Canadian Anesthesiologists' Society Presidential Interviews
Dr. Daniel Bainbridge, interviewed by Archives & Artifacts Committee Chair Dr. Mike Wong
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Dr. Bainbridge is a professor in the Anesthesia & Perioperative Medicine Department at Western University in London, Ontario. He was president of the Canadian Anesthesiologists' Society from 2018 to 2020.

Mike
Good morning, Dr. Bainbridge, and thank you for joining us. Can you first describe for us your childhood and family background?

Daniel
I'll keep it short. I was actually born in the UK [United Kingdom]. I joke with everybody that I live in "Little London" but was born in "Big London." I moved over to Canada in '78. My father is a psychiatrist, and we were at the tail end of a British wave of physicians that emigrated. We moved to Saskatoon, Saskatchewan and so I essentially grew up there, went to high school, university, did my medical school, and my residency there. I did a fellowship in North Carolina, Duke University in cardiothoracic anesthesia for a year and then ended up in Little London where I've lived for the last twenty years, give or take.

Mike
How old were you when you and your family moved to Canada?

Daniel
Six [years], so I had a bit of an accent which I promptly lost…oh, the good old days of being teased by children about toMAYto versus toMAHto. Most people say I've got no accent now, but if you speak to my dad some people would say he's got a bit of an accent still.

Mike
Do you still have any family overseas?

Daniel
I do. My siblings are here [in North America], my parents are here. I've got a brother in San Diego and my sister is in Regina, but the rest of my family are all in the UK. Unfortunately, the ones that I was close to have now passed on. My grandparents are now all deceased. But I've been back there to visit a few times.

Mike
You mentioned your father practiced psychiatry. Did that family connection influence you to pursue medicine, or was it something else?

Daniel
Yeah, I think so. My father was a psychiatrist, my mum was a nurse. I grew up in Saskatchewan, and it was a time when, if you look at what jobs were available, it was always the classics of medicine and law in university, and then you kind of ran out of stuff, right? My kids are just in university now and I look at the plethora of options: business school, engineering, and all of the different options they have available. There were some of those, but not as many. So, I think my family influence and slightly limited opportunities turned me to medicine.

Mike
Along the way, what experiences were influential for your interest in anesthesia, and in particular cardiothoracic anesthesia?

Daniel
I always liked ICU and I always enjoyed physiology and pharmacology…but I didn't like getting woken up in the middle of the night, and so I thought of anesthesia. I don't know why I thought it would be an easier nighttime schedule. It turned out not to be!

Cardiothoracic, again because of those two things [physiology and pharmacology]. I do remember really specifically that ultrasound had become more common and [there was] intraoperative ultrasound in cardiothoracics. And, I thought, *the one thing with anesthesia is you don't do a lot of diagnosis and you're not really an integral part of the medicine team*. I don't mean that in a derogatory way, but for the diagnosis TEE [transesophageal echocardiography] allowed you to become part of the team. […] In the cardiothoracic realm, you're much more integrated into the management of the patient because you have a tool which allows you to make a comment on the adequacy of the surgical technique and how well the patient is doing and is going to do.

And so that was my attraction to anesthesia and then cardiothoracic anesthesia in particular.

Mike
Certainly, there is camaraderie within the cardiac operating room and close teamwork! When you were in residency had TEE already become universally used, or were many still using PA [pulmonary artery] catheters mostly?

Daniel
Yeah, PA catheters were widely used, but I think there was starting to become recognition that they may not be as useful as people thought. TEE was just starting to creep in. People had been using it, though not regularly. One of the reasons I chose to go to Duke was because they had TEEs in each of their cardiac ORs. I thought if you want to learn something, you need to be doing it all the time.

So, that was the advantage when I came to London. They had two machines in the operating rooms, but they weren't regularly used all the time. And, they had no one formally trained. One of the reasons I came to London was to actually get a formal TEE program up and going.

