

Arthur Harry Church (1865-1937) Botanist and Illustrator

The following essay was written as an assignment for my course of study with the Society of Botanical Artists. Though I chose to focus on the work of Arthur Harry Church, the assignment gave me a very useful opportunity to consider, in depth, the subject of botanical art.

Arthur Harry Church was born in Plymouth, Devon, on March 28th 1865. He came from a humble but respectable background being the son of a saddler. Church schooled locally and proved to be a talented young man. From what survives of his early drawings it is evident that he enjoyed painting both architectural and wildlife studies.

When he was 22 his mother died and left him an inheritance of £100, which he used to fund his studies at the University of Aberystwyth (1). Church was awarded a first in botany and won a scholarship to Jesus College, Oxford, in 1891. Most well known botanists of that time travelled widely but Church chose to spend his working life as a tutor and academic recluse at Oxford where he worked in the cramped rooms at the Botanic Garden with no facilities for research but with an abundance of specimens available for study in the garden. Despite the lack of facilities, Church started publishing original work before taking another first in botany in 1894. During that time he produced a large number of botanical illustrations depicting the reproductive mechanisms of flowers to supplement his teaching, some of which were published but most lay unpublished in the University archives until long after his death in 1937.

It was Church's work that inspired me to move my own work in a new direction, combining my interests in painting, natural history and science. He made an important contribution in the field of botanical art and science, and his work has a vibrant feel about it that would not be out of place in any gallery today and has been said to be reminiscent of the work of American artist, [Georgia O'Keeffe](#) (2).

Church never considered himself to be an "artist" but in recent years his unpublished works have been brought to light through the publication of David Mabberley's book "The Anatomy of Flowers", published by the Natural History Museum in 2003. Church has since gained recognition as an artist in his own right and his images remain fresh and timeless, while giving an "architectural" type insight into the fascinating world of plant reproductive mechanisms in detailed cross-section.

Arthur Harry Church

He took the art of botanical illustration a step further by specialising in illustrating the different reproductive aspects of the flowers in perfect, magnified detail. For anyone, like

me, who has struggled through pollination studies at university, his works encompass the enormous variety of plant reproductive systems that have resulted through rapid evolutionary diversification. His work brings to life the fascinating stories and descriptions of plant reproduction told by Linnaeus and Darwin, such as descriptions of "pin" and "thrum eyed" primroses (4), Church's illustrations clearly show how mechanisms work in a visually attractive way that makes learning so much easier for the student. Despite the fact that his illustrations are extremely beautiful, Church did not consider his work to be decorative. He describes his "Types of Flora Mechanism" published in 1908 as follows:

"Prepared for Class purposes, and limited to a hundred types as illustrating what may be termed in popular phraseology 'The Hundred Best Flowers' has been arranged for publication in the hope that it may prove useful, not only to other teachers and students, but also to all those who are interested in the study of the Natural History and problems of plant-life⁵."

I first came across Arthur Harry Church's work while studying for a degree in biology, as a mature student, at the University of Aberdeen. On leaving school I had attended art college, simply because it was the only subject I appeared to have any skill in! Unfortunately, the experience of the 1980's art school was a disappointing one that left me lacking in confidence. I had little interest in the conceptual approach adopted by tutors in the 80's and, after just one year, I left to take up an opportunity to join the Royal Doulton China design team at their studio in Staffordshire. During my time there I learned how to paint extremely fine, detailed floral patterns with flowing lines onto china, a fairly technical and time consuming process but I felt more suited to this type of work. Of course I didn't realise then just how useful those techniques would be in years to come when I would begin to experiment with watercolour on vellum.

I eventually took the plunge, left Doulton's, and began to work as a freelance illustrator with a number of publishers, a job that would occupy me for the next 10 years or so. I had always been interested in painting plants, probably inspired by the many hours I spent as a child in my grandmother's cherished garden, but I didn't feel too confident about taking this type of work any further. I felt I needed a better understanding of the subject material, and for that reason I decided to take up further study at Aberdeen. My entry into the world of botanical art was very different to that of Church, being an artist first and then studying science, but after seeing Church's work I finally realised that it was possible to combine my two interests and was inspired to pick up botanical painting again.

Digitalis purpurea, watercolour on vellum in the style of AHC.

I graduated BSc Hons. from Aberdeen in 2006 with a first class mark for my dissertation on floral signalling, presented under the title "The impact of variation in 'false food' signalling in the pollination success of *Phacelia campanularia* and *Parnassia palustris*". As part of my work I produced detailed cross sections of the different life phases and reproductive mechanisms of the flowers, in the style of Church. When I later submitted those paintings to the Royal Horticultural Society (RHS) exhibition at the Gardeners World Live Show, I was awarded a silver medal for my efforts and felt greatly encouraged to carry on, and, of course, deeply indebted to Arthur Harry Church.

One of my favourite works by AHC is his cross-section of the European native species of foxglove, *Digitalis purpurea* L. (Scrophulariaceae now Plantaginaceae) painted in September 1905 (3). There is something very elegant and flowing in the lines of this piece and its placement on the paper is well thought out. The colour is accurate and the gradation from dark to light pink is effortless. The detail in the spotting and fine hairs is impressive and accurate. The flower is shown in the main reproductive phase, the stigma not yet open in order to limit the possibility of self pollination. The stamens are staggered and the anthers are beginning to open to release their pollen. The painting is an excellent illustration of the evolutionary adaptations that ensure the best possible reproductive success through cross pollination by bees. The orientation of these zygomorphic flowers forces the pollinator to position itself within the flower in such a way that pollen is transferred onto the pollinator's upper side (in an arrangement known as nototribic). In addition the long hairs on the floor of the corolla exclude virtually all other insects, ensuring some specialisation within these species. It is clear to see how the mutually adaptive relationship has evolved between pollinator and flower. A pollinating bee would fit perfectly inside the tubular "glove" of the flower and while feeding on the nectar deep in the corolla at the base of the flower, the bee will inadvertently brush against the pollen carrying it from this flower to a flower in the female phase via its hairy body. Church's dissection is skillfully executed and the tiny seeds in the ovule are intricate and challenging to paint with such accuracy.

