



# JREF

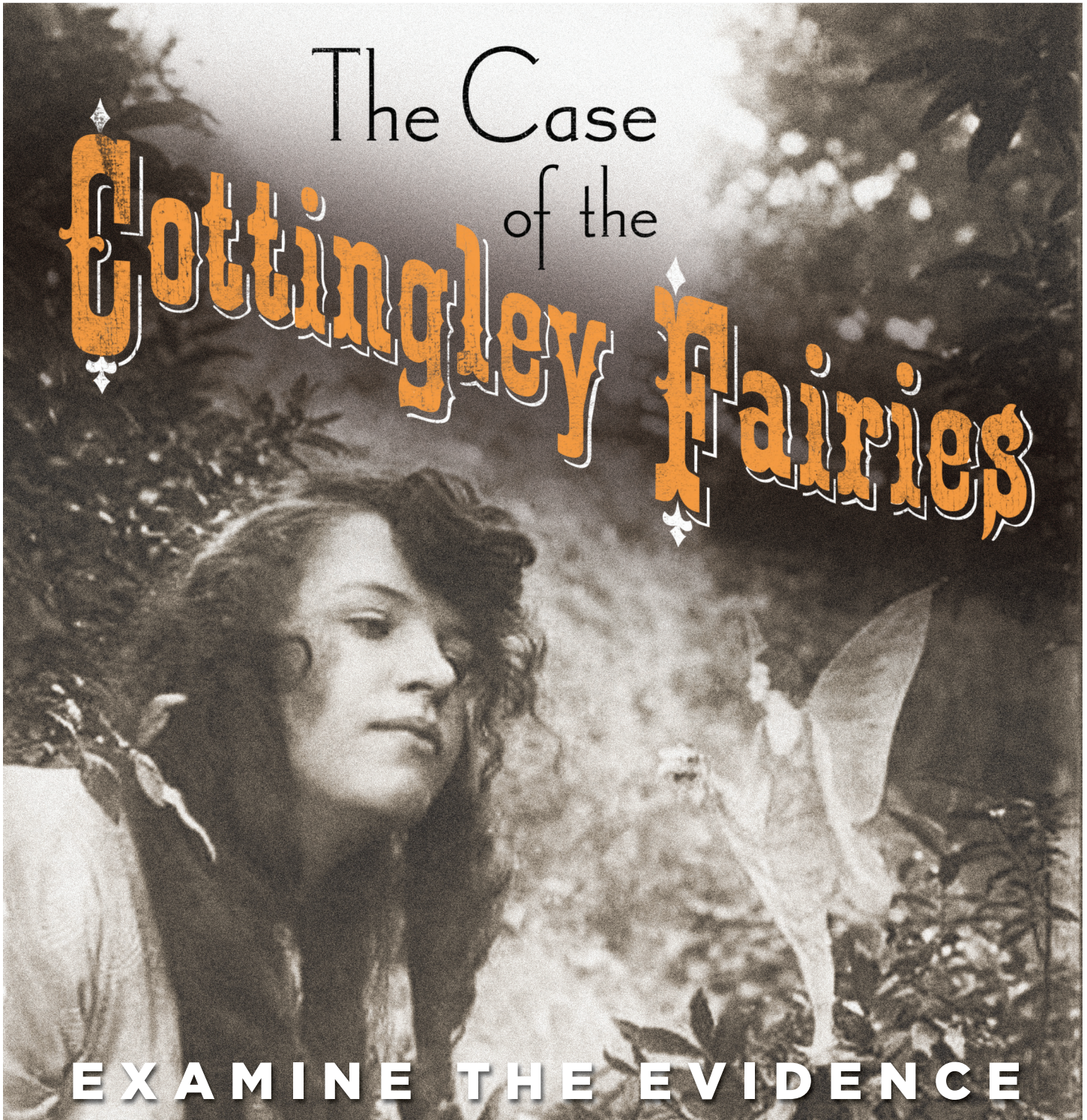
JAMES RANDI  
EDUCATIONAL  
FOUNDATION

## JREF IN THE CLASSROOM

*The Case of the Cottingley Fairies: Examine the Evidence*

©2012

JAMES RANDI EDUCATIONAL FOUNDATION  
ALL RIGHTS RESERVED



TEACHER EDITION



© 2012 James Randi Educational Foundation  
All Rights Reserved



**TEACHERS:**

The JREF is pleased to provide this free educational module for your use. All we ask in return is that you let us know if you found it useful.