Mike
Very ambitious. When you started out in London, who were your early important mentors and sponsors to help you get going?

Daniel
You kind of just cling to people you like. There was no formal [program]. We do it much more formally now. I guess the nice thing about an informal approach is that you just tend to find people who you find interesting, or you like their personality or what they do.

I had a few people in residency. Drs. Scott Lang and Barry Reynolds are two names that come to my mind, who were sort of influential in their eagerness, their energy, the way they thought about things, their approach to things. And, certainly, Dr. Davy Cheng; when I came here [to Western] he was taking over and he was sort of really, really helpful to get me going. People like Drs. Wojciech Dobkowski and John Murkin were senior colleagues who you picked up things from, all the time.

It was a good atmosphere. London was and is a very good place to work. It was good for junior people when I started because of the senior people who were working here and who had previous experience. It was a nice place to come.

And, then there were surgical colleagues as well that you look up to. I think we tend to [think of] anesthesia [when you practice] anesthesia, but you forget that you work in a group with nursing and surgeons and there are some very good people who work in that realm as well that you can pick up traits or admire.

Mike
Absolutely, so there was quite a cadre of folks in anesthesia and surgery that were good to work with. Were there other factors that drew you to London originally?

Daniel
Some of it was just job opportunities and then it was the big idea because I had been in touch with Davy Cheng about starting the TEE program here. That to me seemed like a challenge, a challenge that I wanted to accept.

I think a lot of people in medicine are always looking for challenges, whether it's actually within medicine or outside of it. You often see people who, if they're not actively engaged in medicine, have got some crazy extracurricular activities like running the Boston Marathon, or something like that. We're an interesting group of people. We've always trying to achieve goals, which is great.

Mike
Speaking of being involved in a number of things, what motivated you initially to get involved with the Canadian Anesthesiologists' Society?

Daniel
I distinctly remember in residency being told that you should be a member of the CAS; it's our organization, and that's just what you do. It is advocating for the specialty and if you were part of the specialty then you should be part of the national organization which advocates for you.

[Later] I was asked if I would participate in the abstract reviews as part of the scientific subcommittee. I thought, sure, I like research! Reviewing abstracts seemed very good. Then, [a few years later] I was asked if I would like to take that over. I thought sure, I've been doing it for a few years. That sounds good. Then, I got asked if I would like to take over as [Annual Meeting] chair because that was sort of the next step. And, I thought sure, that sounds good. I had been organizing the OMA [Ontario Medical Association] meeting because, again, someone had come along and asked me if I would do it and I [had] thought, "Sure, that sounds good."

So, it just is a progressive, stepwise approach, I guess! I'll tell you; I remember when I was in high school or early university, I went to an improv [show] one night. At the end of the improv session, one of the guys, one of the actors, came up and was talking about improv. Someone said, "How do you make good improv?" And the one message he said – that I remember to this day – he said, "**You always say yes**. Whenever anybody gives you a situation, you always say yes and go with it. Because [saying] no shuts doors, right? And I think that's a really good take-home message in life. Even if you don't say yes, you always say *maybe*….because [saying] no shuts doors. I always look at life as a series of doors opening. I am just saying, "OK, that's the door! I'm going to go through it." It may not be the door I would [otherwise] pick. It may not be the door I thought of 10 years ago. But it's the door that's open, so

I'll go through it. I'm one of those people [whom] if you ask me what my plan in life was, it's not where I ended up. I plan to go through whatever doors are available to me. That's how I've ended up going through these doors.

Mike
Absolutely, it seems like opportunities do open up that way. Fair to say that's the same advice that you would impart on kind of the next generation of trainees and anesthesiologists?

Daniel
100%, yeah.

Mike
You did mention your role as an organizer for the annual meetings [2012 – 2016]. Specifically, I really have to ask about the 2013 Annual Meeting in Calgary, which some folks may remember unfortunately had to be cancelled due to some severe flooding and power outages. Can you paint a picture of what happened at the time?

