed since Karlsruhe 1983 . We also enjoyed your constructive enthusiasm for AI now and in the last 40 years and hope that the ECAI 2023 will be the start of fully new AI services where Chat GPT may have a voice on equal footing with our voice, although I understand that the majority of AI researchers would like to remain the boss in their own house. Our younger AI friends resent at ECAI 2023 will see how matters stand after another forty years**.**

References as a reminder

Luc Steels (1983). Descriptions as constructs in object-oriented representation, in *IJCAI'83 Proceedings of the Eighth International Joint Conference on Artificial Intelligence*, Volume 1. Karlsruhe, West Germany — August 08 - 12. San Francisco: Morgan Kaufmann Publishers, pp. 395-397.

Leo Konst, Bob Wielinga, Jan Elshout and Wouter Jansweijer (1983). Semi-automated analysis of protocols from novices and experts solving physics problems, in *IJCAI'83 Proceedings of the Eighth International Joint Conference on Artificial Intelligence, Volume 1*. Karlsruhe, West Germany — August 08 - 12. San Francisco: Morgan Kaufmann Publishers, pp . 97-99.

Jaap van den Herik (1983). Representation of experts' knowledge in a subdomain of chess intelligence, in IJCAI'83 Proceedings of the Eighth International Joint Conference on Artificial Intelligence, Volume 1. Karlsruhe, West Germany — August 08 - 12. San Francisco: Morgan Kaufmann Publishers, pp. 252-255.