Please visit [www.randi.org/module-feedback](http://www.randi.org/module-feedback), and let us know how you used this module in your classroom. Thank you!

Your responses will help us improve our critical thinking educational materials and to expand our offerings for the classroom.

# about the JREF

Our mission is to promote critical thinking by reaching out to the public and media with reliable information about paranormal and supernatural ideas, which are widespread in our society today.

The James Randi Educational Foundation was founded in 1996 to help people defend themselves from paranormal and pseudoscientific claims. The JREF offers a still-unclaimed million-dollar reward for anyone who can produce evidence of paranormal abilities under controlled conditions. Through scholarships, workshops, and innovative resources for educators, the JREF works to inspire this investigative spirit in a new generation of critical thinkers.

Your support helps the JREF to . . .

- Expose paranormal and pseudoscientific frauds in the media, and hold media organizations accountable for promoting dangerous nonsense.
- Support scientific research into paranormal claims.
- Provide grants and free teaching modules to help educators inspire an investigative spirit in the next generation of critical thinkers.
- Award scholarships that encourage scientific skepticism among students.
- Support grassroots skeptics' groups with tools to help them organize and promote skepticism and critical thinking.
- Digitally publish the important works of skepticism for distribution on the iPad, Kindle, and other e-readers.
- Organize major conferences and other gatherings that bring the entire skeptical community together.

## SUPPORTING THE WORK OF THE JAMES RANDI EDUCATIONAL FOUNDATION

The James Randi Educational Foundation relies on the support of people like you in order to carry out its mission. Whether it is our renewed support of grassroots skeptic outreach, our investment in resources for educators and students, our expanding digital educational offerings such as digital books and videos, or Randi's lecture tours, your financial donations help make our programs possible.

You may support the JREF by joining us as a contributor online at **randi.org**. You may find that you can be more generous by making a pledge of monthly support. For more information about pledges, please contact [development@randi.org](mailto:development@randi.org).

\* Donations are tax deductible for U.S. residents to the full extent of the law.

The Case of the Cottingley Fairies educational module examines one of the most celebrated public hoaxes in history. This guide tells the Cottingley story while exploring the role of publicity, celebrity, and physical evidence in shaping the public's perception of extraordinary claims.

### **GRADE LEVEL AND CONTEXT**

This exercise is suitable for grades 3 through 5 (higher with some modification) and can be presented in both classroom and informal educational contexts. The material can be covered in a single class period.

### **NATIONAL SCIENCE CONTENT STANDARDS ADDRESSED:**

- Unifying Concepts and Processes
- Science as Inquiry
- Science in Personal and Social Perspectives
- History and Nature of Science

### **AAAS SCIENCE LITERACY BENCHMARKS ADDRESSED:**

- The Scientific Worldview
- Scientific Inquiry
- The Scientific Enterprise

### **ACKNOWLEDGMENTS**

This module was developed with the assistance of James Randi, D.J. Grothe, Sadie Crabtree, Rick Adams, Chip Denman, Barbara Drescher, Kylie Sturgess, Matt Lowry, and Daniel Loxton. Key source materials were generously provided by a private collection in Virginia.