Daniel
So, it's an interesting picture because this is like playing a game of chicken. No one wants to be the one who cancels it [i.e., CAS organizing committee versus the meeting venue]. That was sort of the game we were playing. I remember showing up, it would have been, I think Thursday night. And I remember going up to the exercise room, which was on the top floor. I was looking out the window going, *huh, there's a lot of water on that street*! I actually hadn't heard that Calgary was undergoing flooding when I had arrived. And then I heard on the news while I was there [in the exercise room] that there were flooding issues.

I was thinking, this is a big city and it's 2013. You think big cities just don't flood and have shutdowns. But clearly you heard more and more of the news, it was getting more and more serious. We were then in constant communication the following morning. I decided I would go for a walk Friday morning and essentially it was almost part walk, part boat trip because there was a lot of water coming up.

[I was communicating with] Dr. Patricia Houston, who was the president, and then with our organizers. We were getting anxious, and they were getting anxious. Everybody was getting anxious. We were essentially waiting for the convention center to cancel because of the risk of being on the hook for a lot of money. So, that's unfortunate.

It was a tough decision to make, but it was the right one when we did it. I guess the rest is kind of history now! As far as I know, it's still the only large meeting that was ever cancelled because of a natural disaster in Canada. Certainly, I see a lot of meeting organizers who tell me that that was actually one for the books. It was actually a historical record because of how uncommon it was at the time.

Mike
A somewhat unfortunate distinction, but certainly memorable. Did any sessions actually start?

Daniel
None with the Annual Meeting, but ACUDA [Association of Canadian University Departments of Anesthesia] always meets on Friday with all of the Friday [committee] sessions. ACUDA was actually in the middle of their session when the power went out in the hotel.

I remember I was on, like, the 15th floor. If you're booking hotel rooms, never book high floors! Going down a stairwell with your suitcase when all you have are the exit signs at each level, and [when] you're

not too sure where the stairs are and you're not too sure what floor you're on – it's a bit of an interesting experience.

I also remember the hundreds of taxis that were coming up to the hotel and people were going four or five to a taxi just to get to the airport. It was quite incredible.

Mike
Now, from 2016 to 2018 you served as a Vice President on CAS and then took on tenure as President from 2018 to 2020. How would you summarize some of the major challenges faced by the organization, the specialty, and yourself during that time?

Daniel
It's interesting, if you asked me before I started the presidency, [I would have said] that the main focus [would be] increasing our outreach. There was a big emphasis on updating the website; if anybody remembers the website from 2016, it looked like a website from 1992! [Additionally] I was intending to try and get a series of webinars involving the various subspecialties like Patient Safety and Standards.

That was my original goal, and then to do sort of a goals and values mission statement for the CAS, which we got part way through. [But] you often come in with good intentions that get derailed because of external circumstances. Certainly, the pandemic was the classic example of that. You have good intentions and then COVID-19 came along and derailed a lot of it.

Ironically, we ended up doing a lot of outreach with our seminars on COVID-19 over the course of a month. Certainly, COVID sort of took over and was the main focus of my last 6-8 months. I remember, at least for the first three or four webinars I would go into [the hospital] because their internet was better and spend 4 hours before each webinar and then two to three hours after the webinar. So, they were for me 8-hour days! I was also volunteering just after that on our airway team, so I was doing in-house call as part of the airway team plus the ICU and other call. It ended up being busy all around.

And, then there were also a lot of papers. We were putting together position statements, on PPE [personal protective equipment] and various approaches. Not necessarily for the big centers, but we got a lot of outreach for people in medium and smaller sized centers who were just saying, *no one in our institution is taking this on or dealing with this and that*.

Mike
In what ways do you think the pandemic will continue to impact anesthesiology and surgical services over the next couple of years?

