

Memories of a second-generation ASTINeer.

Jean Lemaire, The Wharton School, University of Pennsylvania

Thank you, the Swiss Association of Actuaries, for inviting me. When I received Frank Cuypers' e-mail asking me to talk about my ASTIN memories, I immediately accepted, even though I am retired, I have not taught for 18 months, I have never made a virtual lecture, I accepted because Switzerland has been very important in my career. I am one of the 20 corresponding members of your association, clearly the worst of your corresponding members, never having attended a single annual meeting. It took a virus and Microsoft technology to finally get me to speak to you, as a small token of my appreciation for the honor you bestowed me in 1987.

This is an opportunity for me to say thank you to several prominent Swiss actuaries, famous actuaries that I feel privileged to have met. I would not have been a professor of actuarial science without Hans Buhlmann's celebrated book, "Mathematical Methods in Risk Theory", a book that I devoured while finishing a PhD in game theory, a book that made me realize that actuarial science was more than using slide rules to divide commutation factors, a book that made me change my career goals towards the actuarial profession, first in Brussels, then in the United States. I would not have moved to Philadelphia without Hans Gerber, who had just made the opposite trip, from Ann Arbor in Michigan to Lausanne. I wondered why, so I made a special trip to Lausanne to spend an evening with Hans to ask him why he had flown back to his homeland. Later I became the Chairman of ASTIN, and it is in Switzerland that I stepped down from that position, in Montreux, when another renowned Swiss actuary, Alois Gisler, spent an hour patiently helping me prepare the two paragraphs of my farewell speech when I spoke Swiss-German.

I will talk about ASTIN today, as ASTIN has been so important in my life. What is ASTIN for me? Mostly a group of terrific colleagues, many of them Swiss or living in Switzerland – as if you guys didn't have enough homegrown talent, you keep importing bright minds from France, Belgium, Canada. I have so much respect and admiration for this second generation of ASTINeers, Hans #1, Hans #2, Alois, Paul Embrechts (who is Swiss now), it is an honour for me to be your friend and to be part of this group – the greatest group of people I know. Of course, in this group I include Gerda and Gerda, Marlies and Marlies, and many actuaries born Swiss, born elsewhere and living in Switzerland, or living elsewhere not having yet realized that they should move to Switzerland.

The Tokyo Olympics just ended. Unfortunately, work for ASTIN is not an Olympic discipline, I would have won several medals with ASTIN records that will never be broken: 24 papers in the ASTIN Bulletin, 37 consecutive ASTIN Colloquia attended, ASTIN Chair for six years, Vice-Chair for seven, Treasurer for 18, IAA delegate to the ASTIN Board for 13, Honorary Chair for 13 and counting. Of course, every record has to be put in context. Being the Vice-Chair of ASTIN is the easiest work in the world, when the Chair is as good as Eddy Levay. Most of the 24 papers I

published were written in the old days, before a sequence of outstanding Zurich-based editors raised the level of our Bulletin and made publishing way more difficult. And I am sure that the ASTIN Committee will never find anyone stupid enough to remain Treasurer for 18 years. And, as impressive as these Committee positions may look, they pale in comparison with the amazing work done by Hans, Paul, Alois, Andrew Cairns, and now Mario as editors, to make the ASTIN Bulletin the #1 actuarial journal in the world.

Becoming Treasurer was the first in this long list of assignments. I would not have become Treasurer without luck, without being in the right place at the right time, living in Brussels at a time when ASTIN was not doing well. It was Hans Buhlmann who offered me the job during a meeting in Oberwolfach. I accepted enthusiastically, all the more enthusiastically as Hans had “forgotten” to mention a little detail: ASTIN was bankrupt.

The International Actuarial Association is now run by professional staff in Canada. However, during its entire first 100 years, it was managed by a small group of Belgian actuaries, making its operation fully subsidized by Belgian insurers. In all countries, a national correspondent was in charge of collecting IAA and ASTIN dues and forwarding them to Brussels. The ASTIN Treasurer handled the ASTIN account, collecting dues from IAA and paying expenses, pretty much printing and distributing the Bulletin – there were no other expenditures. IAA and ASTIN were expense-free international organizations with thousands of members!

The huge advantages of this structure masked major problems: uncollected dues, out-of-control printing expenses, conflicts between ASTIN and IAA. So ASTIN needed a Brussels-based actuary to figure out what was going on, and that turned out to be me.

