Taking a Portrait of a Cathedral

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"Half church of God, half castle 'gainst the Scot" Sir Walter Scott

The Place

Traveling from London to Edinburgh by train along the British Rail's Northeast Line is an enjoyable enough journey. The route starts in Kings Cross Station on the north side of central London. This is where the Hogwarts Express train in the Harry Potter books and movies leaves as well. Today there is half a trolley imbedded in a station wall at Platform 9³⁄₄ to prove it. Leaving London, British Rail's train heads north. First Peterborough, then Grantham, Doncaster and on to York, which is home to the famous Minster. Then to Darlington, Durham, Newcastle, Berwick-on-Tweed (great name) and Dunbar before arriving at Waverly Station in Edinburgh. One interesting fact is that Dunbar is the boyhood home of John Muir, the American naturalist. There is a John Muir provincial park in Dunbar. Clearly the British appreciated the eventual significance of their native son. The whole journey to Edinburgh takes between four and five hours depending on the schedule. On some trains there is a Pullman Service in First Class with an excellent white tablecloth tea service. There is also coffee, if one must.

A few decades ago I was on a business trip to Europe from my home in Colorado. Along with other destinations my trip took me to London and Edinburgh. In between these two cities I had a free weekend and, BritRail pass in hand, I could decide where to spend my time. I decided that York and its Minster were to be my destination. However, every four years York holds a series of "Mystery Plays" covering the Bible from the Creation to the Last Judgement. They were scheduled when I wanted to visit and there were no hotel rooms to be found. So I started looking for places near to York where I could stay. I also wanted someplace interesting in its own right. When I read about Durham, just an hour or so away by train with a cathedral and a castle, I found what I was looking for. While I did visit York and its Minster that trip, it was Durham and its Cathedral that I fell in love with.



A North Bound Train Crosses the Viaduct

Arriving by train from the south, the city of Durham is one of the most spectacular sights along the whole London to Edinburgh journey. Just before pulling into the station from the south, the train crosses a long viaduct. From this high vantage point the Cathedral on the top of the highest hill looks amazing. It is like the set from an historic movie. In fact, some of the scenes from the first two Harry Potter movies were filmed in the Cathedral. The production design team of the movies claim that about half of Hogwarts is patterned after Durham Cathedral. The original town of Durham was built on a peninsula surrounded on three sides by the River Wear. The river has cut deeply into the land so the top of the hill is far above the river. Only on the north does the hill gradually slope down to a narrow point between two sections of the river. On this neck is where the castle sits and the Cathedral is up on the high point. Today Durham is a university city and the castle serves as a dormitory. Durham University is the third oldest university in England after Oxford and Cambridge.

But Durham's modern history starts with William the Conqueror's capture of England at the Battle of Hastings in 1066 AD. After securing his victory King William commissioned Durham Cathedral to be built. Durham already had significant importance in English Christianity. And the existing church contained the remains of two English Saints. But the main reason for King William's decision to choose Durham for his first major religious structure was more likely due to its highly defensible location above the river. The greatest threat to England at the time was the Scots. And Durham was in a strategic northern location.

The two graves within Durham Cathedral are occupied by Saint Cuthbert and the Venerable Bede. These are two of the most important people in early English Christianity. Saint Cuthbert was a seventh century monk from the north of England (now in Scotland). He was actually born in Dunbar, Scotland more than a millennium before John Muir. Eventually he worked his way up to become the Bishop of Lindisfarne on an Island in the North Sea off the Scottish coast. During this career and afterwards he sought solitude and became for a while a hermit on an even smaller island near Lindisfarne. After his death his body was removed from the islands by his followers due to frequent attacks by the Danes. The casket eventually stopped in Durham where it is said to have refused to move. This was where the first Durham church was built on the eventual site of the Cathedral.