Daniel
Another distinct memory was how little infectious disease information we as anesthesiologists had! I mean, I've worn [surgical] masks prior to COVID-19 for like 20 years, and I couldn't have told you what standards were applied to masks - what does it mean to be Level 3, Level 2, Level 1? And I don't think any of us knew that. And we often got MRSA [methicillin-resistant s. aureus] and VRE [vancomycin-resistant enterococcus], and we just found them inconvenient. *So, I have to put this gown on and this mask on...* I think that one of the biggest long-term consequences is going to be a greater appreciation amongst anesthesiologists of the risks we take with airborne disease.

I think the more pressing [issue] is going to be the dramatic lengthening of surgical wait times. Everywhere has been hit by the closure of elective surgery! Personally, and more pragmatically, I do hope we have a reassessment of how we prioritize patients. I get the sense that patients who perhaps *can* wait, say cancer patients, but who maybe *should not* wait are being [delayed], because of the short

term [goal] of treating COVID-19 patients. Even though people say we haven't, we've [effectively] rationalized healthcare. We've told people they can't get access when they should have it.
I do hope in the long-term impact that we, as anesthesiologists, surgeons, and medicine in general, take a really hard look at how you triage patients appropriately when you have limited resources. I have the sense we're not doing it at this time.

Mike
It is definitely a delicate balancing act as the numbers and level of risk change and evolve. Looking back, what would you say is, to you, your most meaningful accomplishment as president of CAS?

Daniel
I think it is the outreach we did with COVID-19. We got a lot of positive feedback on providing the webinars. I think that whenever you're in the CAS and at the higher levels, you're always trying to be relevant to your members, to all anesthesiologists in Canada. I think the feedback that we got was that people found [CAS] very relevant. I've had a lot of people come to me afterwards and say they really enjoyed the webinars.

The advocacy on their behalf at a national level is probably one of the biggest accomplishments for me.

Some small things like just getting the website going I think was actually a big benefit. The CAS is always an interplay between our members, the executive, and the board. We're trying to make the CAS as relevant to anesthesiologists in Canada as we possibly can. [I hope that] people find a value in being a member. Certainly, the feedback we got over that period of time is that a lot of people found it was a valuable service we provided.

Mike
I, for one, made use of those webinars and position statements. With the crisis it seems there were opportunities as well! In addition to CAS and other professional service commitments, you have had a very productive academic career. What factors motivated you to focus on research, and can you also describe some of the themes underlying this work?

Daniel
I think the biggest factor is that I just enjoy doing it! I found it interesting. Sometimes it's probably worth doing it, for doing its sake. I always thought the idea of finding out new things was neat. That was my motivation.

Because I was in cardiothoracic anesthesia, I like doing ultrasound. So, I've done a lot of research on ultrasound related themes. I was at a center [Duke] that did a lot of minimally invasive stuff, which I thought was neat. When I went to Duke, we did a lot of minimally invasive stuff I hadn't done in Saskatchewan where I trained. I thought there were lots of cool ideas. Some of them worked, and some of them didn't. I realized that research is really asking questions, some of which pan out, though most don't. And, you just have to be willing to accept that!

And then we've done a bit on patient safety. I did a big report on risk for anesthesia, which was actually interestingly motivated by doing a talk at the OMA anesthesia meeting one year, which just triggered an interesting idea.

There's a lot of interesting ideas out there. [You wonder] if that works or not? That's really all research is. Wondering if this or that really does make any difference. Does it improve patient care or not? Research is trying to find the correct answer without any of your own biases.

At the basic level, I think I find that very fascinating. I use the term ***neat***. It's just neat that you can ask a question and get an answer.

Mike
At this point, you have been in practice, about 20 years. Looking back to your first year as an attending, what have been the most significant clinical changes within your practice during that time period?