I found an association in shambles. Several countries had not paid dues for five years, the Swiss had paid, of course. Our British publisher showed little interest in our Bulletin. IAA and ASTIN Treasurers were in frequent conflict about dues allocation and timely transfer of monies. ASTIN was broke. We could not publish the Bulletin in 1983. For the skinny issue of the 1984 Bulletin, I had to borrow from IAA to pay the publisher.

Drastic measures were needed. I shopped around for a new publisher and settled on a tiny printer from Belgium. While this may seem bizarre in this era of big academic publishers, it divided our printing costs by seven. Yes, seven! ASTIN represented 40% of the new publisher’s income, so we received very favorable treatment: no commitment on the number of pages, possibility to send in a paper until three weeks before target date, guaranteeing authors immediate publication. I found out that mailing an ASTIN Bulletin from Copenhagen would cost about 50% less than mailing it from Brussels, so I arranged for bulk delivery of all ASTIN Bulletins to the Danish post office for individual re-mailing. I called negligent national correspondents monthly, attempting to shame them into paying their late dues, with moderate success. Given the low marginal cost of printing additional Bulletins, increasing our membership was essential, and ASTIN wrote to all national associations to that effect. AFIR was created, immediately adding six hundred recipients of the Bulletin.

Progressively, the situation improved. The ASTIN membership passed 2,000, the circulation of the Bulletin 3,000. ASTIN made a little money. Then more money. Then a lot of money. I stepped down having raised ASTIN assets from zero to one million Euros, while never increasing annual dues above their 1982 level of 25 Euros. I am not particularly proud of it, many others would have achieved the same results, the key was the willingness to devote quite a bit of time to ASTIN to implement simple, common-sense, decisions. I did enjoy this part of my career very much: it was very rewarding to see ASTIN grow into a financially stable association, at a time when my personal work situation was far less gratifying.

Another fun part of my work for ASTIN was our book donation. In 1995, for the first time, ASTIN had significant assets, and the Committee faced the pleasant but difficult task of using our money for the benefit of actuaries around the world. The Committee decided to allocate 50,000 Euros to a large book donation operation, with the goal of providing the ten most important actuarial textbooks to 100 recipients around the developing world.

All Committee and Editorial Board members “voted” on textbooks, along with editors of other actuarial journals. In the end, not ten but seventeen books were selected, with “Practical Risk Theory for Actuaries” by Daykin, Pesonen, and Pentikainen receiving the highest number of votes. The silver and bronze medals went to the famous books authored by Hans from Lausanne and Hans from ETH. A list of 123 recipients in 39 countries, from Albania to Zimbabwe, was put together, in a large part through the suggestions of Chris Daykin and Harry Panjer.

The donation program generated much enthusiasm from the ASTIN community. All authors readily agreed to give up their royalties. Actuarial societies from the US, the UK, and Australia, all volunteered to give their selected books for free. Professional publishers agreed to big volume discounts, from 25% to 60%. All books were sent to my office in Philadelphia. Fortunately, I had a very large office: two thousand books take up a lot of space! The doctoral students of our Insurance Department did their share, agreeing to devote a weekend of their time to package the books, at the cost to ASTIN of pizza and cokes. The US Post Office then send in a special truck to collect the boxes.

This was a lot of work but rewarding work: the book donation was a great success. In the end, ASTIN spent less than 40,000 Euros on the operation. Several of the recipient universities ended up creating an actuarial program. Some of their professors attended ASTIN colloquia and published in the Bulletin. Additionally, the donation generated a lot of interest in ASTIN: for many years, I received e-mails from around the world asking whether we would someday organize another book donation.

Another activity that we undertook with our newfound money was subsidizing seminars in actuarially-developing countries. We let it know around the world that we were willing to co-sponsor seminars, and, after a few trials and errors, the following pattern developed: after receiving an expression of interest from an association, we tried to find a specialist in the field

to teach fifteen hours, either during a week-end, or during late afternoons during a week. ASTIN paid for the travel expenses of the speaker and a very modest honorarium, the inviting association took care of local expenses and organizing the seminar. I always tried to have the seminar taught in the local language. After Sam Cox made the mistake of telling me that he was fluent in Spanish, he kindly agreed to teach several seminars in Central and South America. I even managed to organize a seminar taught in Croatian in Zagreb, having requested one of my doctoral students to “volunteer”. I made my own mistake: I had agreed to lecture in Mumbai and Hong Kong, I asked the Indian Institute of Actuaries whether they preferred a seminar on merit-rating or on life insurance. They asked me to teach both! So, after a long trip from Philadelphia to Mumbai, I taught 15 hours on a Monday and Tuesday on life insurance, followed by 15 hours on merit-rating on Wednesday and Thursday, a flight to Hong Kong on Friday, and another 15 hours in Hong Kong on Saturday and Sunday. The equivalent of one course taught in one week!

