MENTORS IN ORTHOPEDICS

THOMAS BAUER

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SUMMARY

Professor Thomas Bauer's trajectory from Dijon to the presidency of the 20th ESSKA Congress reflects a career built on clinical evaluation and institutional leadership. Guided by mentorship at Ambroise-Paré, he transitioned from general orthopedics to refining percutaneous foot and ankle techniques and one-stage infection protocols. His commitment to knowledge transmission underscores a professional philosophy where scientific inquiry serves to validate surgical innovation. Bauer now focuses on integrating patient-reported outcomes while preparing the next generation to lead the field.

On the occasion of the 20th ESSKA congress, which is being held in Paris and of which he was President, we met Thomas Bauer who talks about the behind-the-scenes aspects of organising such an event, the encounters that have influenced his career, but also the aspects of the profession that are dear to him: exchange, transmission and research.

Thomas Bauer, are you a Parisian by adoption?

> I'm not a Parisian at all. In fact, there aren't many Parisians who are really from Paris. I was born and raised in Dijon and did all my medical studies there. After passing my competition to become resident, I moved to Paris in November 1998 to be resident in orthopaedic surgery. Since then, I have remained in Paris. You begin by thinking that you are going to do your residency and fellowship for 5 years and return to your roots but this rarely happens because you begin meeting people and building a professional network. I stayed mainly because I met a Man named Philippe Hardy who helped me to discover the friendly and family spirit of the department and gave me the desire to work and do science. When you're a resident at the beginning of your career, you want to learn how to do surgery properly and understand how everything works. Philippe gave me a head start, for example by sending me to my first ESSKA Congress in Rome in 2002, where I presented a poster on glenoid fractures. It is advantageous to have department heads who push you to go outside of your comfort zone. He gave me a rapid interest in going to Congresses like the ESSKA and the ISAKOS, two international meetings that I have been attending for many years.

When did you first meet Philippe Hardy?

> In the department. I arrived in Ambroise-Paré Hospital in November 2000 and after a month he came across me in the operating theatre and asked, "Well, wouldn't you like to make a study and review all the total knee arthroplasties in the department?" As a young resident, I asked myself, "what is the story?" And that's how I started working on files at weekends and then writing an article, rewriting it several times because you don't know how to do such thing... I was lucky enough to have Philippe Hardy behind me, supporting all the projects, and saying, "well, there's this to be done too." This created a real motivation, causing me to reflect, "I didn't think I could do that." It takes time, but when you have someone behind you who motivates and gives you confidence, you begin working on one project, then two, then three. That's how my career took

hold, not because I wrote well, but because there was always someone behind me who supported the project. Meeting Philippe really changed my life, opening doors that I hadn't considered.

You could have stayed simply as a hospital worker, what made you want to do science, but also to teach, to pass on?

The desire to teach science came when the head of the department at the time, Alain Lortat-Jacob, while washing his hands before an operation one day, said, "we think you should stay." That evening, I was on call and I went to Philippe's office and said, "Philippe, Alain has proposed this to me, what do you think?" We discussed it. “How old are you?" He asked. I answered and he counted and said, "Okay, we're 16 years apart. That's fine, it can work. There has to be a bit of an age difference otherwise it could not have worked together... What do you want to do later?" I answered, "I don't know. What are the conditions?” It's very simple. Staying in a hospital means working as part of a team and sometimes with the public assistance system which doesn't move as fast as you would like. Sometimes people on the team get well and sometimes they don’t, but there is always someone to emulate and we help each other, there are staffs, there's teaching, transmission. I asked around to find out how to stay in this teaching center. There are masters, PhD thesis, mobility, which take time. It's another path, but I had no more ques-tions to ask myself because I had Philippe Hardy and Alain Lortat-Jacob above me who had told me, “we'll push for this.”

I didn't imagine at the beginning that it would take so long. It was a path full of pitfalls but was still very motivating because I knew that I would always have people behind me who trusted me. At the time Philippe asked, "what do you want to do as an activity?” I was already doing a lot of septic surgery and had a rather specialized background because I had started doing hip and knee arthroplasty and then upper limb. Philippe said, "The shoulder is already taken and for the knee you forget too. You still have the hand, spine and the foot & ankle. I said: "Well, okay, I’ll focus on the foot & ankle then." He asked me to go to Mérignac (near Bordeaux) where percutaneous forefoot surgery and ankle arthroscopy began. At this time Niek Van Dijk was beginning to disseminate all his work on posterior arthroscopy. What is fabulous is that Philippe already had an eye for this even though he was not doing ankle or foot surgery. He said, "Go and see these people because there must be something to do." He told me, "you are going to train, and then you are going to treat patients and develop." His trust in me gave me confidence. I started my fellowship in 2005 and then my foot & ankle activity developed, but I was lucky enough that the people above me had faith in me. That's a luxury because working in confidence with your superiors is fabulous. If everyone could experience that in their own department, people would likely have a more positive experience...

