

Darwin Shrewsbury Festival 2022

Shropshire Women of Art and Science:
How would the history have been different if Darwin had been a woman?



SHROPSHIRE
MUSEUMS

Introduction

Traditionally the presence and role in science of women has been hidden or even erased from history. It is only in the last forty years that the true extent of the role and contribution has been gradually exposed by researchers.

Even today a gender bias remains in STEM subjects. Studies show that both men and women still judge research papers attributed to men to be stronger than those attributed to women.

During the Regency period, science was still in its infancy. It was mainly the pursuit of those with disposable wealth and leisure time to follow their studies. The study of the natural world was seen as a suitable pursuit for both genders. Women in particular took up botany and geology. Collecting, drawing, and describing specimens was a pursuit especially well suited to the traditional education of young women.



However, as the nineteenth century progressed, science became a distinct set of academic disciplines. A number of emerging Victorian ideas of gender roles led to the idea of women participating in “serious science” being widely ridiculed and even seen as morally dangerous. Some Victorians claimed that the female brain simply could not cope with mathematics and the scientific process.

The nineteenth century “Great Man” theory of advancement popularised the idea that history can be largely explained by the impact of specific great men. This mindset wrote out the contributions of many collaborators including women.

Did this mean women stopped participating in science?

Despite elements of the male science community deterring women from actively participating, ingenious and enterprising women nonetheless found ways to pursue their study of the natural world. Gradually studies are revealing that that women have played a far more important role in the development and spreading of science than had previously been thought.

For many women their role in science it was often as a supportive wife, sister or daughter assisting their male family members. However, countless such women played a vital part as translators, illustrators, and interpreters.

Many of the newly formed Scientific Societies excluded women from their membership. This was not true of all; interestingly the Ludlow Natural History Society permitted women members.

NAMES OF MEMBERS.	
Ackers, Mr.	Hallifax, Rev. R. F.
Botfield, Mr. Honorary Member	Jones, Mr. W.
Baines, Mr.	Knicht, T. A. Esq., P. H. S.
Boughton, Lady R.	Knicht, Mrs. Johnes
Boughton, Sir W. R.	Lloyd, Dr.
Clive, Viscount	Lloyd, Mr. T. Duppa
Clive, Lady Lucy	Lloyd, Dr. G., Shiffnal
Clive, Lady H.	Lewis, Mr. J. G.
Cornewall, Mr.	Lewis, Rev. T. T.
Clark, Mr. L.	Lewis, Mr. Samuel
Cook, Mr.	Murchison, J. R. Esq., F. G. S., Hon. Mem.
Corbett, Rev. Waties	M'Ghie, Miss
Cocking, Mr.	Morris, Mr. G.
Clay, Mr. Cecil	Marston, Mr. R.
Darlington, Earl of	Nash, Mr. F.
Downes, Mrs.	Powis, Earl of
Davies, Mr. James	Pemberton, Rev. R. N.
Davies, Dr., Presteign	Powell, Mr. C.
Hutchings, Mr.	Rogers, Mr. E. Jun.
Hodges, Rev. J. J.	Rogers, Miss
Hodges, Mr. H.	Roeke, Rev. J.
Hinde, Rev. J.	Syer, Lady
Hall, Rev. G.	

Women certainly remained part of discussions informally, particularly around the social role of science. More than their male colleagues, women showed a gift for imagining the human impact of scientific discovery. This was explored and questioned, outside the lecture halls and within their drawing rooms.

Women played a vital role as educators of the next generation of scientists. Mothers and governesses were key in teaching the latest scientific thinking and methods to the next generation.

Katherine Plymley

Katherine Plymley was born at Longnor, Shropshire in 1758. She was the eldest child of the apothecary Joseph Plymley and Diana, who was a member of the well-known Shropshire Corbett family.

Katherine and her sister, Ann, were educated at home and were involved in their father's apothecary business, assisted him in making and dispensing medicines.

The sisters built up their own collection which included minerals, shells, insects, dried plants, and lichens, that was much admired and well known amongst their circle which included:

- Dr William Withering – physician and botanist
- Robert Townson – medical man and mineralogist
- Thomas Pennant – naturalist and antiquarian



Katherine was 21 years old when her mother died after several years of illness. Her father was already 63 years old and it seems that Katherine and her sister gave up any chance of marriage to look after him. After his death they helped care for their brother's 13 children. They were particularly involved in their education.