At a time shortly after, and slightly overlapping Saint Cuthbert's life, there was a Christian scholar who lived in the same area. He became known as the Venerable Bede and religious students from all over Europe would travel to study with him. At around 730 AD he completed a history of Christianity in England and became known as the Father of English History. When he died he was buried near where he studied and taught. Later his remains were moved to the Durham Church.

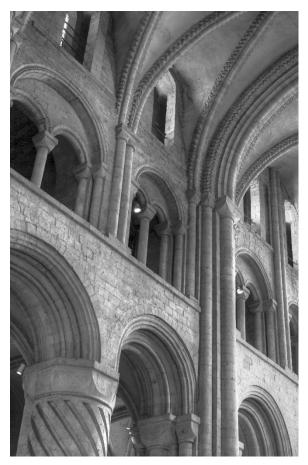
The Quest

After my first chance visit to Durham I visited twice more in the following years, always associated with business trips. But all of these visits were more than two decades ago. I believe everyone has places they remember strongly. A childhood home, where they attend school, a first house. But these places are where a lot of time was spent and many memories reside. It is unusual for a place visited only a few short times to maintain a strong hold on memory. This happened to me with Durham and its Cathedral. Decades later I wanted to return and most importantly I wanted to photograph it. Since I was a boy I have been a photographer. While it has never been my career I have always pursued taking pictures. Years ago I had even taken a few shots of the town and the Cathedral. But a couple of years ago I decided I wanted to do more. I was already going to travel to Europe to attend a large camera show in Germany and I thought it would be great to visit Durham afterwards and photograph the Cathedral. It was not at all that simple.

Durham Cathedral is first and foremost a church. As such, photography is severely restricted. There are also many functions going on all the time. And when there are no functions there are worshipers and tourists. Given all of this I decided to ignore everything and contact the staff anyway. After bouncing around a bit I ended up communicating with Gina in the Marketing and Events office. She was

sympathetic to my desire but also very clear that it wouldn't be easy. In fact it might not be possible. My timing was poor. Very soon after I wanted to visit the whole building was going to be set up for the induction of new students at the University. Not quite bleachers, but close enough to prevent the photography that I wanted. The exterior of the main tower was already under long term repairs. And then there was the fact that photography is not generally permitted. However, on this last point, there was a loophole. They did have something called a commercial permit that gave temporary permission to take photographs. I might just sneak in as Harry Potter had. While not cheap, it was not too much considering the trip and my desire to do this. Still, all of the other activities going on in the building would be a conflict. I finally convinced the committee, with Gina's help, by offering to schedule a full week in Durham and a promise to avoid all other scheduled activities. As it turned out they could only offer five days due to conflicts before and the setting up for the University after. But my visit was a GO. All of this planning took place about five months before my September visit to Durham.

Before I left for Europe I did a lot of research about the Cathedral and how to photograph the interior of such a large building. I am primarily a landscape photographer. I have over the years branched into portraiture, street photography and architecture. But most of my architectural photography had been of exteriors. For this project I decided that most of the work would be in black and white (B&W). I started as a photographer in high school doing primarily B&W. At the time this was due to the lower cost of B&W film and prints. Later I built a darkroom in my basement and B&W was pretty much my only way to go. It wasn't until years later that I started to do color work, primarily landscape on slide film. All of this was 35mm. In my forties I took up 4x5 photography using a large wooden camera with bellows and a cloth over my head. By that point I had virtually stopped taking B&W. In fact I found that I had lost my eye for what a B&W image would look like from a scene. A couple of years before my trip to Durham I had decided to expand back into B&W. I bought a digital camera that only took B&W. It was an excellent camera. However, in the summer between setting up my trip and the trip itself, I bought a newer model of the B&W camera. It had a larger sensor, 24 megapixels vs 18, and it did better in lower light situations. These were both features that would help me in the Cathedral.