What was Alain Lortat-Jacob like on a daily basis?

You either love Alain Lortat-Jacob or you don't. He is someone with a big personality and a lot of surgical experience. He reads a lot, including OTSR, CORR, the Journal of Arthroplasty, and the JBJS. He’s interested in everything and sometimes says, "let's see if we can do this or that technique," even with trauma patients. He is a person who has an eye for something else and that is interesting. Sometimes people would say after the fact that certain technical choices shouldn't have been made, but the big lesson from both Alain Lortat-Jacob and Philippe Hardy at Ambroise-Paré, was to say, "okay, if we want to try such and such a technique we'll try it and we'll do it thoroughly, evaluate and publish it.” A bad result is still a result and we might find that it doesn't work and we have to stop. We should not be ashamed to try something, a new technique,

treatment, or organisation, as long as we think about how to analyse it from the outset. This will allow us to evaluate and provide accurate feedback to our colleagues, including our feelings about how our work compares to what is already published and concerns about any limitations. This is really the spirit of the department.

This is something you illustrated on the infection: you were a big player in changing attitudes about one-step or two-step change.

Yes, it was Alain Lortat-Jacob who in early 2000 started making one-stage replacements. I remember one of his first one-stage surgery on a knee prosthesis infection with streptococcus. There are many infectious manifestations, including abscesses, and during the operation he removed the prosthesis quite quickly, as usual, and it was full of pus. Although we were still operating according to the two-stages procedure, he said, " if we don't change this in one stage, it's not possible." The knee was bathed in pus and the conditions were really terrible, but at the end, his logic, which I understood later, was that because there was no bone damage, there were no problems with the coverage or the soft tissue. While the knee was certainly very infected, Alain did a 1-stage replacement and there were no problems. After this experience, we pushed hard on the one-stage procedure with mixed success. Whenever it failed, we were able to analyse what happened and determine why it didn't work. Today, out of 150 infected hip-knee prostheses operated per year, if there are 5 2-stages replacements it is a maximum. These 2-stages cases are patients for whom there is a technical problem with reconstruction and we don't have the appropriate implants for example. However, this kind of case is becoming less and less frequent.

You mentioned the extremity of the lower limb, foot and hind foot, and talked about percutaneous techniques. Nowadays all your forefeet are done percutaneously, how do you work?

I operated using the same logic. For hallux valgus surgery I was trained in the classic SCARF osteotomy and Philippe told me, "No. Go on with percutaneous procedures ans when you will evaluate each patient you may find that for such and such indications, deformities, or conditions, this technique is very well adapted, while for other situations it may not be. There are limits and it should be improved, perhaps with mini open technique, perhaps with fixation." It is after more than 15 years of experience that I am starting to say to my fellows and residents, "We are going to review all my patients at 5 and 10 years and analyse how they are doing." Philippe worked this way for shoulder instability. He performed arthroscopic Bankart on everyone without asking any questions and then we began analysing the bone defects, the scores, and everything else. Gradually, we noticed that there was a high rate of recurrence, along with both good and bad indications. I was able to see the evolution myself. When I arrived in the department as a resident, only arthroscopic Bankarts were used and it was forbidden to do a Latarjet procedure. Today arthroscopic Bankarts represent only 10% of the indications for anterior shoulder instability while Latarjet procedures are used in all other cases. A lot of work has been done with Pascal Boileau and we have published several papers that show that arthroscopic Bankarts are reliable and are good indications in particular situations.

It is possible that at the end of my career I will finally say that only 30–40% of patients have very good indications for percutaneous surgery for hallux valgus. We are talking about hallux valgus, but this is also true for other forefoot surgeries for which a lot of progress has been made. However, it remains true that the real problem is hallux valgus, where it takes time to change customs and techniques and to gain confidence to try something different. When you help one of your residents to do a hip prosthesis, you can see what he does and control the procedure.

> However, in percutaneous surgery you don't control anything and have a tremendous learning curve. This remains a problem that we are working to resolve.

Do you manage the anaesthesia, or do you have anaesthetists who do blocks?