## a brief **overview** . . .

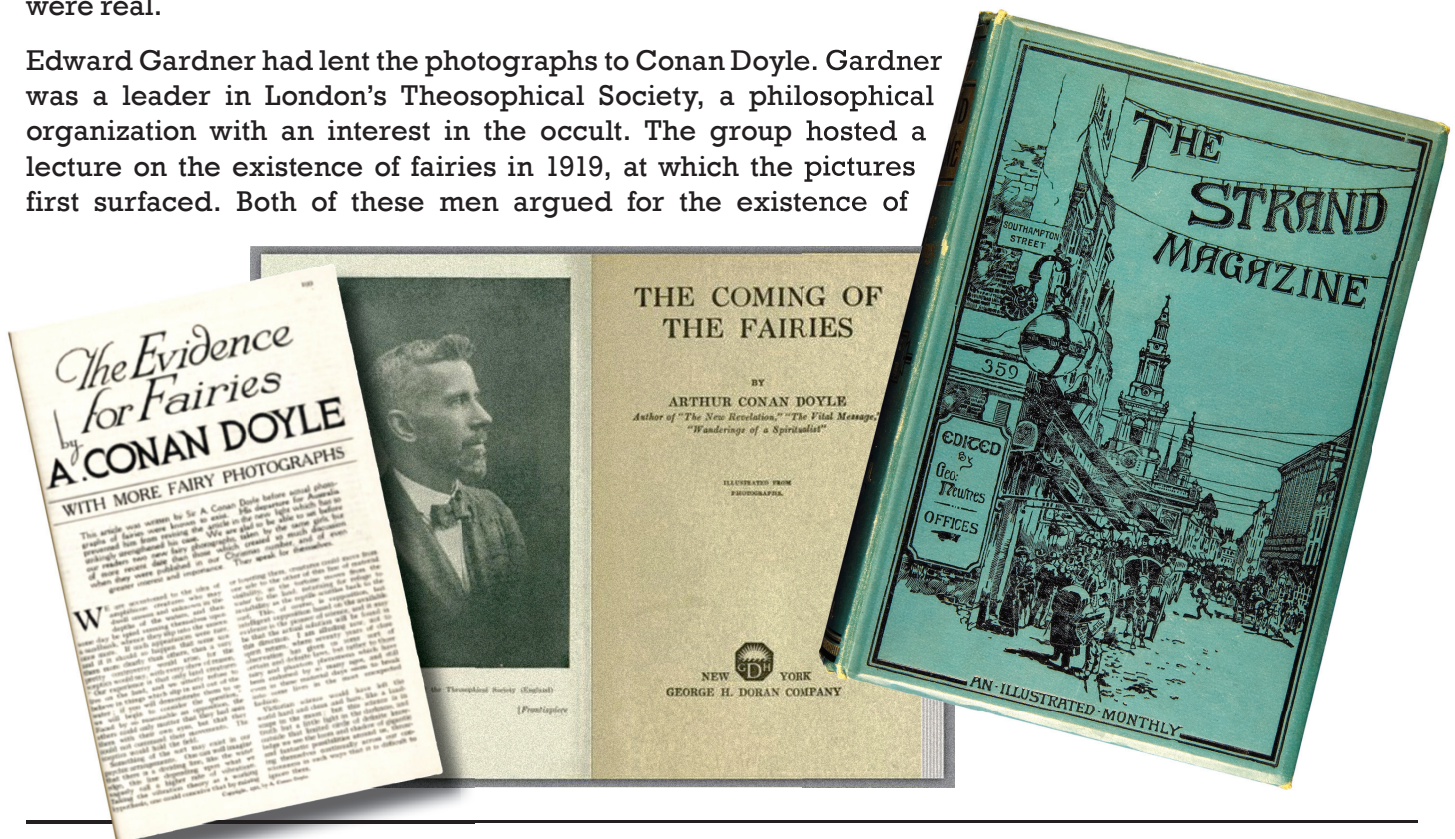
It was Christmas in 1920 when the monthly British magazine *The Strand* published an extraordinary article. It had been the fictional stories of the world-famous Sir Arthur Conan Doyle and his detective, Sherlock Holmes, that helped make *The Strand Magazine* one of the most popular publications anywhere in the UK. This time it was a work of nonfiction by the author that put the magazine in the spotlight.

A regular contributor to *The Strand*, Conan Doyle had been asked to write on the topic of *fairies* for the December issue. He delivered an article titled “Fairies Photographed – An Epoch-making Event” and what followed was a national sensation. While it was usually the writing of Conan Doyle that drew readers to *The Strand*, this time it was the pictures—two photographs in particular.

The two striking photos included in the article were of young girls posing in a garden next to what appeared to be fairies.

Arthur Conan Doyle was a believer in many strange ideas that were often at odds with the advancing science of the day. He was a vocal believer in psychic powers, the spirit world, and the ability of the living to communicate with the dead. The existence of fairies was another of the many paranormal phenomena he was keen on proving. He included the pictures in the 1920 story because he was convinced that they were real.