We organized about twenty seminars, after which the system collapsed, being too heavy for the local side and for ASTIN.

These were my most important memories from my time in the Committee. I consider myself as a second-generation ASTINeer. Unfortunately, the first generation, the founding fathers, is not around anymore. So, what about this first generation? How did this all begin? How did ASTIN came to life? Let’s now go back, way back, and let me tell you what I discovered about the birth of ASTIN. ASTIN was founded in New York on October 16, 1957. The first ASTIN Colloquium took place in La Baule, a charming seaside resort in Brittany, on June 11th and 12th, 1959. The only topic of the meeting was bonus-malus theory. According to ASTIN legend, when General Charles de Gaulle was elected President of the 5th Republic, he instructed French insurance companies to start using bonus-malus systems. French actuaries, needing all the help they could get, then convened the first ASTIN meeting, and La Baule became known as the birthplace of bonus-malus theory.

Such a great story, but is it true? Did De Gaulle, as one of his first tasks, really call the Institut des Actuaire Francais to require insurers to introduce bonus-malus? An invitation to lecture at a Conference on Risk Analysis held in La Baule in 2016, gave me the opportunity to have fun as an actuarial detective, to play the role of an actuarial Sherlock Holmes (or, given my Belgian citizenship, an actuarial Hercule Poirot) to investigate this legend.

I was surprised to discover at the library of my university a full collection of Transactions of the International Congress of Actuaries starting from the very first Congress held in Brussels in 1895. Browsing through these Transactions proved to be a captivating exercise, leading to three main conclusions:

1. Before World War II, you could be an actuary without knowing your Greek alphabet. Papers mostly contained extensive tables, no formulas.

2. Until the late 1950s, papers were published in four languages, equally represented: English, French, German, and Italian. Early issues of the ASTIN Bulletin contained papers in English and French (with just one paper in German). Now, English has taken over as the only acceptable language. Note that this English dominance is fairly recent, though. I was the first lecturer of the Swiss Summer School, in the early 1980s, and Marc-Henri Amsler explicitly requested me to teach in French. The British students were not exactly thrilled. I do remember some invitations in Italy and in Portugal around that time where the organizers would take a vote just before my first lecture whether I would teach in English or French.
3. Fascinating articles, dealing for instance with the insurability of patients affected with tuberculosis, or rating factors for people returning from the colonies, convey a message to all of us: the skills that we spend so much time learning, that we now apply with much confidence, can possibly become irrelevant during our career. We need to constantly re-tool ourselves.

Reading these Transactions and my complete collection of the ASTIN Bulletin led to clear conclusions: 53 actuaries from eight countries attended the La Baule meeting. Eleven papers were presented, nine in French, two in English. Many of the papers were published in issue 1.3 of the ASTIN Bulletin, with some contributions appearing in the “Bulletin de l’Institut des Actuaire Français” and the “Bulletin de l’Association des actuaires diplômés de l’Institut des Sciences Financières et d’Assurances”.

I personally had the honor of knowing quite well two of the authors, Edouard Franckx and Fritz Bichsel. Franckx was a professor at the Ecole Militaire in Brussels; he was instrumental in the birth of ASTIN, became the first editor of the ASTIN Bulletin, and later was elected as the first Honorary Chairman of ASTIN, an association that altogether only had three honorary Chairmen in over 60 years. Fritz Bichsel was the quintessential Swiss gentleman, having published ground-breaking papers in three languages, not too many authors nowadays can write an academic paper in three languages (except Frank Cuypers and a few Swiss, of course). I have a vivid memory of one evening with Fritz. These days, we are all accustomed in international meetings to use first names with each other, and to use the informal “tu” when we speak French or “du” when we speak German. Not so in the 1970s, at least not so with Fritz Bichsel. It was Dr. Bichsel and Professor Lemaire for many years, until the day Dr. Bichsel came to me and very formally made the suggestion that we could switch to Fritz and Jean, and use “tu” whenever we spoke French. Of course I accepted, and this was followed by a very long handshake and a deep bow – and a deep friendship.

