Kate Helwig (MAC 1992), Senior Conservation Scientist, Canadian Conservation Institute

Interviewed by Gyllian Porteous (MAC 2015)

In the 23 years since Kate Helwig graduated from the Artifacts stream of the Queen's Masters in Art Conservation Program, she has left her mark on the art conservation science community with numerous publications and contributions to the field. A Kingston native and graduate of the Kingston Collegiate and Vocational Institute, Kate's passion for science and literature led her to study chemistry and Russian literature at the University of Toronto (U of T). She then pursued graduate studies at Stanford University obtaining a Master's degree in physical chemistry before applying and being accepted to the MAC program in 1990. Following her graduation, Kate was granted a fellowship at the Canadian Conservation Institute (CCI) in the then-called Analytical Research Services Division. Her position was made permanent and Kate has worked as a conservation scientist in the research lab at the Canadian Conservation Institute ever since.

Q Tell me about your education. How did you get started in conservation?

A I was always interested in English literature and languages but I also really liked science. I have to say that it was my high school chemistry teacher who really got me interested in chemistry. I went to U of T for undergrad and I was in the Arts and Science program. At that time I still had an interest in the arts: the choice was always sort of a question for me. Throughout high school I also took a lot of drawing classes and I did life drawing at the local college. In university my first year I took general science and also English and I continued with literature courses throughout my undergrad. I enjoyed all my studies at U of T and I ended up doing a degree in chemistry. I had worked in a couple of university labs during the summers and found it interesting so I decided I would go to grad school in that area. At that time I thought I might go into academics so I applied to a lot of American schools and decided on Stanford for physical chemistry. I did start out in a PhD program but after a year or so, I realized that the research wasn't applied to anything I really felt passionate about so I decided to switch into the Master's stream. I felt like I wanted to do something that seemed more relevant to me. So I finished my MSc and took most of a year off to think about what I wanted to do next. I had a couple of ideas in mind and one was the Art Conservation Program.

Q Did you learn about the MAC program when you were living in Kingston?

A I knew vaguely about it because I grew up in Kingston. I think it was my father who actually said "Have you ever thought about doing conservation?" He knew I had always been interested in art.

When I applied to Queen's, I was working at a bookstore in Ottawa and I remember getting a call from Ian Hodkinson. He called the bookstore because my application was in fact quite late. He called me to say that they'd just got my application and, though they were almost finished the interviews, they'd like to give me an interview too. It was awesome. So I went down to Kingston for the interview.

A funny story about that: when I filled out the application form I was supposed to check what specialty I'd like to do but I didn't realize that I could only choose one so I chose artifacts, paintings and research. The interview seemed to be going well and at the end Ian said, "You know actually you have to choose a specialty' so it was a bit of an on-the-spot decision. I said "OK artifacts then" and that's how I ended up in the artifacts stream.

Q Despite having made the choice to study artifacts, you have done a lot of work on paintings. Could you comment on that?

A I have done a lot of work on paintings and I do have an interest in paintings but I would think it is more directly related to the type of client requests we get at CCI. In our lab we do get a lot of questions from paintings conservators regarding the materials and techniques of artists and why certain things are degrading. That's actually one of the ways that I get ideas for small projects that I want to pursue.

Q What would you say has been one of your favourite projects over the years?

A There are so many! I think that the project I did with a former Queen's colleague and friend, Valery Monahan, now an object conservator with the Yukon government, is probably a recent example of a project that I really enjoyed and learned a lot from.

In the Yukon archaeologists have been recovering a lot of ancient hunting weapons from melting ice patches. These are areas of ice and snow that remain frozen all year round but now, as temperatures are increasing, particularly in the north, these ice patches are starting to melt and objects are melting out of them. The weapons represent the hunting technology from about 9000 years ago to about 200 years ago. It's an amazing group of objects for learning about the original hunting technology in Northern Canada and there are a lot of different researchers working in this area. It's a really collaborative effort. The First Nations are involved, the archaeologists from the region, and researchers from outside. Our part of the project was to look at the paints and adhesives on these objects. Val Monahan was examining them and noting specific areas that looked like decorative paint. That was how I became involved, because I had done a lot of work on iron oxide pigments for a prior project. When Val was seeing these red paints on them, she thought that it was probably red ochre and that it would be interesting to look at and that maybe we could compare it to sources of ochre in the Yukon. The material ended up being identified as a pigmented adhesive, rather than paint. The adhesives were so well preserved; they turned out to be tree resins. Using a couple of techniques and with my colleague Jenny Poulin, we were able to determine right down to the species the type of tree resin that had been used - it was spruce. It was very interesting to see that in our whole date range, from about 7000 years ago to our most recent object, there was a continuous use of spruce resin as the adhesive. We published the work in the *Journal of Archaeological Science* so we ended up with a really nice project, and it was very collaborative. I worked with Val Monahan and also several archaeologists, Greg Hare from the Yukon and Tom Andrews in Northwest Territories, and we also had discussions with some of the representatives of the First Nations.

Q Going back to how you choose your research projects, is it primarily through requests from clients?

A Well I would say there are probably two ways. One would be when I see an interesting client request and I want to pursue it. The long-term research projects, though, are chosen through a CCI-wide procedure to make sure that we conduct research in areas that are going to impact the most people and that are important to the Canadian conservation community. For instance, we have a research program on materials of 20th-century Canadian painters. I'm currently starting a new project on the materials of J. E. H. McDonald, which is really exciting and fun and it fits within that larger CCI research effort into Canadian artists' materials. That's one that I'm doing in collaboration with the McMichael Collection in Kleinberg with Alison Douglas who's the paintings conservator there.