Durham Cathedral is very big. There are lots of places where there is not a lot of light. The Cathedral staff did not allow flash. A flash would not have reached the distances needed anyway and I have never been fond of the sharp shadows that flash creates. Have you ever seen a performance at night in a stadium with all the flashes going off from the many cameras? Photographing the Cathedral with flash would have been about as useless. And, as I have said above, I had limited experience taking interiors. So I practiced on a room many times larger than anything in my home but many, many times smaller than the Cathedral. I have a friend who is a Mason and he arranged for me to practice in the local Mason Hall. I was able to confirm that with a tripod my new camera was more than up to the task.

I would like to share a little bit more on my choice of B&W and bit about my camera and lens. Back in my film days a camera changed from color to B&W by loading it with different film. Today's digital cameras have sensors instead of film. Virtually all are able to take color images. If you want B&W you simply remove the color in an image using software later or change a

setting on some digital cameras to B&W at the time of shooting. But the sensor is always taking a color image and B&W is a modification of what is captured. My camera for this trip was a Leica Monochrom (Type 123). The camera only takes B&W images. The sensor in most digital cameras has a filter covering each individual pixel location with a red, green, or blue (RGB) filter. This means that every pixel in the final image is in fact the combination of RGB points on the sensor. My camera does not have this filter and only measures the brightness at each point on the sensor. To simplify, my camera generally takes better B&W photos than a color camera does.

For my B&W camera I have three lenses:

- Leica 28mm Elmarit– a wide angle lens
- Leica 50mm APO-Summicron-M f2.0 ASPH a "normal" lens
- Leica 90mm Summarit a telephoto lens

These are all excellent lenses, but the 50mm one stands out. Many experts in photography consider this lens to be the sharpest and best overall lens in the world today. If you mount it on a color Leica camera it takes great photos. But in order to get the full benefits of this lens' sharpness it needs to be mounted on the Leica Monochrom, my camera. The vast majority of the shots I took on this trip were with this lens and camera combination. Only a few were taken with my other Leica lenses. And, except for many photographs of the stained glass windows, I took very few images with my color camera, a Panasonic GH3. I have since replaced my Panasonic with an Olympus OM-1 Mark II. The two companies, as well as

a few other lens makers, support the same Micro Four Thirds format. So lenses and cameras are interchangeable.

One final comment about my choice of B&W for Durham Cathedral. Beside my Leica's abilities to do a great job of capturing the dark interior, I felt B&W was more appropriate for the subject. The textures and patterns within the Cathedral are more easily seen without color as a distraction. Also, photography for many decades was only B&W and therefore I think there is something about seeing a building as old as Durham Cathedral in B&W.

I arrived in Durham on a Thursday afternoon. I checked into my hotel and wandered around town for a while. But I couldn't yet photograph inside the Cathedral so I didn't bother to take my camera. I wouldn't have permission until my meeting with the staff the next morning anyway. It had been a number of years since I had last been to Durham. The first thing I was able to confirm, even before I walked all the way up to the Cathedral itself, was the fact that the large central tower was truly enclosed in white plastic sheeting. It looked like a boring gift wrapped package. Any photos I was to take of the exterior would have to avoid the main tower, not an easy task. But I wasn't in Durham to photograph the exterior. Once inside the immense structure I was as impressed as the first time I had been many years before. I was getting excited.



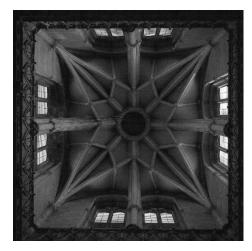
The West End of the Cathedral above the River

Durham Cathedral is laid out in a very traditional way. The length of the main building is oriented in a general east-west direction. The back of the church, with the main entrance, is at the west end. From here the naïve (nave in American) is a long area where the parishioners sit on wooden benches. In front of this is the pulpit from where services are given. Above here is the main tower with its carillon bells. A series of ropes lead from the bells down to the floor and are still pulled by hand. To each side of this central area is the crossing transept with small side chapels. Beyond the main tower is the quire (choir in American). At the far end of the quire is the high alter. Behind the high alter is the tomb of Saint Cuthbert. At the far other end of the naïve, to the west, is a separate room serving as the Galilee Chapel. It is here that the Venerable Bede is buried. Everywhere around the Cathedral are spectacular leaded stained glass windows. The greatest of these is the Rose Window above the high alter at the east end of the building.