Reading these ground-breaking papers left me very humbled. Having worked extensively on bonus-malus myself, I felt that I had not contributed much, as these eleven pioneers did, introducing all the tools commonly used today in bonus-malus analysis and figuring out most practical issues. Edouard Franckx modelled bonus-malus systems using Markov Chains (which,

with a hint of French chauvinism, he called “Chaines de Markov – Poincare”). Fritz Bichsel used Bayes theorem to calculate posterior premiums. Pierre Delaporte introduced the negative binomial model. Carl Philipson provided an early model for bonus hunger. These early ASTIN members built the foundation of bonus-malus theory in a two-day meeting. I felt that my contributions in this area were not much more than slight improvements of their innovative work.

The practical article of Andre Thepaud demonstrates that participants of the inaugural ASTIN Colloquium had figured out the pros and cons of bonus-malus systems. Thepaud lists such advantages such as

1. The insured is encouraged to drive prudently
2. The insured is encouraged not to notify claims of minor importance

and such disadvantages as

1. The French policy does not insure a driver, but a car
2. The claim frequency in the majority of categories is too small to award significant bonuses
3. The distribution of the bonus involves expenses out of proportion with the amount distributed
4. The institution of bonus-malus should be accompanied by a tariff increase, considering the expenses of the bonus and the cost of its management
5. The bonus is not easily applicable to policies covering fleets of vehicles.
6. For commercial reasons, the bonus will soon become a definite premium reduction, independent of the notification of claims
7. The application of bonus-malus is a cause of conflicts between the company and the insured
8. It is abnormal to distribute bonuses in a line of insurance generally in deficit
9. To be equitable, the bonus should include graduated rates taking into account the claim frequency, which further complicates the administration of bonus-malus systems.
10. The auto insurance market is sufficiently competitive to enable supervisors to allow companies to set premiums and policy clauses freely, without the need of a government-imposed bonus-malus.
11. Bonus-malus may lead to disgraceful behavior by insurers (hiding premium increases under the disguise of a bonus-malus system).

Clearly, Thepaud believed that disadvantages far outweighed advantages. He hated the very idea of implementing bonus-malus, but he knew that he was going to lose this fight, due to the appeal of the bonus-malus idea among consumers. The time for bonus-malus had arrived simply because the rapid expansion of Western economies after WWII had made cars affordable for many. I witnessed the popularity of bonus-malus in my own family, as my father worked for an insurance company in Brussels, the company that launched the first bonus-malus

system in Belgium in 1962. The chief actuary of the company, Henri Rijkers, who later became chairman of the IAA, designed the bonus-malus system and figured out that the introduction of bonus-malus would decrease premium income. He did not want to take the risk of making the bonus-malus compulsory to all policyholders, so he offered consumers a choice: either a “flat” level premium, or a bonus-malus with an initial premium that was 20% higher. Over 95% of policyholders chose the bonus-malus, and the company doubled its market share within three years, from 4% to 8%. Two years later, supervisory authorities then made this bonus-malus compulsory for all companies. Clearly, this early enthusiasm for bonus-malus rating by policyholders has faded over the years. It seems that prosperity has made consumers more risk-averse. Bonus-malus is not that popular anymore, up to the point that insurers now feel compelled to weaken the effects of accidents by offering protection clauses or even entirely forgiving the first accident, which seems an atrocity for someone like me who has studied bonus-malus for a career. Why use posterior rating if you decide to forgive the first claim?

What about my short Sherlock Holmes career? Did my actuarial detective work succeed? Did De Gaulle really request French insurers to introduce bonus-malus? The answer lies in Thepaud’s article. As was the case in many continental European countries, French insurers were using government-approved premiums. Motor insurers had a bad year in 1957, and consequently requested a tariff increase. Supervisors approved it but linked their agreement to the implementation of bonus-malus in order to diminish negative public reaction. Did De Gaulle himself convey this message to French insurers? No, unfortunately for the ASTIN legend. Thepaud constantly refers to French authorities, never to the President himself. The Colloquium in La Baule took place because it was the right time for bonus-malus to be introduced, and not because the President of France requested it. Thepaud would have mentioned it.

This is what I could dig out about this outstanding first generation of ASTINeers. It is now time for this second-generation ASTINeer to really retire and leave the spot to Frank, the Chairman of the third generation, another Swiss import, after thanking those of you still present in this virtual meeting. Back to you, Frank: your job is a lot tougher than mine.