

Sammelschrift to celebrate Jacqueline and Pim's twenty-five academic years in Bern

Jacqueline (F.N.) van Leeuwen and Pim (W.O.) van der Knaap came to Bern in 1991. Rumors preceded their arrival, because at that time the Bernese lab consisted only of Swiss. Dutch people were perceived as quite exotic, known to be tall and to like strange food such as hagelslag. At that time the lab consisted of the head, Brigitta Ammann, a lab technician, a PhD-student and two MSc-students, two new colleagues arriving were thus a major event.

The arrival of Jacqueline and Pim had been initiated in the framework of the International Geological Correlation Programs (IGCP), of which the project "Palaeohydrological Changes in the Temperate Zone in the Last 15000 Years" formed part. It consisted of two subprojects, the first dealing with fluvial environments and the second concentrating on lakes and mires. In the latter Björn E. Berglund and Magdalena Ralska-Jasiewiczowa managed to bring together palynologists from many European countries with annual meetings and excursions 1977-1988 (Berglund, 1990; Berglund et al., 1996). It was such a joyful and successful program that it needed two final meetings. At the second one in Poland (1988) John Birks proposed that a European Pollen Database (EPD) should be created. The idea fell on fertile ground and the EPD was initiated (<http://www.europeanpollendatabase.net>).

Seen from the Alps the collaboration with the EPD looked like a significant amount of work. Fortunately John Birks helped to write a proposal to the Swiss National Science Foundation. Our original plan to have Steve Juggins as a database manager fell to pieces – Steve turned down our job offer! But this was "a blessing in disguise" because we could convince both Pim van der Knaap AND Jacqueline van Leeuwen in 1991 to move from the famous palynology school of Utrecht to Switzerland. When we asked Pim he was on South Georgia (54° South) studying lichens. He accepted. But the evening when we expected Jacqueline and Pim to arrive in Bern we got a phone call from Basel: they were stopped at the German/Swiss border because their car was too heavy – too many books! Next morning our "coring master" Willi Tanner was sent to Basel to help transport many, many boxes of books.

When Jacqueline and Pim arrived it was like Woodstock, the serious Swiss researchers were amazed to encounter two hippies in science, charming, friendly smiling and completely relaxed. Probably the Swiss thought they will disappear soon because the environment was hard with still 45 hours of mandatory working time, while in the Netherlands working hours were shorter. However, the Bernese laboratory gave both of them a large degree of academic freedom so that they remained until today. In this long time they contributed to myriads of projects and initiated and completed many very successful studies.

In the early years Steve Juggins and John Birks helped in many ways to build up the Alpine Palynological Database (ALPADABA), in close collaboration with the EPD (from 1990 onwards). Meetings of Swiss, French, Austrian, and German colleagues helped to clarify a number of relevant questions, such as quality control, chronology, and also the "rules of the game" fixed in a protocol. Jacqueline with her profound knowledge of pollen morphology contributed significantly to harmonizing pollen nomenclature (also in a working group of the EPD). Papers that used ALPADABA in connection with EPD include a review paper of Swiss sites (van der Knaap and Ammann, 1997).

Jacqueline and Pim explored new avenues of palynology. A particularly long-lasting project was the establishment of pollen traps for long-term pollen influx monitoring. Generations of lab assistants suffered, because the traps not only collected pollen but also decomposed mice and other little mammals, temporarily affecting the atmosphere of the laboratory. Apparently some of the traps were also used by cows for "target practice" and the associated dung further increased the olfactory stress for the laboratory members. Another brilliant idea was to install electronic counting machines to help in the enumeration of pollen samples. The laboratory in Bern had its own electric counting devices, but apparently they were not fancy enough. Thus the laboratory organized some new and flashy Psion electronic counters that could transfer the information directly to the newly established Tilia program for which Pim was responsible together with the ALPADABA data base management. The Psion counters came to Bern. And disappeared.

Installation was not easy and many years later they were still popping up in the drawers of the laboratory, waiting for their use. Some are still here. Next to methodological advancements Pim and Jacqueline also brought new ecological perspectives and ideas to Bern. Particular highlights were the studies concerning Island Biogeography and how palynology can help to distinguish between native and introduced species {van Leeuwen, 2005 #16412} {van Leeuwen, 2008 #16411}. This also resulted in a short note in Science magazine and catapulted Pim and Jacqueline into the exclusive club of researchers publishing in high-impact journals. This was very timely, since it coincided with a period when pressure increased for palaeoecologists, particularly in Bern, to publish in competitive interdisciplinary journals and work towards high impact publications.