> In 2007 we published an article on anaesthesia for percutaneous hallux valgus. We randomised patients to receive either popliteal block or perimetatarsal infiltration with sedation and then realised that for walking, ambulation, postoperative pain, and overall VAS, infiltration was preferable, more efficient, and associated with better outcomes. We therefore completely stopped doing popliteal blocks because all the ankle blocks used today were not yet available or well developed. I've been doing blocks this way for 15 years, so only need a nurse anaesthetist to put in a little propofol and can then begin surgery. When we operate on about 1,000 patients a year, the anaesthetists see a lot of indications for ankle or foot blocks, and consider it a shame that they haven't done any. They recently took an interest in this problem and asked, "couldn't we please do ankle and foot blocks from time to time?" For the first time a few days ago, I saw three anaesthetists who were in the OR before 8 am and they were fully prepared for loco-regional anaesthesia with their ultrasound machine. I put a little friendly pressure on them by saying, "no problem, but we'll keep the rhythm all the day long." They played the game well, so perhaps we are in the process of evolving. To maintain this analytical approach, I said, "this is very good but we'll have to evaluate the effectiveness on pain, return to walk, and patient comfort." For the moment I am not too dependent on the anaesthetists, but if they want to do ankle and foot blocks and prove that it is even better, that's fine, but it will require them to do additional work.

To stay on the foot: what is your position on ankle arthroscopy and its evolution?

> In my opinion, the ankle is the third revolution in arthroscopy. We had the knee in the 1980s, the shoulder in the 1990s and 2000s, and now it is the ankle's turn. The pioneer, Niek Van Dijck, worked hard with his team to develop posterior arthroscopy, which opened up other ways. He used to say, "we have to think out of the box." I met him in 2004, we created an ankle arthroscopy course together in Paris in 2009, and since then we have kept going further. Stéphane Guillo in Mérignac has done a lot of work on ankle ligamentoplasties, the treatment of instability, and we held a symposium in 2017 with the SFA. France is a bit of a pioneer in ankle arthroscopy on instability. There are several options for the ankle that are continuing to evolve and we are evaluating these with the SFA. It is really exciting both in terms of consultation for diagnosis, for the different therapeutic options, and on the surgical level. We have developed a lot of things and ankle arthroscopy is taking off in a very interesting way because we can show that we can get as good a result with fewer com-plications in a more efficient way. This gives surgeons an additional tool to learn.

Another point on the rearfoot: regarding ankle osteoarthritis, what is your position between arthrodeses and ankle prostheses today?

> At Garches, Thierry Judet did many ankle prostheses. I started late and would say that technically it's not an operation that I like very much. I can't explain why. There are operations that I really like to do and others that are not technically interesting to me, although it is helpful to reflect on them. The most difficult thing about ankle osteoarthritis is to know to whom we offer the prosthesis and to whom we offer arthrodesis. We know that if the indications are well defined, the results are comparable. Having said that, I am more inclined toward arthrodesis than prosthesis in the same way that I would say I am more salty than sweet. We performed many ankle ankle

fusions under arthroscopy and I progressively stopped it as we have found that it's a very constraining surgical procedure because, in a very tight and stiff joint that is filled with osteophytes, you first have to make your space and then remove the cartilage and put in three screws. I found out that Mark Myerson in the United States was doing them with two mini-open arthroscopic approaches, but he did not put a scope in. Instead, he removed the cartilage, checked it by X-ray, and then put in two or three screws. I finally developed a few indications for all percutaneous ankle fusions, the arthroscopic technique without putting a scope inside. For large deformities or complex multi-operated ankles, I have remained faithful to the Crawford-Adams procedure, which works well and is fairly well established, a little like a hip prosthesis. There are different standardized steps and in three-quarters of an hour, the arthrodesis is complete. I stopped doing them under arthroscopy because I didn't really see the point of it, and I found that it was longer and more complicated.

You mentioned a few names of international surgeons who have been a reference; are there any that you have visited or met that have particularly marked you?

I haven't travelled very much and regret it a bit because there's a huge benefit to going across borders. I met a lot of surgeons at conferences but didn't necessarily go to see them all. I visited Dr Lui in Hong Kong with Stéphane Guillo. He was 20 years ahead of all of us in foot & ankle arthroscopy, but they were not the same concepts. He used small scopes and they had a large staff and did hallux valgus under arthroscopy. While you could see amazing things, the surgery took an hour and a half! There were lessons to be learned, but I don’t see the point of doing everything under arthroscopy if it's going to become a high-flying operation.