Daniel
There's been a few! [Such as] how we manage difficult airways. That was always a big issue. I remember when I started, [looking in] old airway kits and seeing all these different modifications to the blades. These video laryngoscopic devices have been a dramatic change - the airways [don't seem] as difficult as they used to be.

LMAs [Laryngeal Mask Airways/extraglottic devices], as well. The thing you used to do as a medical student is [your preceptor would get you] to hold a patient's facemask for a 45-minute procedure because you didn't want to intubate them. And I remember my hand shaking like crazy at the end of that. That was just totally changed with LMAs.

I think the other big thing is just a shift [with] safe but ***rapid*** turnover. Rapid recovery, aided by a whole plethora of new medications! Going back to research, doing studies to improve patient outcomes. [In the past] we would do all open choles [cholecystectomies], open appy's [appendectomies], [and] people would stay for three or four days. As a medical student rounding on patients, who had had open and laparoscopic techniques, [the surgeons would] say [that laparoscopy] was just a way to do a surgery in twice the time, with the same total length of incisions - they would argue that [patients had] three 2-inch incisions instead of one 6-inch incision. And how totally wrong they were! Everything now is laparoscopic, which for us has meant more work in the OR, but less work afterwards.

I think that's a big game changer. Rapid recovery, safer operations. We've slowly progressed over the last 20 years.

Mike
In your practice do you see robotics making a significant change in the cases that you're doing?

Daniel
I don't want to knock robotics per se, but I think the more important thing was the change in approach [from open to laparoscopic surgery]. Laparoscopic versus robotic laparoscopic? Not a huge difference. Big difference in prostatectomy, that's one exception. In cardiac [surgery], we started doing robotic [cases] but it's mainly fizzled out; it seems to take a lot longer in most situations. There are some cases, some patients, some procedures that benefit from robot [approaches] but the real dramatic leap has been from open to laparoscopic. The gains […] are going to be minor after [adopting] laparoscopy because the giant change has actually been in the minimally invasive part, and I actually think the gains that we're going to get from here are going to be small.

It's like a lot of revolutionary techniques. The big gains in anesthesia were in early airway management, the early use of inhalational [agents], and everything we've done subsequently has been smaller gains. Better, but not as revolutionary as the original [advances]. I think that's the same thing, where laparoscopy was the big change. Robotics is going to be, maybe, a small [benefit] for some, nothing for others.

And then another big leap is going to be when we can treat things with a pill so that there's no incisions whatsoever! I'm not sure we'll ever get there, but that's sort of a next giant step if it [could even] exist at all.

Mike
Absolutely. On the topic of minimally invasive or less invasive techniques, would you speak to catheter delivered interventions for valvulopathies?

Daniel
That's certainly, for cardiac, a huge revolution. Instead of going through a big sternal incision or a small thoracotomy, we're now just going through a poke in the femoral artery. In our center, [we] started out with TAVI [transcatheter aortic valve intervention] program in 2004, 2005. We would do one or two [TAVIs] per day; they took three or four hours, mainly because the catheters were so large. Even then, we were doing sicker patients and then they were doing better.

I [also] do cardiac ICU and I remember distinctly [having] a patient [with] a TAVI and [one with] a conventional aortic valve replacement. The TAVI was in the afternoon and the conventional aortic valve was in the morning. The TAVI patient was up walking around and the conventional was just getting extubated! You just saw a dramatic difference between those two procedures.

Since that time, the catheters have shrunk. Instead of doing cut downs on the femoral arteries, we're now doing a percutaneous [approach]. Instead of doing two [cases] a day, we're now up to four or five per day. They're all staying one day and going home the next. This is a revolution that, if you had looked back 25 years ago, you wouldn't conceive of it. That revolution happened with coronary artery disease and PCI [percutaneous coronary intervention]. That is an analogy that you can still see today. I imagine it will be the same, in that some patients will benefit from conventional aortic valve repair, whereas others will just benefit from the percutaneous approach.