E. J. Corner, a student of AHC, reflects on Church's meticulous approach:

The subject had to be perfect. Then the drawing had to be correctly scaled at a magnification sufficient to show the smallest detail that would be required. With ink, he used a mapping pen, pushing as well as drawing, and expressed delight if a bit of hair stuck between the points and eased the flow. He drew from the shoulder and achieved thereby those steady lines so remarkable in 'Types of Floral Mechanism'. In painting he used the method of body-colour with chinese white and laid the last tints with an almost dry brush. Ovules were modelled as blobs of chinese white then shaved with a razor when dry for a smooth surface and lightly tinted (3).

The role of the 19th century botanical illustrator was very different from that of the botanical artist today. Botanical illustration, like most skilled occupations of that time, was almost entirely male dominated although there were exceptions. Aberdonian artist, [Elizabeth Blackwell](#), for instance, found fame as far back as the 1730s with the publication of "A Curious Herbal", a collection of prints of medicinal plants from "The New World", presented with notes written by her husband while he was in debtor's prison, as a reference work for physicians and apothecaries. In contrast, the majority of today's botanical artists are women. Church had been fortunate to have been left an endowment with which he managed to afford a decent education. I would doubt that a woman from a similar background at that time could have achieved such success as either an artist or an academic. The primary role of the illustrator in the days before photography was plant identification. Today, although photography, and in particular microscopic photography, can help inform botanical work, illustration remains, in many cases, the best way to show aspects of specimens that may be difficult to see in a photograph. Outline drawings, for example, distinguish elements that cannot easily be made out and the composition of the image can be manipulated more fully in illustration, and the features displayed together which may not easily be shown simultaneously in nature. In Church's day it was essential for all students of biology and botany to be able to illustrate specimens. Church was exceptionally good at illustrating his subjects and this must have greatly benefitted his students understanding of the subject. Current scientific study relies more heavily on genetics than morphological explanations so the art of illustration in science is largely redundant. As a result, students spend very little time drawing, much to their loss.

Unlike most other illustrators of the day, Church did not travel with the plant hunters and his botanical illustration was secondary to his career as an academic and lecturer, the work that gave him financial security and allowed him the time to produce his artwork. He was perhaps ahead of his time in this respect as he had a vast collection of specimens at his disposal at Oxford, from all corners of the globe, and there was, therefore, no need for him to travel abroad. The situation is similar today, when reading the biographies of many artists it is apparent that many of them entered the profession as a secondary career choice or an additional activity.

Church produced many illustrations for "Types of Floral Mechanism" but Volume One failed to sell. He carried on producing work for further volumes but as World War I raged in Europe there was little demand for such publications. At about this time Church lost his wife and daughter to tuberculosis and he fell into depression, further compounded by the deaths of so many of his colleagues and students on the battlefields of France. By the end of the Great War one in five of the Oxford men who had enlisted in the army had been killed. In an attempt to deal with his heartbreaking losses Church, with difficulty, immersed himself in his work. He pursued his work with dogged determination and by the end of the war his work began to appear in published form, the most memorable being 'Thalassiphyta', his treatise on plant evolution which began with the immortal words, 'The beginnings of Botany are in the sea . . .' His evolutionary approach was original and he tied together the life-cycles of marine plants and seaweeds and the plants that were derived from some of them (2).

Pure botanical illustrators are few and far between these days, but they do still exist. [Alice Tangerini](#) of the Smithsonian Institute, is a fine example of an artist who works in this way. While opportunities to study botanical art do exist, it is not a course subject offered

by many educational establishments and generally the costs of running such courses is prohibitive in today's market driven world. It is therefore important that organizations such as The Society of Botanical Artists and the Hunt Institute play a role in keeping the discipline alive by providing artists with an opportunity to exhibit, promote and sell their work. In addition, enthusiasts like [Shirley Sherwood](#), have greatly contributed to a resurgence in botanical art through their publications.

The changing market, nature of scientific study and the arrival of photography have changed things and as a result the discipline has responded by becoming much broader than it was in Church's time. Many artists today choose to paint plant portraits rather than scientific botanical illustrations, some, such as talented artist [Billy Showell](#), pushing the boundaries into an area that is almost design based. However, Church's work would not look out of place alongside that of today's artists.

Arthur Harry Church died at the age of 72 on 24th April, 1937, after 35 years of dedicated work at Oxford. On the first floor of the Department of Plant Sciences, directly opposite the Daubeny Herbarium, you will find the Church Laboratory. It commemorates the man and his work as a tireless member of staff in the old Department of Botany at a time when it was still situated in the Botanical Garden (2). The world has changed and the pressures, drivers and opportunities for today's artists have changed too. But whatever style an artist chooses to adopt, some features remain essential, such as the ability to observe, understand and interpret the subject matter in a way that allows the viewer to fully understand the subject or the 'essence' of the subject in an aesthetically pleasing way. For me, it's about making connections between form, function and science, art and nature. The works of Arthur Harry Church combine these elements perfectly.

References:

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