What do we know about Katherine scientific studies?

Katherine studied natural sciences, specialising in entomology (insects). She produced over 400 watercolour paintings, many of which show the life cycles of butterflies and moths from egg to adult. These were often drawn from life as she maintained the insects and their food plants through their life cycle.

She kept up with scientific developments and was in communication with a number of academics including Frederick William Hope.

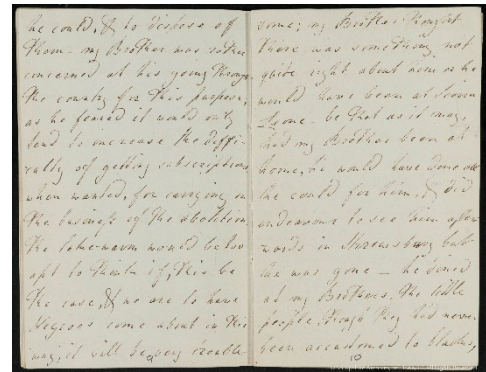
Frederick was the second son of John Thomas Hope of Netley Hall, Shrewsbury and became curate of Frodesley in Shropshire. He married Ellen Meredith, another keen naturalist. Frederick was forced to quickly retire as a result of ill health. However, his studies continued and he collaborated with many naturalists of the period, including Charles Darwin. He also made numerous

donations to Shrewsbury Museum. Hope first encountered the Plymley sisters was as a boy, and it is possible that Hope's friend Charles Darwin also met the Plymleys as a child.

What does her life reveal about Regency Women?

Katherine's writings survive in 210 notebooks, many of which are not dated. They comprise of memoirs of her father, travel journals, diaries, and study notebooks. These give a vivid account of her opinions and areas of interest. Reading her archive reveals a well-informed, astute, meticulous and, often witty observer.

Katherine's writing reveal the breadth of feminine interests and experience within her social group.



Her family lived close to the heart of the Industrial Revolution and her family socialised with many of the leading thinkers of the age. Their home was often visited by political and religious activists, exposing Katherine to the radical new ideas which were starting to shape the modern world. Her diaries give candid and informal accounts of these conversations. One example was Thomas Clarkson, who campaigned against slavery. Several of her earlier diaries are full of accounts of campaigns and progress towards the abolition of the slave trade.

Her accounts also give insight into the contemporary attitudes and preoccupations of society. She was in no way provincial, criss-crossing Britain to visit friends and family. Her travel journals include accounts of visits from London to Penzance. She describes seeing some of William Herschel's telescopes in 1796. Hershel's sister Caroline was an equally important astronomer and it is interesting to imagine if they might have met. Katherine also watched the first trials of Richard Trevithick's steam engine in Penzance in 1803.

Her study notebooks provide an account of her lifelong programme of self-improvement. She was well read across a huge range of topics from religion and moral philosophy and to biography and education.

Do we know how Katherine felt about women's rights?

Katherine was a radical and supporter of the abolition of slavery, the principles of the French Revolution and supported calls for electoral reform in Britain. Her writings show that she believed in universal education and meritocracy.

Although she made no overt demands for equal rights, a proto-feminist thread runs through all of her writing. She gave much thought to the dilemma of the single woman in a society that defined women by their relationships with men. She also took issue with anyone who opposed female education.

Did Katherine ever publish her research?

Katherine Plymley learned many of her illustrative skills from her father who contributed illustrations to Thomas Pennant's *British Zoology*. However, there is no record of Katherine's paintings ever being published.



Her brother, Joseph, involved her in at least the social side of the research that led to the publication of "A General View of the Agriculture of Shropshire" in 1803. This report summarizes the resources of the county and incorporated research material from a number of leading scholars, including William Withering, Thomas Telford, Joseph Babington (d. 1826), John Stackhouse, and Robert Townson. Katherine Plymley wrote in her diaries: 'my brother has the goodness to ask me ... knowing I enjoy listening to such society'

What is Katherine's Legacy

Katherine died on 2 September 1829 just weeks after her sister. They were both buried in St. Mary's Church, Leebotwood. The memorial to Katherine and Ann (presumably worded by their brother Joseph Corbett) states that

"They were women of superior minds which they had educated with great industry and devoted to the service of God. Of their fellow creatures, no persons, perhaps, of equal means, ever contributed more to the comfort of their nearer relatives, or the wants of an extended neighbourhood".