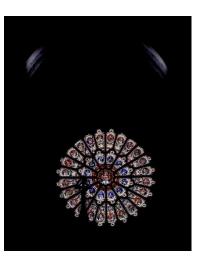
The Cloisters

To the north of the Cathedral sits the Palace Green. On the south side is the cloisters, a beautiful open areas surrounded by other Cathedral-related buildings. These include the Chapter House where Professor McGonagall held classes in Harry Potter. Above the west end of the naïve are the twin towers. These are not as large or as high as the main tower, but together all three make a very impressive image.



The Bell Tower (The Lantern)

The Rose Window



On Friday morning I headed over to the Cathedral to meet with my staff contact. She let me know my restrictions (no flash, no recognizable people without permission, etc.) and gave me my ceremonial red sash. I was official. The sash was nothing more than a wide ribbon I might use to wrap a Christmas present, but it made me feel important and it did stop staff and security from bothering me during my time in the Cathedral. Lest anyone try to bring their own ribbon I did get questioned a couple of times for my name and then the official went and looked me up in their current list. Quite professional. My five days didn't start until tomorrow, Saturday morning, but I was told that the activities that Friday weren't as extensive as expected and I could in fact start taking a few photos. So, on Friday afternoon I took some sample shots without my tripod. I established that many of the more lit areas of the Cathedral would be fine without a tripod. That was good because there were a number of places where a tripod would have been awkward. I was now even more excited.

The main objective for my visit to Durham was to create a portrait of the Cathedral. I knew there would be many beautiful locations within, but the most important image I wanted to create was the main Naïve and Quire from the back of the room, as a parishioner would see upon entering the church. This was the image that would convey the massive beauty of the building and was the image that first captured me. I live in Colorado, where landscapes tend to be big, very big. Many years ago I stopped taking most of my landscapes on my 35mm film camera and moved to 4x5. This was partly because I decided that the only way to properly display the grandeur of the landscapes I was capturing was to print big. A 4x5's bigger film allowed for much larger quality prints. Once digital photography came along and I decided to stop carrying around the 40 pound backpack necessary for 4x5, I developed a new way to create my big images. I typically would take many overlapping shots in multiple rows and then put them together in my computer. The process can take as long as forty-five minutes on site and up to a day in the "digital darkroom", my computer. In order to create the portrait that I wanted of the central Naïve and Quire of the Cathedral I was going to need to use a similar approach. Durham Cathedral is big and its portrait needs to be big as well.

On Saturday morning I got to the Cathedral when it opened at 7:30 am. The period between 7:30 am and 9:30 am is reserved for worship and private prayer. I was told that I was welcome to photograph during this time as well as other times when there were no functions occurring provided that I didn't disturb the worshipers. On Saturday morning there were few and I did get to try my first tripod set of shots of the main isle. Since I would only get the back of peoples' heads they would not be recognizable so no permission was necessary. This day's shots were only a test anyway. For my portrait I didn't want people in the image. A full congregation or an empty hall would be fine. But an almost empty room of such size didn't seem appropriate to me. Since I was not allowed to photograph during Sunday's services I knew I would have to go for the empty approach. But this Saturday morning I was just testing my exposure and determining how many shots would be necessary.