And we're developing percutaneous techniques for mitral valves. I think that will be a bit longer in coming and may never get there, because we know repair of a mitral valve does really well. [In comparison], for most aortic stenosis, we've never even thought about repairing it, we just replace it. I think the bar for mitral [valves] is a lot higher, though we may get some techniques on the mitral valve and revolutionize that as well.

Mike
One more question on cardiac anesthesia, how about the advances in TEE over the past 20 years?

Daniel
Really phenomenal when you think about it! The original TEEs when I first started were revolutionary in and of themselves – the idea of putting [an ultrasound] probe down someone's esophagus and looking from behind the heart, what a fabulous idea! They gave you very good images, but still the image quality wasn't necessarily the best.

Some of the machines and probes would break down frequently. There's innovation in that [respect]. It's like a computer that you had to change every two years, in the "good old days" because they just didn't last. [Nowadays] iPads, computers last 5-6 years if you look after them. There's the benefit of the quality and the reliability of the product.

Then, there's actually imaging, going from M mode to B mode. You just [had] one line! Then, 2D [comes along] and everybody goes crazy. Then, **color** came along, which was great! Now you've got **3D** imaging; some of it is hype, but some of it actually is beneficial. You can look at a 3D mitral valve and it's a beautiful image. […] I can show a 2D picture of a mitral valve to a medical student and they're not too sure [what it is]. Then I can show them a 3D picture of a mitral valve and say, "What is that?" They say,

“That's a mitral valve!” Right? The intuitiveness of a lot of what we're doing is improving, along with the ability to diagnose new things. And you can't do a mitral clip without 3D imaging.

It really makes a big difference in terms of what you're looking at. It opens up new possibilities of intervention in terms of minimally invasive access and has spawned a whole cardiology industry of intervention with mitral clips.

There's new, neat stories of putting, like, coiling devices in valves to prevent paravalvular leaks. All done on echo. This sort of stuff, 20 years ago, 10 years ago, we would say, “No, you can't do that.” But we've done work ourselves in research, looking at creating mitral valves out of different materials, and artificial valves that you can put in the simulator to simulate individual patient-specific disease and therefore simulate an individual patient-specific repair.

Those are things that you would think were just science fiction even 15 years ago. And they're doable today without a lot of effort!

It goes along with things like 3D printing. If you asked someone 15 years ago, they would go, “What, you make [prototypes] in your own [home or office] now? No, not gonna happen!” Yet it's not uncommon now.

Right now, I've got [a 3D printer] in the corner of my office. So, there's a lot of neat stuff that is becoming available. That goes back to research and the fact that you get these new technologies. I wonder how that would apply to anesthesia, and how can I take advantage of these new technologies?
How can I make my life easier, more interesting or provide novel benefit to patients?

That's where it all ties in.

Mike
That's really cool, and 20 years is not really a long time in the grand scheme of things. Looking ahead, what direction do you see your career directions going at this point?

Daniel
As my past-presidency actually comes to an end, it's a good question. I'm not too sure. I did my medical school in Saskatchewan and there was a big push there to do more rural and remote practice. There's a big demand for anesthesia in rural and remote [settings].

Some of my interests are traveling, hiking, visiting rural and remote places. I do big wildlife photography, and just got back from Churchill and Seal River to take pictures of polar bears! I go out to the West Coast on a regular basis, taking pictures of bears and doing that sort of stuff. I may start looking at going in the opposite direction and doing more remote anesthesia, real out of the way stuff. It's in an area that I enjoy.

But I'm really not too sure. As I had alluded to before, I'm very much a person [who thinks], *let's see what doors open up after this and see where it all takes me*. Not necessarily planning stuff…has always been in my plan. [I have been] tripping through my career, seeing where I end up.

Mike
An approach that seems to work out for many interesting people throughout history as well.

Once again, thank you very much for speaking today. It has been my pleasure. I think that the society and its current and future members will really appreciate coming back to this in the future.