Katherine's writings are an invaluable insight into the social history of the cultural impact of the nineteenth century. Although her scientific endeavours never led to publication it seems likely that the many conversations, she had with great thinkers of the age may have helped to polish and shape their theories. Unfortunately, her impact in this process remains obscure.

Mary McGhie

Mary McGhie was a botanist and natural historian who was born in Jamaica and lived at Castle Lodge Ludlow between 1817- 1844.

Mary McGhie was a woman of mixed ethnicity born in around 1770 in Jamaica. Her mother, Sarah, was a free black woman who may have once been an enslaved worker at her father's estate of Greenside Trelawny, Jamaica. Her father Robert McGhie was a wealthy man who made his fortune from his sugar plantation in Jamaica.

We do not know the exact nature of the relationship between Sarah, Mary's mother, and her father Robert. However, we do know that Sarah and her children, Mary and Thomas, were all granted white status by the Jamaican courts at the instigation of Robert McGhie. This meant when he sold his estates in Jamaica and returned to England, he was able to bring Mary and her brother Thomas with him.

It is undeniable that Robert McGhie and his family profited from the cruel brutality of slave labour. We know nothing of the conditions for the slaves forced to work on her father's plantation. For

many slaves across the Caribbean, work was hard and dangerous. A disregard for the welfare of slaves led many to be injured cutting and hauling cane in the fields or pounding and boiling it in the mills. Most were dead within seven years of arriving at a plantation. However, Robert does appear to have acknowledged his relationship with Sarah and accepted Mary and Thomas as his children, bringing them into to the privileged life of the social elite.

It seems that Mary spent her childhood in Jamaica and came to England with her father as a young woman probably in the late 18th Century when he sold his sugar plantation.

What was Mary's childhood like?

Robert McGhie was well connected with family ties to the attorney general and Privy Councillor to the King, George Crawford Ricketts. Ricketts retired to Ashford Hall, Ashford Bowdler and this may be how Mary came to live in Ludlow later in life. Mary's uncle Thomas McGhie was a sugar broker in London and no doubt bought and sold goods from his brother's Jamaican estate.

Although it was far from unusual for plantation owners to father children with women who worked on their estates, it was more unusual for those white men to acknowledge their paternal relationship with the children of black women and to raise them as their own children. However, this is what seems to have happened with Mary and her brother Thomas.

As with so much of black history from this era it is much harder to uncover much about Sarah, Mary's mother. We can but suppose that Sarah became a free woman before her children were born or if not then shortly afterwards. Likewise, we can assume that Sarah and Robert raised their children and were both involved in their lives growing up. This meant that both children were spared the physical, social, and emotional cruelty that being an enslaved worker involved.

We do not know why Sarah did not travel to England with her children when Robert sold his plantation. It may be that she had died or that she did not wish to travel to a new country leaving all she had known behind her.

What was Mary's scientific education?

We can only suppose that Mary McGhie may have been educated at home by a governess as was common for girls at that time. She may have had an instinctive interest in the natural world and of course agricultural success was intrinsic to the business of her father's sugar plantation so growing up in this agricultural environment may have piqued her interest in the natural world and all things botanical.

This was also the era of a fashion for scientific study of the natural world. Middle class people held soirees and discussed the latest developments in science. Botany was one of the few areas deemed suitable for the interests of young ladies. When she moved to England she lived with her father in London. This same suburb was also home to Jane Marcet, who hosted many such soirees and published a host of books helping to share scientific knowledge with women and the general population. It is not impossible that Mary McGhie may have encountered Jane Marcet and her enthusiasm for popularising scientific study at this time.

