

Photogrammetry Now and Then

- Interview with Nick Chamberlain



In this interview with Geomatics World, Nick Chamberlain takes stock of his working life as a photogrammetrist.

Geomatics World: How would you describe what a photogrammetrist does?

Nick Chamberlain: If you tell anyone you are a photogrammetrist their eyes usually glaze over so I normally say that I make highly accurate maps from aerial photographs for large engineering projects all over the world.

Whenever I work from home my kids say "God Dad, your work looks boring" but I could think of a lot worse things to do for a living.

GW: What's been the highlight of your career in photogrammetry?

NC: I have worked on many interesting projects with Atkins. Probably the most interesting and most challenging was carrying out a photographic survey of a large derelict hospital occupied by homeless drug addicts in Kiev, Ukraine just after the break-up of the Soviet Union in 1991. The Ukrainian people were in celebratory mood and would gather in the square just outside our hotel every evening to party the night away. However, to get any work done we were at the mercy of the Kiev 'Mafia' who definitely still ruled the city with an iron fist and liked to show it. The 'Mafia' informed me they could get me anything I wanted. When I asked for a hoist or 'cherry picker' so I could take high-level photography they provided me with something which looked more like a World War II rocket launcher!

The cage in which I stood to take the photography would rotate without warning just as I was about to take a photograph. It didn't help that my legs would shake violently with fear every time I went up in it. I also asked them for a dark room to process the images. Again, they came up trumps with the darkroom at Kiev University which they were very proud of. Unfortunately light could leak in and all the equipment was in a disgusting state. They weren't too pleased when I told them it was unusable. I ended up processing the images in my hotel bathroom, using equipment I'd taken out myself. Although quite stressful at the time it was also a great experience and I can now look back on it with fond memories.

Other interesting projects include photographic surveys of the fire damage at Windsor Castle in 1992/93 and of Holyrood Palace in Edinburgh in 1997, including all the royal private quarters which was an eye-opener. Unfortunately, I can't say any more as I had to sign the Official Secrets Act! I was just hugely relieved that I wasn't sent to the Tower of London for accidentally putting a big dent in the Queen's bedside table when a very large BBC camera tripod I was using fell on it. It's amazing what damage a lace doily can cover up! Certainly not my proudest moment!

GW: How have photogrammetric technologies changed during your career?

NC: During my time in photogrammetry the equipment has changed from analogue (all mechanical) to analytical (partly mechanical, partly digital) to completely digital. In the "good old days" we used to map blind as there was no CAD software or screen so you couldn't see what you were mapping. It wasn't until you sent the file to a printer at the end of the day that you found out what you had actually mapped. Often the file would be corrupt and you would have to do the work all over again the following day.

The aerial imagery we map from has changed out of recognition in the past 30 years. In the 1980s we often used poor quality negatives or diapositives if we were lucky. It was like trying to map through a mist most of the time. We often had to use artistic licence to complete the mapping. Today's digital images at 2cm resolution are crystal clear and the detail that can be mapped from them is incredible in comparison.

Fundamentally a photogrammetrist still does the same today as 30 years ago, i.e. trace things from a photograph. Despite all the talk at conferences over the years of developing software that will map things automatically using feature recognition software and that the photogrammetrist is an endangered species, they have all come to nothing and we are still here!

In recent years the buzz words have been Lidar and mobile mapping and many of our mapping projects are done from point clouds now. Although it always looks impressive on the screen, mapping from a point cloud is not easy and invariably takes longer than from photographs. Our production team would still prefer to map the old fashioned way if given the choice. There is a lot of truth in the old saying that "a picture paints a thousand point clouds"!

GW: What do you think the future holds for photogrammetry?

NC: Despite a certain amount of Luddism in my comments above I believe that it is inevitable that point cloud technology and automatic feature extraction will develop rapidly over the next few years and that many of our clients will demand full 3D environments rather than 2D or 3D CAD drawings as the products becomes more and more cost effective. At the same time, new methods will be developed that we can only dream about at the moment using remote sensing techniques that haven't even been invented yet.

Whatever systems come along, good old fashioned photographs in some form or other will be a part of it and human beings will still be required to interpret those images or the data generated from them. Photogrammetrists aren't extinct just yet!

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