Q How do you find having changed directions from the treatment of artifacts to scientific research?

A I feel I'm in the area where my talents lie. I really enjoyed going through the treatment stream at Queen's and I enjoyed all the treatments I did. But while I was there, I looked around at my classmates and it seemed like everyone had something special that they focused on: one of my colleagues, Anne MacKay, had been an artist and furniture maker before she studied conservation, and Val Monahan had an archaeology degree. Everyone came from their own background, and, coming from chemistry, I felt that the way I could use my talents the best would be in the research field. I'm happy I did the treatment stream even though I haven't done any treatments since I graduated. I think it really gave me a good understanding of what conservators do and what the issues are.

Q What do you like most about your job?

A One thing I really like is the detective work aspect of it. Someone comes to you with a problem like why is this paint cracking or what is this white powder all over my object? It's always something new and it's always a bit of a mystery and I really love to be able to figure things like that out. I think the other thing I like is having such close contact with such beautiful works of art. I really enjoy that. I also enjoy the interdisciplinary nature of my job and the fact that I get to work with all sorts of different professionals: conservators, curators, and archaeologists. I think that gives a lot of variety to the job and I always get to learn new things because I'm working with people with very different backgrounds and knowledge from my own.

Q What would you say is important to remember as someone working in the conservation science field?

A I would say to look at the big picture. A lot of research is interesting on an intellectual level and you can get into it very deeply but it's also important to remember the overall goal, why you're doing a certain project and what the applications of it are going to be in the preservation of our heritage. Also I think that it is very important to consider all points of view; not just to look at an issue from your own scientific background but to talk to other people who work with the objects, such as collections managers and conservators. That way you do get the whole picture of what's important and the problem that you're trying to solve.

Q Was there someone who was particularly inspirational to you when you were first starting out in conservation?

A When I was first starting out in conservation science, someone who really was a mentor to me was Ian Wainwright. Ian was the manager of the conservation science group pretty much from when I started at CCI to about 2004 when he retired. He is a wonderful person. He was a wonderful mentor and I learned a lot from him. I think one important thing I learned was, as I was saying earlier, to include the view points of professionals who have different backgrounds and not to focus just on your own way of looking at things. To look at everyone's point of view, to be open to that and to respect it and to work together with people. That's probably what I learned from Ian.

Q How did you feel Queen's program prepared you for your career?

A I think it gave me a very good background into what the issues are in conservation and into what materials were used: basically an introduction to the conservation field because when I started I pretty much knew nothing about it. The program was definitely valuable in that way. Also, just having actually physically done conservation treatments, I think gave me a very good understanding of the day-to-day problems a conservator is facing and what sort of questions come up.

Q What was your favourite part of studying at Queen's?

A I think it was the people I met and the really collaborative, close environment. Also it was the first time that I'd got to handle works of art and objects. That was really cool, getting up close to the objects, being able to actually feel them and see what they're made of physically.

Q Do you remember your first day in the MAC program?

A I'm not sure I remember my very first day but I do remember the first couple of weeks. I remember probably one of the first days in the lab. Krysia brought us all little terracotta plant pots and we broke them and put them back together and then we had to make a fill for one of the pieces. I remember sitting in the lab and it was beautiful. There was a bank of windows, it was sunny, everything was very light. I was working on gluing this little pot back together and I suddenly felt so privileged to be where I was and so happy that this was the decision that I'd made. My fill wasn't awesome but I think I improved as the year went on! I kept my plant pot as a pencil holder for many, many years. I know my colleague and friend Anne McKay kept hers for a very long time too.

Q Was the bunker a thing in your days at Queen's? [The 'bunker' as it is known is the student lounge in the basement of the Art Extension building].

A Yes, it certainly was. I can't believe you guys are still going there. Yes we ate lunch there every day. It's kind of a special place actually. I liked the bunker. It felt like a very intimate, quiet place where you could go if you were having a bad day and just needed to talk or vent. It's kind of like a club house. It was definitely a thing then and I believe it had been for quite a long time.

Q Do you have a favourite treatment that you did at Queen's?

A Yes I do! It was a beautiful low-fired terracotta First Nation's pot that was going back to a cultural centre. It was really big and it was in hundreds of pieces. My second-year mentor, Anne Battram, had started to put some of it back together and I actually finished it within my two years at Queen's. I would say at least 50% of the pot was missing. It was a challenge. I had to figure out the angles, what the shape would have been and then make my Styrofoam mould approximately right. The very scariest part was when I actually poured the plaster. I sealed all the edges and there was a lot of plastic wrap involved and I enlisted help from several classmates. It was a multiple-person job and I was so nervous. But it turned out well in the end. That was a great treatment.

Q So if you had a time machine, and you could go back in time, is there anything that you would tell your younger self?

A I think when I was younger I tended to be very intimidated by more established people in the field. I was afraid to ask questions and approach people. My advice would be: don't be afraid to do that because most people are really helpful and open and happy to talk to you and give advice. Don't be afraid to ask!

Q Lastly, do you have any advice for students, or recent graduates, going into the field?

A I think the job market seems difficult right now. I guess my advice would be to keep your experience broad, be willing to try new things that are maybe not what you first had in mind, and not to give up. Pursue what you really love. I started off in a pure science direction before I realized that's not where my passion lay. I think if you do what you really enjoy, it will all work out in the end.