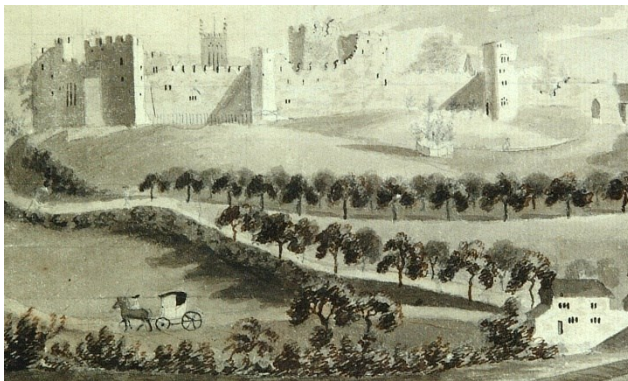
Do we know how Mary felt about women's rights?

Mary never married and she was at the heart of scientific studies that were available to her at the time. She contributed to W.A. Leighton's "Flora of Shropshire" and was so prolific with her botanical specimens that she is cited nearly 200 times in that work alone.

As far as we can tell her mother and father were not married and, although her mother is referred to as a free woman, it is very likely that Sarah was once enslaved. It is possible that Mary's mother instilled in her daughter a fierce spirit of independence, where liberty and freedom were core to her sense of self. She joined the Ludlow Natural History Society and was one of the few women members at the time of the second annual report in 1836.

Did she publish her botanical research?

When W.A. Leighton was compiling his "Flora of Shropshire", he advertised locally for contributors to provide specimens to him and give examples of locations in the country where different species had been found.



Mary McGhie is one of the key contributors to this work, alongside more well-known and recognised botanists working in the local area. She was a prolific plant spotter; we can imagine her travelling around her local area investigating which plants were growing in a variety of different locations. The McGhie's were also landowners and she may have carefully studied the plants she came across on family land. Perhaps the fact that she had

lived in two such diverse environments, that of Jamaica and England, meant that she had a great sense of how different localities and soils would impact on the plants that were found in any given location.

By being published in Leighton's "Flora of Shropshire", she demonstrated her specialist knowledge and keen understanding of botany. Her work was able to stand alongside more formally trained and officially expert men with the wonderful records of plants she discovered. Her legacy is still contributing positively to our understanding of local botany all these centuries later.

What is her legacy?

The pioneering "Flora of Shropshire" by W.A. Leighton 1841, which showcases her discoveries and credits her work, was published only three years before her death. Sadly, it seems she did not create an herbarium which would enable us to revisit and still study her specimens. Today, all that remains are her citations in Leighton's work. As Leighton put it himself "To Miss McGhie of Ludlow... his acknowledgements are due for very comprehensive lists of plants



observed either in their immediate neighbourhoods or in other portions of the county”.

On her death on 26 July 1844 the contents of Castle Lodge were put up for auction and sold to interested parties. There is no mention of botanical specimens either in the sale of her property or in her will where she passes on her not inconsiderable estate to her executors.

Sarah Price



Sarah was a mycologist (fungi), illustrator, and author. She was born in 1793 at Bitterley and died in 1869.

She was the daughter of Reverend John Walcott of Bitterley Court and vicar of Bitterley. Her mother was Sarah Dashwood. Sarah Price was part of one of the most influential and well-known Shropshire families descended on her father's side from the Walcots. On her mother's side Sarah is a descendant of the poet John Milton.

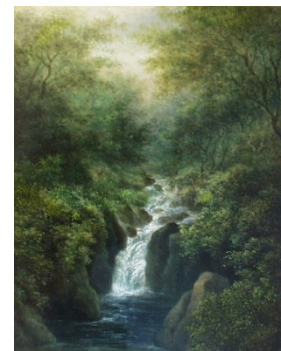
Sarah grew up at Bitterley Court just outside Ludlow and would have been immersed in the refined world of female education which included the study of nature and illustration as suitable activities for a young lady and Vicar's daughter.

She married Robert Bell Price of Knighton on 19 April 1830 and raised several children with him in addition to pursuing her interests in mycology.

Early Life

As a Vicar's daughter, we can imagine Sarah grew up immersed in the natural world. Studying the wonder of nature was seen as a way of acknowledging God's creation and the new scientific pursuits of botany and geology were often carried out by men of the cloth, partly one assumes due to the copious leisure time afforded to Reverends in the 19th century.

Sarah was probably educated by a governess as was common for young women at the time and growing up her world would very much have been centred around the home and ensuring that she was considered a good match for one of the eligible young men who inhabited her social circle.