Edward Gardner had lent the photographs to Conan Doyle. Gardner was a leader in London’s Theosophical Society, a philosophical organization with an interest in the occult. The group hosted a lecture on the existence of fairies in 1919, at which the pictures first surfaced. Both of these men argued for the existence of



fairies and believed that these photographs, which they considered authentic, provided solid visible *evidence* in support of their argument.

The photographs immediately became the talk of London as many accepted them as authentic based on Conan Doyle's endorsement alone. Others remained unconvinced and saw them as fakes, created as part of a clever hoax. Whether or not they accepted the images as real, most were very interested in where the images came from.

## THE 1917 PHOTOGRAPHS

Where did the pictures come from and when were they taken? Interestingly, they had been taken in the summer of 1917—more than three years before they were presented to the public in that Christmas edition of *The Strand*.

The photographers themselves were as remarkable as the photographs. The photographs, apparently showing two young girls interacting with fairies, were taken by the two girls themselves—Frances Griffiths and Elsie Wright. Ten-year-old Frances Griffiths had just arrived in England from South Africa and was staying with the family of her 16-year-old cousin Elsie Wright while Frances' father fought

in World War I. The two girls were very close and spent much of that summer playing beside a creek at the bottom of the Yorkshire, England garden. The girls would often race home with wild stories of encounters with *gnomes* and fairies, both of which they claimed lived along the stream's edge. The parents were *skeptical* of the girls' fantastic tales.

In order to provide proof, Elsie borrowed a Midg Quarter-plate camera from her father, who was a serious amateur photographer. The girls returned from the creek less than 30 minutes later, claiming to have taken a photograph of them. This would be the first of the two images that inspired the fairy story in *The Strand* three and a half years later.

Arthur Wright, Elsie's father, developed the photo in the darkroom he had set up in the family home. That photo showed Frances behind a bush on which four fairies appeared to be dancing. Elsie's father was not convinced. He immediately dismissed the image as a "joke" made from cardboard cutouts. Elsie was extremely creative



**LEFT:** FRANCES WITH THE "FAIRIES"

**ABOVE:** MIDG QUARTER-PLATE CAMERA



and had some knowledge of photographic equipment and techniques. In fact had a part-time job at a local printer's shop. Her father knew that she was quite capable of creating a convincing image like this.

Several months later, the girls borrowed his camera once more, and again produced "proof". This time they returned with a photograph of Elsie sitting on the lawn, holding out her hand to a gnome that appeared to be about a foot tall. This did little to convince Elsie's father, who still suspected trickery. However, Elsie's mother, Polly, had an avid interest in the *supernatural*, and as part of her religion, *Theosophy*, believed in fairies. She was beginning to believe that the photographs were real and the girls' stories were true.

Convinced, Polly Wright took the photographs with her to a lecture on fairy life. The photographs came to the attention of that evening's speaker, who made arrangements to display them at an annual conference on the topic a few months later. It was at this conference that Edward Gardner, another theosophist, learned of the pictures and began promoting them as evidence that fairies were real. They were soon noticed by the famous Sir Arthur Conan Doyle.

Conan Doyle wanted to publish the images in *The Strand*, and he wrote to Elsie and her father to request permission to use the prints in the magazine article. Arthur Wright was willing to allow their use, but only without payment because he was concerned that people might think the girls were motivated by money to fake the pictures.

The photos were immediately shown to physicist and serious psychical researcher Sir Oliver Lodge, who was not entirely convinced. While he did not say outright that he thought they were fakes, he was skeptical. He said he felt that the fairies might actually be a troupe of dancers. This did little to dampen the enthusiasm of Gardner and Conan Doyle. Gardner sent the photographic negatives to Harold Snelling, a photography expert, hoping to confirm that the images were not the result of trickery.

Snelling extensively examined the images and declared them to be "genuine unfaked



photographs of single exposure, open-air work, show movement in all the fairy figures, and there is no trace whatever of studio work involving card or paper models, dark backgrounds, painted figures, etc."

While he never specifically stated that the images were of fairies, he was convinced that the objects (or creatures) in the image were not the result of fakery. This was an important endorsement for the photographs, as they quickly became the talk of the *spiritualist* community in London and around the world.