There is a balance between many factors when taking a photo in a large dark building. In order to capture enough light for a good image I can open up the lens wide (aperture), take a longer exposure (shutter speed) or increase the signal from the sensor (ISO). Each has its disadvantages. Wide open, a lens has less depth of field. This means that either things close to the camera or far from the camera would be out of focus. Also, a lens is typically sharper closed down a bit. My 50mm lens is very sharp in the center of an image even with the lens wide open. But the edges can still benefit from closing the aperture a bit. Longer exposures and higher sensor signal both tend to increase noise in an image. Noise in a digital camera is a lot like grain was in the film days. A noisy image does not look very sharp and the

grain can be distracting. Longer exposures also have issues if there are things moving in the image. At least in this last respect I had no problem; the Cathedral wasn't going to move. This Saturday I was experimenting with various setting to see what would work best.

On Saturday and Sunday I did a number of things. I spent a lot of time on my computer analyzing the shots I took on Saturday morning. When there wasn't a function going on in the Cathedral there were a lot of tourists visiting on the weekend. I took advantage of the fact that there are certain images that I wanted to capture that didn't require a tripod and were all above tourists' heads, stained glass windows. So I walked around and methodically took series of photos of each window with my color camera. I also wandered around the city of Durham. The weather was very nice.



The River Wear with the Cathedral in the upper right

Modern Durham is a city on a hill, but also spreads out across the River Wear in every direction. There are two main road bridges that cross the river to connect the older, central city with the rest of the metropolitan area. They cross Framwellgate Bridge to the west and Elvet Bridge to the east. A third road, Claypath, heads north on land. A smaller road leaves the peninsula to the southwest across Prebends' Bridge. Durham is quite hilly as most roads leave the river rather quickly. On top of the peninsula is the Cathedral and just below is the castle at the narrowest point between the two bends of the river. Just below the castle is the old marketplace, still the center of commerce. Most of the buildings in the old city are well preserved and, except for signage, probably don't look too different from previous centuries. The roads in the city center are still mostly cobblestone. Today the University plays a dominant role in city life. Tourism does also, although not as much as in places like York, Oxford or Cambridge.

Historically the City of Durham was first and foremost a Cathedral town. County Durham became a virtual city-state within England ruled by the Prince Bishops. Over time, much of the economy of the area revolved around coal mining. However, in the mid-1980s Margaret Thatcher broke the back of the union and coal mining in England has all but disappeared. Today the University is the largest employer in the city.





Saddler Street

Rowing on the River

Walking the old city streets today is both historic and current. The road and buildings are old, very old by my American standards. But the people, many of them students, and shops, restaurants, pubs and college buildings are pursuing current purposes. Durham, much like its Cathedral, has a lot of history and yet also serves today's needs.

On Monday I had my first real chance to take photos without many functions or tourists. I was the only one in the door when they first opened and I set up taking my first real series of shots of the Naïve and Quire. I then proceeded to start taking photos of many of the hundreds of items, nooks and crannies around the building. Later in the day I had a chance to work on the Naïve and Quire shots from the morning. I had two problems. First, and not unexpected, I still needed to fine tune my exposure. The dynamic range of my B&W camera is excellent, among the best made today. This means I can get a good image from scenes with a lot of variation between the brightest and darkest parts. But with something as varied as the interior of the Cathedral, lit with some internal lighting and some exterior light entering through the windows, I needed to be right-on to make a shot work. Another approach I could employ is to use high dynamic range (HDR) processing. This involves taking multiple shots of each part of the scene, one over-exposed, one exposed normally, and one under-exposed. I then combine them together in my computer into one image with a very broad range of brightness. The result is an image that no computer screen or printer can display. So there is a second step that remaps the combined image's brightness to a more usable range. Sometimes this can result in an excellent final image. But other times it can look artificial. Which, depends on a lot of factors. I use HDR a good deal in my landscape panoramas because there are things that are very bright and very dark in such a wide scene. But I hadn't tried the approach on an interior scene. I decided to try it on Tuesday morning. The other issue I was having was a problem caused by parallax. As I rotated my camera and lens on the tripod to take the multiple shots I would need to stitch together later into my big image, things that are near to the camera and things that are far from the camera don't always line up well. The software I use to stitch