However, her studies of nature seem to have ignited a passion within her for the rather unusual world of mycology.

What do we know about her scientific studies?

We know very little about the nature of her scientific training but it is likely that she was trained in illustration and drawing as was usual for young women at the time. It is clear from her work that she was a talented artist but we have no way of knowing how she came to be so fascinated by the weird

and wonderful world of mycology. Perhaps it was the ephemeral nature of fungi that fascinated her how these beautiful and strange organisms could pop up overnight and then disappear nearly as quickly leaving no trace behind.

We can picture her setting off in the damp autumnal air to seek out new specimens to study and draw.

Do we know how Sarah felt about women's rights?

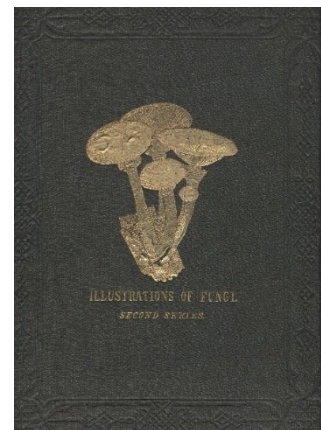
The list of subscribers to her books are filled with women from Shropshire society so we can imagine that Sarah used her connections to foster interest in her passion project and also to finance her work. She also thanks Ludlow Natural History Society in the acknowledgements, a society which was significantly open to female members right from the start. Sarah was a wife and mother, but she was also uncompromising in her pursuit of her own interests alongside her family life.

Was she published?

Sarah self-published, with the support of subscribers her two books "Fungi of Our Fields and Woods, parts I & II" in 1864 and 1865. She wrote and illustrated both books and they showcase her scientific endeavours. She clearly used her social position and good standing to facilitate these scientific investigations.

The list of subscribers to her books are testament to her social standing and read very much as a list of the powerful and influential members of Shropshire society. From Beriah Botfield the local MP, to Lord and Lady Clive, the Rouse-Boughton's and various learned and scientific specialists from the local area. The list of subscribers is dominated by women suggesting that she was supported by a web of women interested in her subject of choice and keen to see what she had discovered.

In the preface to the first book, she expresses her hope that she will be able to publish another volume of works and so it was that she did publish a second volume a year later. This was also self-published and was again supported by subscription. This time the person thanked in her introduction is one of the most famous naturalists of his day the much-esteemed Dr Hooker, director of the botanical gardens at Kew, who also helped Sarah and supported her mycological adventures.



What is her legacy?

The two mycological publications which are both beautiful to look at and beautifully executed in terms of their scientific explorations are surely her most lasting scientific legacy. They also give us a unique record of the fungi growing in the Ludlow area during her lifetime all beautifully illustrated and drawn from nature. In this regard she can be considered a more precise and accurate mycologist than many working in this field as she went out and found these specimens and studied them herself, recording her own observations and did not seem to rely greatly on hearsay or the

studies of others. The conclusions she draws may not stray from what was commonly known and accepted by the wider botanical world at that time but none the less her efforts should not be dismissed as the idle observations of a lady of leisure.

Conclusion

At the start of the nineteenth century Shropshire was at the heart of the scientific advances being made at the time. The most closely you look at the social circle who were instrumental to these developments, the more women appear from the shadows. Many of these women were able to participate in scientific research due to the opportunities afforded them by either wealth, freedom from the constraints brought by marriage and motherhood or the liberal attitudes of family. However, these women still had to face a lack of access to universities, scientific societies and the social attitudes that prevented them from traveling independently.

Ongoing research into the collectors and scientists that helped to amass Shropshire Museums' natural science collections is revealing the key women had in the process. Many were pioneers in their area of study and made contributions that are still important today.

If Darwin had been born a woman, it is unlikely he would have been afforded the opportunity or objective scrutiny of his peers in order to become the proponent of a controversial new idea. His work would probably feature as a footnote to the Theory of Evolution; a collection of astute observations made in the gardens of, and countryside surrounding, Mount House.

Further Reading

"Wildlife in the Marches" Mark Lawley (2015) Marches Publications

"Rare Plants of Shropshire" A.J. Lockton and S.J. Whild (2005) Shropshire Botanical Society

https://en.wikipedia.org/wiki/Katherine_Plymley