Gardner and Conan Doyle wanted another expert opinion, so they turned to the leading film and camera maker, the Kodak company. They were given access to some of the company's many technicians. The specialists at Kodak carefully reviewed the prints and concluded that the pictures "showed no obvious signs of being



faked.” They would not go further, however, and certify the photos as authentic. They also said that they could reliably produce such a picture themselves with their knowledge and resources. Perhaps two photographic experts from the world’s largest camera company could produce convincing fake images, but what about two children?

Gardner and Doyle claimed that the skill and specialized knowledge required to fake the photographs was far beyond that of two schoolgirls, and made this their primary defense to critics. They failed to note that Elsie had worked in a photographer’s shop and was also very familiar with both camera and darkroom techniques from working with her father.

The results of the expert evaluations, according to Gardner and Conan Doyle, were that two validated the photographs as real and one did not.

## THE 1920 PHOTOGRAPHS

While Conan Doyle was in Australia on a lecture tour, Gardner went to meet the Wright family. He had an experiment in mind. Frances was living with her parents by then, and not with Elsie. During Gardner’s visit, Elsie’s father told him that he remained certain the pictures were faked and believed they were produced with some type of “cutout.” This theory was a favorite of skeptics who thought the fairies looked two-dimensional (flat).

Gardner’s experiment to answer the question of authenticity was to provide two cameras and 24 secretly marked photographic plates. He wanted to see whether or not the girls could produce more photographs.

Frances was invited to stay with the Wright family during the school summer holiday so that she and Elsie could try to take more pictures of fairies.

The girls returned to the creek and snapped several photographs, two of which depicted fairies. In the first photo, “Frances and the Leaping Fairy,” Frances appeared with a winged fairy in front of her face. The second, “Fairy offering Posy of Harebells to Elsie” (see cover photo), showed a fairy hovering over a branch, and offering Elsie a flower. Two days later, the girls took their third and last picture of this new set, “Fairies and Their Sun-Bath.”

At this point, they carefully packed up the camera and the fragile glass plate negatives and shipped them back to Gardner. They claimed that they were only able to take three pictures because rainy weather kept them from the creek (this was later found to be false, after a review of weather data recorded for that period). Gardner was thrilled with the pictures produced by the girls. They were exactly what he had hoped for.

“A complete success!” was the message Gardner sent to Conan Doyle in Australia. He reported that the girls had produced three new photographs. Conan Doyle was so impressed upon seeing the new photos that he pronounced them “altogether

“Frances and the  
Leaping Fairy”

1920



## "Fairies and Their Sun-Bath"

1920



beyond the possibility of fake." His elation was evident in the telegram he sent back to Gardner: "My heart was gladdened when out here in far Australia I had your note and the three wonderful pictures, which are confirmatory of our published results. When our fairies are admitted other psychic phenomena will find a more ready acceptance . . . We have had continued messages at séances for some time that a visible sign was coming through."

The critics remained skeptical and pointed out many problems with the photos. They said the figures looked flat, and as if they were made of paper. They wondered why Frances was not looking directly at the fairies in the photograph "Number One." They also questioned the clothing worn by the fairies, which was suspiciously consistent with the latest fashions of the time. Their arguments were often overshadowed by Conan Doyle's fame as England's best-known writer. For the rest of his life, he remained firm in his opinion that the photographs were authentic.

Edward Gardner made a final visit to Cottingley in August of 1921. He again brought two cameras and other photographic supplies. With him was Geoffrey Hodson, who claimed to be a

*clairvoyant*. The girls, along with Hodson, took the cameras and went into the garden. With Hobson watching, the girls said they couldn't find any fairies, and returned without taking a single photograph. Oddly enough, Hobson reported that he'd seen fairies "everywhere."

## ASK . . .

*Do you think that Gardner and Conan Doyle were completely "open-minded" in their investigation of the photos?*

## THE INVESTIGATIONS

Public interest in the Cottingley Fairies was quite substantial in the months immediately following the publication of Conan Doyle's article, but by 1921 the general public's interest had waned. Elsie and Frances also began to tire of what they called "the fairy business." They both married and left England, and it seemed as if there might not be a final answer to the question of whether the pictures were real or faked. No solid conclusions had been reached about the authenticity of the then-famous photographs.

