

Exploring the First Electrical Houses: the Story of Electricity in the Home

Guide character scripts

Cragside – Mr. Grey the butler

Introduction

Good day, and welcome to Cragside, which is near Newcastle. I am the butler here. I am the head servant, in charge of running the house for the owner: Lord William Armstrong. He is very wealthy, and likes new scientific inventions. That's why we were the first house in the world to have electric lightbulbs in 1880! Please feel free to take a look around, and if you have any questions, just ask!

Library

Object: **Cloisonné lamp**

Question: **How were these lamps turned on and off?**

These electric lamps, here in the Library, used to be oil lamps. This means they gave light by burning oil. In 1880 these lamps were electrified - made into electric lamps, with lightbulbs. When we draw electrical circuits, lightbulbs are represented by a symbol like this, a circle with an X in it.

At that time there were no light switches available, so they needed another way to turn the lights on and off. They ran a wire down from the bulb at the top, and cut a hole in the bottom of the vase. They put the vase on a metal disk which was connected to the electricity supply by a long wire. The disk had a cup of mercury in the centre. Mercury is a metal, so it is a conductor of electricity: it allows electricity to flow through it. However, it is also a liquid at room temperature, so when the vase was placed on top of it, the wire dipped into the mercury. This acted like a switch, making an electrical connection and turning on the lightbulb. In drawings of electrical circuits, a switch is drawn like this.

So, how were these lamps turned on or off? By moving them on or off their metal disks.

Butler's Pantry

Object: **Telephone**

Question: **How do we get electricity from one place to another?**

Welcome to the Butler's Pantry. This is where I organise my work and store lots of things to make sure the house is running smoothly. It's also a hub for lots of the electrical systems we use in the house, like the fire alarms.

Often electricity is generated or stored in one place, but needs to be used somewhere else. When we need to move electricity from one place to another, we use wires. Wires are made of materials which conduct electricity. This means that electricity can pass

through them, and these materials are called conductors. They are the opposite of insulators: materials which electricity cannot pass through. All metals are conductors, and the wires in this house were made of a metal called copper.

At this time it was very unusual to have a telephone in your house. I was in charge of this one, which made me proud, but I only used it to tell the man in charge of the electrical generator - which was in the Power House - that we needed more or less electricity to power the lights.

Power House

Object: **Batteries**

Question: **What do we use to store electricity?**

When we need to store electricity to use later, we use batteries. These were the batteries we had in Cragside: we had a lot of them here in the Power House! If you connect more batteries together, the electricity is stronger, because together they supply more voltage. In drawings of electrical circuits, a battery is drawn like this.

Here at Cragside the lights were powered by electricity which was generated by water! This is called hydroelectricity. Here is how it worked. Water flowed down from a lake at the top of the hill, above the main house. The movement of the water turned a wheel here in the Power House. This worked our electrical dynamo and generated the electricity, which was then used to charge up the batteries.

However, sometimes there wasn't enough water to generate the electricity, so we kept these batteries charged to make sure there was enough electricity to light the house or use the telephone or the fire alarm. But sometimes, the electricity supply failed completely, and when that happened-

Oh. Oh dear. Has anybody got a candle?

Red Landing

Object: **Fire alarm**

Question: **Why did the Victorians use electricity to make loud noises?**

Here in the Red Landing there were two things which used electricity to make a loud noise, but for different reasons! One was this electrical fire alarm button: this was quite unusual at the time! However, because people used a lot more candles to provide light, which involved burning something, fires were a lot more common. This fire alarm button rang a bell in the butler's pantry, and would have made the family feel much safer! When we draw something that makes noise in an electrical circuit, like a buzzer, we use this symbol.

The second thing which made a noise here was the electric dinner gong. Servants used to bang gongs to let people know when their food was ready, and because Cragside was so big, Lord Armstrong decided to electrify this one and put it here. He used a gong instead of a normal bell, because ringing a bell was how the family called for servants to come to them. They didn't want to feel like they themselves were being summoned by their servants!

Conclusion

I do hope you enjoyed looking around Cragside. You have learnt about what we used electricity for here, such as lights, telephones and a fire alarm, and seen some symbols for electrical circuit components like batteries, buzzers, lightbulbs and switches.

We have seen the difference between electrical conductors and insulators: conductors allow electricity to pass through them, but insulators stop electricity. Metals are good conductors of electricity. You have also learnt about hydroelectricity: generating electricity using water! Fascinating, isn't it! I think electricity is very exciting.

Now, if you would like to learn more about electricity, I recommend visiting Standen house next! Goodbye!

Standen – Mrs. Beale

Introduction:

How do you do, my name is Mrs. Beale, I'm so glad you've come to look around my beautiful home, Standen, in Sussex. My husband and I had this house built for us in 1892, and it was one of the very first houses in Britain to have electricity built in right from the start! As you will see, we had very pretty light fittings designed especially so that they would fit in with everything else in this lovely home. I hope you enjoy looking around it! Please, do come in!

Hall

Object: **Yellow glass light fitting**

Question: **Why does this light have a glass shade?**

These glass shades on the lights here in the Hall are very pretty, but they are also there to make the electric light softer. You see, although bulbs were much less bright than you would expect now, they were still a lot brighter than the candles or gas lamps that we were used to!