I went to see Niek Van Dijk several times. One day he said to me, "I am a scientist" and I understood that he wanted things to be very clear and that there was a particular way of working and carrying out interventions in different stages and indications. This testifies his willing of transmission, and he has alos created a real school. It's fabulous because as soon as we give cooking recipes to young people, they are delighted and will be able to make great progress. Niek Van Dijk is a genius in this particular point of transmission and teaching because he has succeeded in putting in place really very stereotypical things and procedures. Afterward, when you are a bit more experienced, you may ask, "Why is it that I am not seeing the same results with such and such indications?” It's by asking these types of questions that we've noticed, for example, that it is not only anterolateral ankle impingement, but also instability, or micro-instability, that is ignored. We've evolved quite a bit on this. This is how progress happens. We innovate, experiment, and analyse the feed-back, good or bad, that is needed to adopt, abandon or refine a theory and a technique.

You mentioned your beginnings at ESSKA. How long have you been involved?

My first congress was in Rome in 2002 when I was a resident. I went to present a poster. After that meeting, I went to almost all these congresses along with Philippe Hardy. The rule was that if the poster or the free paper was accepted, the department would sponsor the resident to attend. It was motivating. I've been involved in the ESSKA for Paris and been on the SFA board for eight years. The Paris candidacy has been around for almost eight years, under the guidance of Philippe Hardy, Patrick Djian, Christophe Hulet, and all the former SFA Presidents. I have been close to the ESSKA because we held the congress in Luxembourg with Romain Seil. David Dejour and Jacques also attended, with whom I am very close. Before, I wouldn't say I was close to the ESSKA, I was a

member of the ESSKA, I regularly went to the congresses, I was a member of the AFAS when it was created by Niek Van Dijk.

Can you tell us more about AFAS?

I was in a taxi with Niek Van Dijk and he said, "we're going to set up AFAS" and I said "Great!" We had several meetings on different subjects, notably ankle syndesmosis. This is an ESSKA committee where there is an incentive to ask questions related to the pathology of the foot, rearfoot, ankle, and the athlete and to try to find a consensus with all the limits this imposes. In the end, there are only expert opinions but at least this allows us to move forward. Publications and courses were created. I think that AFAS has progressed immensely. The AFAS committee is very dynamic. Daniel Haverkamp and I worked together for the ESSKA Congress in Paris to identify original ideas and works and speakers. It is important to find young people and new names, and not to remain in the limelight. You must not hold the podium for twenty years because you will quickly become has-been and instead give the place for young people. Since I joined the SFA I have avoided being at the podium, and I think that has helped bring in the young people. This makes you realise that it is the younger scientists who are doing presentations that we have done for ten years, but they are doing it better and we are getting a bit old.

What is the overall theme of the Paris congress, what are the particularities?

The scientific theme, the red thread, is Science opens the mind. This is a continuation of Niek Van Dijk's "think out of the box" statement. While all the current techniques and publications are fundamental, we have to look beyond the famous $p<0.05$ toward what we can still improve. We can clearly see that what changes in the evaluation of our practices is the feeling of the patient with the PROMS and CROMS. What is important is not just improving the functional score but also the patient's own score. When a patient says : I have forgotten about the surgery, my knee, my shoulder, or my ankle, then the main objective has been achieved. The test of success is the patient's experience during and after the surgery as well as the final result, depending on whether he is a high-level sportsman or someone who is able to do his gardening, which is far from a strict interpretation of the functional score. And then there is the whole teaching side: simulation and how we can further improve the reliability of our techniques in teaching. There is the way of teaching and then there is also the way of evaluating young people, because we realize that we used to evaluate them somewhat subjectively and that now we need objective items to say "Here you reached the level, you can go".

These are all aspects that will be highlighted during the Congress. In addition, there is a new theme that everyone is quite rightly passionate about, "how can we make what we are doing a bit greener?" While I don't really like the term green this means how can we do the same techniques but with a smaller carbon foot-print?

There is also the International Olympic Committee, which, along with Jacques Menetrey, was asked to organise a scientific programme within the Congress on various subjects directly or indirectly linked to the organisation of the Olympic Games in Paris in 2024. This was an opportunity to talk about sports and Olympism with the particularities of the preparation of sportsmen and women, evaluation, surgical techniques, and the organisation. I think that this will also be a highlight of the congress.

In this desire to have the ESSKA in Paris, there was a strong partnership with the SFA, because you are involved in both...