That changed in 1966 with the first of several serious investigations of the affair. A reporter from the *Daily Express* newspaper tracked down





Elsie, who by then had returned to England. What she said called into question the authenticity of the pictures and created even more confusion. She coyly admitted that the fairies might have been “figments of my imagination,” but insisted that the photographs were real. She seemed to be suggesting that the camera was able to photograph her mind—a claim at least as extraordinary as the existence of fairies.

In a 1971 television interview, Elsie stated, “I admit that I may not believe in fairies. As for the photos, let’s just say that they are figments of our imagination, Frances’s and mine.” Elsie and Frances were interviewed for Yorkshire Television in 1976, and again made statements that suggested the fairies were not real.

While there had been several *journalistic* investigations of the Cottingley Fairies, until 1978 there still had been no real scientific examination of the affair. That changed when James Randi and a team from the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP) took on the Cottingley case. Randi is not a scientist, but an accomplished magician and investigator of the paranormal with special skills in identifying deception. While Randi convincingly showed there had been at least one *double-exposure*, that one was likely an accident.

Randi found that a popular children’s book, *Princess Mary’s Gift Book*, was likely the source of the fairy images. It had been published in the same year that the girls took their first photos. The figures illustrating the poem “A Spell for a Fairy” look exactly like those from *The Strand*. The illustrations on the next page compares the fairies from the photographs with those from the book. Some details such as clothing are different, but the poses are unmistakably the same.

## ASK . . .

*What evidence would you need in order to be convinced that the fairies in the photographs were genuine?*

Geoffrey Crawley, editor of the *British Journal of Photography*, undertook a final exhaustive scientific investigation of the subject between 1970 and 1983. He focused on the cameras used by the girls and published his findings in a series of technical articles. The results of his investigation demonstrated what he had long suspected; the cameras were incapable of taking photos as sharp as those published. The only reasonable explanation was that the pictures had been “doctored” by Gardner or someone else. There was no longer any significant doubt that the whole affair had been a simple hoax.

Although Crawley worked tirelessly to expose the truth about the matter, he was sympathetic to the girls. He felt strongly that the cousins felt pressured to remain silent once Sir Arthur Conan Doyle became involved and so strenuously promoted the pictures as real evidence for the existence of fairies.



### IN HIS BOOK FLIM-FLAM!, WHICH, IN PART, DESCRIBES THIS INVESTIGATION, RANDI EXPLAINS THE COTTINGLEY FAIRIES:

“The Cottingley Fairies were simple fakes made by two little girls as a prank, in the beginning. Only when supposedly wiser persons discovered them were they elevated to the status of miracles, and the girls were caught up in an ever-escalating situation that they wanted out of but could not escape. When asked to repeat the performance, they did so under pressure, probably by then enjoying the hoax somewhat. Today they find it impossible to tell the same story they did some years ago, preferring to bounce the ball around a bit without committing themselves either way. That Elsie is sparing the reputation of Frances is obvious, for Frances is now employed in a position that she might well lose if the truth were known for sure.”





The illustration from *Princess Mary's Gift Book* seems to have been the inspiration for the fairies created by Elsie and Frances. At right is the original illustration and above the fairies are contrasted with their photographic twins.

On page 6 (left) is a photo of Sir Arthur Conan Doyle with an "ectoplasmic spirit" taken in 1922.







This close-up image of the fairies allows for further investigation. Imagine you have never seen a “photoshopped” image before. What do you think is convincing about them and what makes you doubt their authenticity?

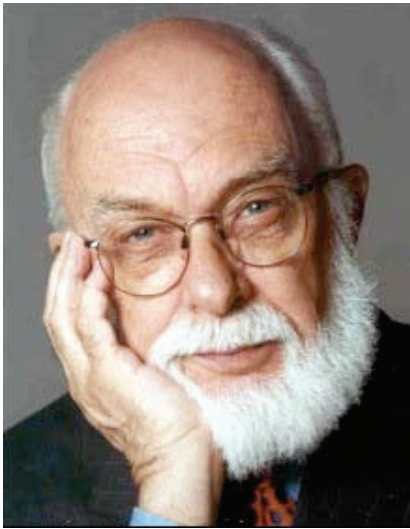
## in **closing**...