Every year Jacqueline and Pim joined the International Moor Excursion, resulting in a lot of great scientific discussions but also many adventurous and entertaining anecdotes. A special excursion to Yellowstone was organized by Cathy Whitlock to celebrate their retirement in 2014. Other famous excursions followed. The one to Denmark with Bent van Odgaard in 1994 deserves particular mention since Pim became stuck in a twisted twin beech and had to be saved by colleagues. In a similar episode years later in Austria, with Jean Nicolas Haas and Klaus Oegg, Jacqueline had to save Pim from certain starvation. Pim had searched for a shortcut to cross a fence, slipped and a pole pierced his raincoat, fixing him to the fence. The excursion moved on until at someone noticed that Pim was missing which resulted in his rapid rescue by Jacqueline. Perhaps Pim should stay away from trees but he is clearly too much of a botanist to consider this. Jacqueline also took care of many foreign guests, she made Bern international by teaching palynology and sharing the unique knowledge she had acquired in Utrecht. In the 1990s and 2000s she explored new pollen floras from other continents, while Pim was responsible for the development of quantitative aspect at the laboratory such as the introduction of computer technology, mainly desktops, which substituted the big calculators that were used before the development of Tilia to draw pollen diagrams.

2006 was a year of change. The paleoecology chair in Bern became vacant and Jacqueline and Pim moved from Biology to Geography to continue working with Martin Grosjean. Almost a year later, in spring 2007 they rejoined the re-established Palaeoecology group under Willy Tinner to support it with their profound ecological and palaeoecological knowledge. A new tradition started in 2007, adopted from Harald Bugmann (ETH Zurich), where paleoecology was in refuge during the transition from 2006 to 2007: the winter excursion. Once a year the Palaeoecology group visits Swiss snow resorts and other attractions. 2009 was special, because a fearless PhD-student had decided to visit the most difficult sledging slope of Switzerland, the Grindelwald First. Of course nobody knew that Dutch are not so used to down-hill sledging. After the first gruesome 100 meters, wise Jacqueline decided to take the cable car to go down with some sensible Italians. Pim instead decided to lead the group and started an incredible race in his black rubber boots. After some kilometers in an infamous parabolic curve he lost control of the sledge. Pim was catapulted about 20 meters unto an almost overhanging skiing piste, assigned the highest skiing difficulty level, found himself sliding in the midst of skiers, and then fell down several hundred meters only stopped by a dark spruce (*Picea abies*) forest. Group members were shocked but then saw a snowman appearing and waving without rubber boots, gloves and cap. These accessories were spread across the slope. The skiers that brought these belongings as well as the group members couldn't believe that Pim had escaped unharmed. It is tempting to believe that some superior forces of science had saved him, because he would still have to publish very important findings.

Numerous students enjoyed learning the morphology of pollen, spores and plant cells with Jacqueline at the microscope. Her enthusiasm was contagious so that Bern became famous for its refined palynological taxonomy (and long diagrams, the so-called Pimograms). Jacqueline was always incredibly patient, even if some students realized that asking her was much easier than working independently using the determination keys. After microscopy, the students were often sent to Pim to be introduced to data input and analysis with Tilia and other programs. In the days of Fortran programs and DOS this was a challenging moment for the students since Pim used endless shortcuts to proceed quickly and blindly through the programs (what's a mouse for anyway?). However, Pim's shining cordiality motivated not only students to

make excellent numeric analyses but also produced transparent guidelines and instructions how to use the most cryptic DOS-based programs.

Jacqueline and Pim contributed to many stimulating discussions in the seminars and during the breaks, giving refreshing insights into ecology, always staying critical but positive. Even facing the worst products in literature, they could still find a good aspect worthy to be mentioned. Their optimistic and friendly attitude attracted collaborations from all over the world, also because they generously supported people that had difficulties to access the western academic world, for instance from Eastern Europe and Asia.

Jacqueline and Pim participated in many field trips on all continents, they accompanied students and introduced them into the flora of the study areas. Through their student advice they educated and motivated scholars that have now established own groups around the world. It is difficult to say how much Bern and paleoecology in general owe to Jacqueline and Pim, to their way to be grounded scholars in a quickly moving academic world. We will strongly miss Jacqueline and Pim, their help, advices and expertise. This Sammelschrift, collecting their published articles reflects their unremitting commitment to science and ecology.

For the Bernese paleoecology group as an acknowledgment of our grand gratitude

Brigitta Ammann, Erika Gobet, Oliver Heiri, Christoph Schwörer, Willy Tinner in summer 2016.

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