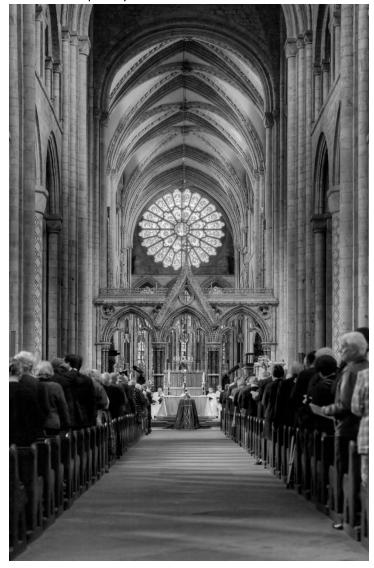
them together does a pretty good job with this issue. But I sometimes need to do some work on the final stitched image to make it look right. If the issues are too great though, there is nothing I can do. This was happening in this case. There is an approach that I could have used to mount my camera and lens on the tripod such that the rotation would occur at the nodal point of the lens. But this would require a special mount that I didn't have since I don't tend to have this problem in my landscape panoramas. I also didn't expect it in such a large interior. So I was going to have to find another approach.

One afternoon I was taking photographs when the Cathedral organ suddenly started playing. The sound was magnificent. Shortly after the organ began a young boys' quire started singing. I stopped what I was doing and just found a seat. Years ago I had attended Evensong, a chance in most English churches for anyone to come and sing. But our voices didn't compare; mine certainly fell far short. For the next half an hour or so I had the best break all week.

Part of the Cathedral Organ

On Tuesday I tried taking multiple HDR shots as well as multiple shots for stitching. I also tried mounting my camera further back from the rotation point on the tripod. Most lenses have a nodal point that is between the sensor and the front of the lens. Because the tripod mount, and therefore the rotation point for my panorama, is directly below the sensor, I needed to move the camera and lens back on the mount. I didn't have the proper equipment but I did have some room for adjustment with the equipment I did have. Once other people started coming into the Cathedral I took more images around the building. In the afternoon I went to work on the Naïve and Quire shots from the morning. HDR did not work out; I felt that it made the scene look too artificial. But after taking three shots at different exposures for the HDR I at least was able to figure out what was the best combination of shutter speed and ISO. I had already figured out the best aperture a few days earlier. I felt that I now had the information I needed to take the shots for my portrait of the Cathedral.

Around the time I had arrived in Durham I was made aware that a previous Bishop of Durham had just died. I subsequently was informed that the funeral was to be held on Wednesday late-morning, my last



day of photographing. I would have time before and after, but obviously not during. So, on Wednesday morning I was at the Cathedral door when it opened. Fortunately there was not much in the way of changes to the Cathedral necessary for the service, only some very nice flower arrangements set around. But when I set up for my last Naïve and Quire shoot there was a problem; there were two cleaning ladies busy washing the floor. I asked if they would mind staying out of the main central area for a few minutes while I took my series of shots. But they said they needed to keep working. For the only time all week I looked up a member of the staff to ask for help. A gentleman from security who had seen me working around the Cathedral all week came to my assistance and asked the ladies to give me ten minutes, which they did. The only issue to come from this was a visible mop handle that I needed to remove in the final image, an easy task. During the actual service there were members of the press taking photos so I asked if I could take a shot from the back during the service and was given permission.

Bishop Jenkins Funeral

The Naïve and Quire are the heart and soul of the Cathedral. But there are many other beautiful and moving areas in and around the building, starting with the front door. Of course the front door is on the side of the building. Actually there is a very large and impressive front door at the west end of the Naïve. It leads from the Galilee Chapel. But it is very rarely used and is blocked by artwork on the chapel side and by the reception desk on the Naïve side. The front door on the side is more interesting anyway. Hanging on this door is the sanctuary knocker. In times past a member of the Cathedral would keep



Sanctuary Knocker

watch on this door 24x7 and if someone should knock they would immediately let him into the Cathedral. He would then be granted sanctuary for 37 days, regardless of whatever crime he was accused of. At the end of the sanctuary period the accused could surrender to the authorities and be tried or be safely transported to a ship on the coast to leave England forever.