### THE ADMISSION

Gardner and Conan Doyle both believed in the existence of fairies until their deaths, and neither stopped defending the authenticity of the Cottingley photos—even after the public almost universally accepted the incident as a hoax.

The case was closed for good in 1988, when Elsie Wright, shortly before her death, confided in Crawley, “The whole affair had been a practical joke that had fallen flat on its face. The laugh was on us.” The story briefly reemerged into popular culture in 1997 with the release of a movie version of the events, called *Fairytale: A True Story*.



## to the **reader** . . .

I had frequent communication with Elsie for several years before she passed away. She always joked with me but never actually admitted that the fairies were just a game she and Francis played with the rest of the world. Today, people know much more about photography, but 95 years ago most people were mystified by it. Sir Arthur Conan Doyle certainly should have been smart enough to solve the hoax, but he wanted to believe in ghosts, spirits, and rather silly things of that sort, so he decided that two little girls couldn't have dared to deceive him.

Unfortunately, many people in this day also have such delusions, and the James Randi Educational Foundation is doing everything possible to educate the public (that's you!) about these matters. I hope this lesson has taught you that being skeptical is a healthy, useful attitude. And there will be more...

A large, stylized handwritten signature of James Randi. The signature is written in black ink and is quite fluid and expressive. Below the signature, the name "James Randi" is printed in a smaller, sans-serif font.



## explore further: **hoaxes**

Hoaxes are deceptions created through the intentional spread of false information. Hoaxes can be as harmless as an April's Fool's joke, or they can be very dangerous. Some hoaxes have caused economic panic, widespread fear, and even risks to national security. Below are pictures from well-known hoaxes—can you identify them? Maybe you know of others. See if you can add two more.



## try this

1. Work in groups to create your own hoax pictures. Use a digital camera and photo editing software (available free on the Internet) to create photos that “lie.”

Try fairies, ghosts, UFOs, or whatever you come up with. Is it easier with today’s cameras and software than it was for Elsie and Frances?

Show your “evidence” to friends and family and see if they are convinced. Did you fool anybody?

2. Retell the story of the Cottingley Fairies by creating a timeline of key events.

## glossary

**Double-Exposure** – a process where a piece of film or a photographic plate is exposed to light more than once, usually combining multiple images

**Clairvoyant** – A person who has an ability to gather information without the use of the physical senses. This information can be about anything: people, places, or objects. Sometimes referred to as one variety of Extra-Sensory Perception or ESP, clairvoyance has been investigated for over a hundred years without producing any credible evidence to support its existence.

**Evidence** – Information that can be used to determine the accuracy of a claim or assertion. In science, evidence is gathered systematically through observation and experimentation using methods that work to limit the effect of any biases that might exist.

**Fairies** – Creatures of folklore and mythology that are generally described as miniature humans in appearance and having magical powers. Most modern depictions are of small, winged beings.

**Gnomes** – Tiny human-like earth-dwelling creatures found in European folklore.

**Paranormal** – Experiences that are outside the range of what we consider to be “normal.” Paranormal phenomena are typically inconsistent with our scientific understanding of nature. When carefully examined, paranormal claims often turn out to be misinterpretations or misunderstandings of ordinary phenomena. Examples include psychic powers, ghosts, UFOs, and divination.

**Skeptical** – Cautiously suspending judgment on a claim until sufficient evidence has been presented.

**Spiritualist** – One who follows a religion built around the core belief that spirits of the dead reside in a separate spirit world and are capable of communicating with the living. This supposed communication is often done through séances, mysterious sessions in which a “medium” seems to facilitate a conversation with spirits who provide information about the “afterlife.”

**Supernatural** – Not existing in our observable universe or explainable by natural laws or phenomena. Ghosts, spells, and spirits are all example of things described supernatural.

**Theosophy** – A religious philosophy concerned with understanding the nature of god through mystical insights and teachings. Theosophy has roots in ancient Greece, but was revived in the 1870s by Helena Blavatsky. Blavatsky’s greatly modified version of Theosophy focused on the supposed relationship between the spirit and physical matter, and still has followers today.