> This has been a real desire for many years, a real continuity, and all the former presidents, Nicolas Graveleau, François Sirveaux, Johannes Barthes, and Olivier Courage, have worked to push the ESSKA candidacy to the end. This was eventually done and the SFA was asked early on to provide scientific subjects for the symposia, the ICL, to give ideas, new names of young people, women, and people who were working on different subjects so that there would be a mix and, above all, quite a few members of the SFA who were involved in the scientific programme. France suffers a lot from not going outside its borders. French surgeons do not go out much and here they have the chance to have a renowned international Congress in Paris. Even if you live in the middle of the province, it is not very complicated to get there. Our work at the SFA has been to motivate all the surgeons to come massively because there is a full programme and it is a great opportunity for all of us. The last time the ESSKA was held in France was 24 years ago in Nice under the direction of Pierre Chambat and Philippe Beaufils, so I hope many many French surgeons will attend this meeting.

Are there any social events, gala dinners around the congress that you would like to mention?

> The Congress, like the SOFCOT Congress, takes place at the Palais des Congrès, Porte Maillot in the west of Paris next to the Bois de Boulogne. There is a huge space dedicated to the Congress which is adapted to the level of the ESSKA. We have made sure that there are transport facilities so that everyone can get there easily with tickets. There will be the opening ceremony on Wednesday within the Congress and then the gala dinner on Friday which will take place at the Pavillon d'Armenonville, in the Bois de Boulogne, and a 10-minute walk from the Palais des Congrès. This is a very nice little pavilion with a big lounge for dinner where there will be presentations, surprises and another big lounge next door for cocktails and the reception. There will also be a dance party with a band, a rock 'n' roll spirit, and a DJ, so that it ends in beauty. We want everyone to leave with stars in their eyes!

Such an organisation requires a lot of work: who worked behind the scenes to make it all happen?

> We have had quite a few meetings, but behind the scientific work, social aspects, organisation, relationships with partners, the real heart of the work is the President of the ESSKA, Jacques Ménétrey, the Executive Director of the ESSKA, Zhanna Kovalchuk, and Jenny Ennis. There is the whole team of the KIT Group, Aude and Coralie. We worked a lot, preparing an agenda each week, and checking the progress of each task because all the details have to be put on the table. Indeed, there are budgetary issues and negotiations necessary to achieve the best and to do the maximum in terms of communication, visibility, and reception. All these aspects make it possible to attract participants of all ages. Above all, there is a huge amount of work for the scientific programme that is coordinated by the conductor Christophe Hulet and the whole scientific committee, including Geoffroy Nourrissat, Martin Lind, and Christian Samuelsson. There are many session formats, including the classic sessions such as symposia and ICLs, and then special papers, mini battles, and controversy sessions. This year there will be three consensus sessions which are set up by the ESSKA with a series of questions to the experts and notes for a gradation level. A lot of work is going into developing particular questions relating to ACL revision, tibial osteotomies, and the place of biology in orthopaedics.

> There will also be a dedicated resident programme and a webinar on 7 April. I know that the SFA Youth Committee has been in contact with the young people of the AGA to take advantage of this Congress to meet, exchange, and share their visions and projects. It is very important that young people come to the Congress and discover the ESSKA.

Why did you have to come to the congress? What is there to decide? open in Paris?

> It's spring and we have a new President of the Republic so normally there are not too many strikes, it's a bit too early. In spring it's a bit cool, but it's a beautiful city and the Congress ends on a Friday so that participants can stay over the weekend to walk around, visit the Eiffel Tower and go on the Seine - visiting Paris by boat definitely means allows one to see the city differently. Paris at night is even more beautiful! I rarely go to Paris because when we work we are always running and we don't take the time to walk around. There is Montmartre for those who are interested in art, museums such as the Musée d'Orsay and the Musée d'Art Moderne, monuments in every direction, and the Bois de Boulogne and the Bois de Vincennes for cycling. There is even something to do in Paris from the west to the east without crossing cars with paths that have been redeveloped and are green. We have tried to include all these things in the package for the participants – ie. 48 hours of wandering and getting lost in Paris. I think it's worth it. And then stopping at a brasserie for a coffee and be in front of the Opera or magnificent monuments. It's very nice.

What will your life be like afterwards, when you have time for yourself again?

> T.B.: I've been president of the SFA since December and will remain so until December 2023 and then I'll stay in the SFA board for 6 more months. By this point, I'll have done ten and a half years in the SFA. I'll stop everything and go back to my department full time, working in the OR. I'll stay in the College for a while because I'm interested in teaching, but will likely stop running around because I've done a lot. I'll be 50 years old in June 2024 and will be quite happy to have done all I've done. I'm going to take a breather for a while and then it's time for the young people to take over!