Beside the tomb of The Venerable Bede, the Galilee Chapel houses many works of art. One stands out to me because of my earlier visits to Durham. Far below the Cathedral, near the Prebends Bridge, were a stand of dying elm trees. An artist, Colin Willbourn, carved them into the scene of The Last Supper, without the participants. In order to see the sculpture properly a viewer had to sit in a chair carved into a tree opposite the scene. Many other elms were then sculpted to make The Last Supper. Some of the



trees were closer to the viewer and some much further away. But from the one proper vantage point the scene unfolded. In 2001 the elm trees

had decayed to the point where the sculptor removed the work. A center piece from the work was saved. A table with a vase, a cup, a plate and a basket are now displayed in the Galilee Chapel. On two of my earlier trips to Durham I got to sit in the chair and view The Last Supper.



Last Supper

On the wall of the south transept is Prior Castell's Clock. This is a giant wooden clock that tells much more than the time. There are four dials with the month, day of the month and phase of the moon as well as the time. But it is the massive size and the carvings that attract a visitor's attention.

Prior Castell's Clock

There are many other sculptures, some tombs, and a few side chapels. One very simple chapel struck me as belonging in a tiny neighborhood church instead of one of the world's magnificent cathedrals. I was able to take more photos of the Cathedral on Wednesday afternoon, but I knew I wouldn't get another chance to take the Naïve and Quire without people setting up for the University event. I also had another day in Durham before heading for a week in London, with side trips to Oxford and Cambridge.



Oxford Panorama



Cambridge Kings College Chapel

The Result

When I returned home from my European trip I set to work on my final set of shots of the Naïve and Quire. I had been traveling and knew I wouldn't get the chance to take any more photos in the Cathedral. So there was no reason to start work on them sooner. I also knew it was going to take a lot of time. The exposure was good. And my adjustments with the camera mounting on the tripod had reduced the parallax issue a great deal. But parallax was still there more than I wanted to have to fix in the final image. After a lot of trial and error I came upon a solution. I had taken fifteen shots in three rows of five each with my camera in the portrait orientation. First, I made six separate images, made by stitching three across by two down. There was one row and one column of overlap between these six images. Because the stitching software didn't need to line up everything in the whole scene all at once the parallax issue was greatly reduced. I then stitched the six resulting images together and ended up with a final image that required very little touch-up for parallax. I did, of course, still need to remove the broom handle. After these steps I had a full image to begin my normal image adjustments to make the portrait into the print I wanted. The final result is a four foot by four foot print.



Cathedral Naïve and Quire



Cathedral Naïve and Quire Detail

"What's in a name? That which we call a rose by any other name would smell as sweet." Would it look as beautiful? Would you appreciate a rose as much if it were displayed in a florist's fridge rather than clinging to a stone wall on a green hill in a light spring rain? What if there were hundreds of roses? Photography only touches on a small part of what is. Like a passage in a book, a photograph can present what the author or photographer wanted to share. But every reader or viewer will always translate, make it their own. My wife is allergic to roses; a different perspective. Some of my favorite photographs would not be considered among my best by critics. What does this say about me as a professional? That I am human and view any photograph through my mind's eye. So does everyone.

I can try to share my feelings about Durham Cathedral. I have tried to apply my skills as a photographer in order to create a portrait that will help others see what I feel. But photography and my abilities are limited. For me Durham Cathedral is a special place and I am very glad to have spent the time and effort to create this portrait. I am proud of the result. But in the end a print must stand on its own.

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