## further reading

Learn more about the Cottingley Fairies, hoaxes, and the investigation of strange claims with the following books articles and websites:

### IN PRINT

Carroll, Robert (2004). "Pranks, Frauds, and Hoaxes from Around the World." *Skeptical Inquirer*. Volume 28, No. 4. July/August, pp. 41-46.

Conan Doyle, Arthur (2006) [1922], *The Coming of the Fairies*, University of Nebraska Press.

Gardner, Edward L. (1951), *Fairies: The Cottingley Photographs and Their Sequel*. The Theosophical Publishing House London Ltd.

Gardner, Martin (1981), *Science: Good, Bad and Bogus*. Prometheus Books.

Magnusson, Magnus (2006), *Fakers, Forgers & Phoneys*, Mainstream Publishing.

Randi, James (1995), *An Encyclopedia of Claims, Frauds, and Hoaxes of the Occult and Supernatural*. St. Martin's Press.

Randi, James (1982), *Flim-Flam!*. Prometheus Books.

### ON THE WEB

*The Case of the Cottingley Fairies* by James Randi.

<http://www.randi.org/library/cottingley/movie.html>

*The Coming of the Fairies* - scans of the original version of Sir Arthur Conan Doyle's book (1922)

<http://www.archive.org/details/comingoffairies00doylrich>

*The Debunking of Three Hoaxes* by James Opie.

<http://www.rugreview.com/orr/132hoax.htm>

*Pranks, Frauds, and Hoaxes from Around the World* by Robert Todd Carol.

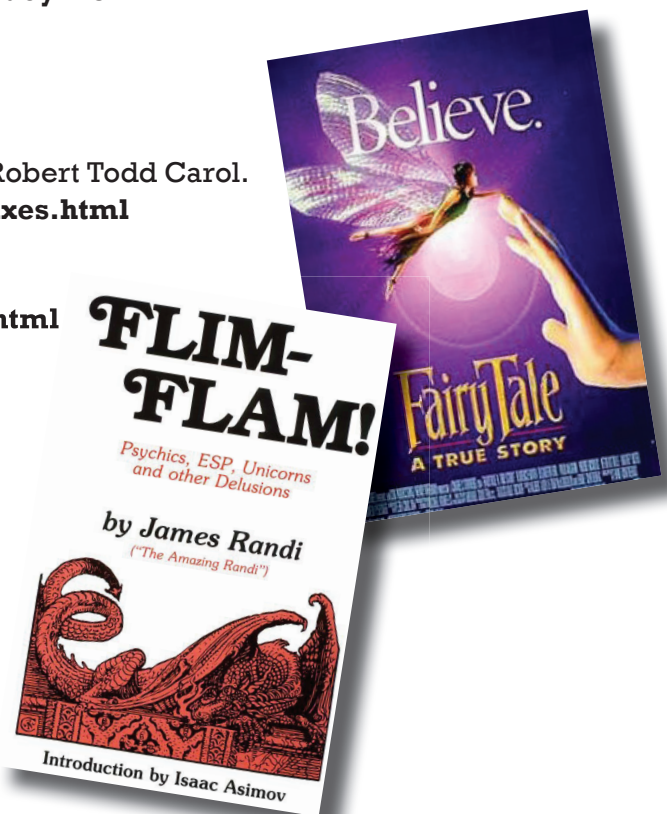
<http://www.skeptdic.com/essays/fraudsprankshoaxes.html>

*The Internet Encyclopedia of Hoaxes*

<http://sprott.physics.wisc.edu/pickover/pc/hoax.html>

*The Skeptic's Dictionary*

<http://www.skeptdic.com/>





## discussion **questions**

- How do you think Arthur Conan Doyle's fame affected the public's willingness to believe his claims?
- Do you think celebrity gives a person greater credibility?
- Do you think this hoax could take place today? If not, why not?
- Are there extraordinary claims that people believe in today despite no solid evidence?
- What is the problem with starting with a conclusion and then looking for evidence to support it?
- How would you investigate the Cottingley Fairies hoax differently than Gardner and Conan Doyle did?
- If Elsie and Frances had done this today, do you think that more people would believe them, or fewer? Why?

## teacher's module **notes**



# teacher's module **notes**



---

**randi.org**