The Hall was where guests might come before entering the main part of the house. When we Victorians started using electric light in our homes we realised that our rooms could look quite cluttered, with lots of ornaments on all the surfaces. There was much less of that once we had electric lights!

However, ladies often thought that electric light was uncomfortably bright and harsh, and that it would be bad for their skin! The particular type of glass used here in these shades is called vaseline glass, and it softens the light and makes it look more like a flickering flame.

Drawing Room

Object: **Wall light**

Question: **Why has this light fitting been designed like this?**

The Drawing Room was where we used to sit and relax, and spend time as a family, or entertain guests. The servants would not have come in here except to clean, or to tell us something, or if we summoned them to speak to us.

The design of these light fittings was very specifically chosen to fit the house; you see, the house was designed in a style called 'Arts and Crafts', which was all about using traditional materials and images from nature. See, for example, how the glass shade is shaped like a flower, and the metal plate has a sunflower pattern on it. The wall plate was made of copper, which was a popular material at the time and good for lighting because it looked nice and reflected the light well. You can also see how the pattern of the sunflower is raised from the surface, which helped it to spread the light around the room. The fireplace also matches the light fittings, as it has a similar style of pattern on it.

Dining Room

Object: **Candlestick**

Question: **Why did people still use candles when they had electric lights?**

Here in the Dining Room we often liked to use candles even though we had electric lights. Candles create a nice, cosy atmosphere with their soft flickering light, and at the dinner table that is something we like very much. It makes the room feel very comfortable. Just because we have new ways of doing things doesn't always mean we stop using the older ways completely! Also, most people found that electricity wasn't always reliable, and it was a good idea to have a back-up option which would definitely work, just in case you were plunged into darkness in the middle of your meal!

You'll notice in here also that we don't have one big light in the middle, but rather lots of smaller lights around the room. This is the same in every room in Standen, actually. We believed that this was better because we wanted the lights to be more evenly spread around the room.

Kitchen

Object: **Kitchen lights and wires**

Question: **Who benefitted from these lights?**

These lights in the kitchen would have been most useful for the cook who worked in here, making our food. You can see that the fittings are not decorated at all, they are very plain. This is because we didn't think servants needed fancy decorations in the rooms they worked in. The lights in here are simple and practical. Our servants were very lucky though: not all houses with electric light had electricity for the servants as well as for the family who lived there!

These light fittings, like others in the house, make use of an important difference between electric light and all other earlier forms of lighting: you could hang a bulb down in a way

you couldn't do with another form of lighting which produced a flame, like candles: you can't point a flame downwards! With electric light, though, this meant light could be focused or directed much more than it could be before, which was very useful in the kitchen where it was important to see what you were doing!

Conclusion

Now that we've finished looking around Standen, we've seen how electric lights were designed to fit into people's homes and look nice. This was an important part of people wanting to have electricity in their houses: it needed to fit in!

You've also learnt that we ladies were sometimes worried about the effect the bright glare of the electric light might have on our skin. This is why you often see glass or fabric shades designed to make the light softer.

If you want to learn some more about how we used electricity you should visit my friend Mrs. Gascoigne at Lotherton Hall next! Have a safe journey!

Lotherton Hall – Bertha the maid

Introduction

Hello there, welcome to Lotherton Hall, near Leeds! Begging your pardon but Mrs. Gascoigne, the lady of the house, is out at the moment, but she asked me to show you around if you'd like. My name is Bertha, I'm one of the maids in the house. We got our electricity in 1903, at a time when more and more people were deciding to start using it. Please let me know if you have any questions!

Morning Room

Object: **Wall mounted light fitting**
Question: **Who used this room?**

This was Mrs. Gascoigne's room, the lady of the house. You can see that it was quite a feminine room by looking at the design of the light fittings: they're very pretty, with lots of little crystals which sparkle in the light! Compare them with Colonel Gascoigne's light fittings in his office and you'll see a big difference!

This room was called the Morning Room. Most old houses had a Morning Room, and they were called this because the natural light from outside was brightest during the morning, so that's when they were used. In the afternoon they were normally too dark! But, when people started using electric lights, they were much brighter than the older lights, and so they could use their 'Morning Rooms' all day long!

Before electric lights, Lotherton Hall was lit using candles and oil lamps: we never had gas lighting here. Most wealthy upper-class people didn't use gas lights because the fumes from the burning gas could damage some of the expensive, pretty things in their houses, like their wallpapers; they were worried it could make their nice clean white ceilings dirty!

Medal Room

Object: **Call button**

Question: **Who used this button, and why?**

Well, I didn't use it, that's for certain! This is an electric call button, and Colonel Gascoigne, who used this room as his office, could press it to summon a servant to come and see him. There were buttons like this installed in all the rooms the family used around the house, and systems like this were very common in lots of houses at this time. Big houses like this one needed lots of people to run them you see: working-class people like me! Here at Lotherton Hall it was our job to cook for the family, keep the house clean and tidy, and make sure the family had everything they needed.

If you look around in this room you can see that it's a masculine room, rather than a feminine room. The light fittings reflect this as well: see how they're plain and practical, and not decorated in a fancy way, like, for example, the big light in the Drawing Room? Compare them with Mrs. Gascoigne's lights in her Morning Room and you'll see the difference!

Lift corridor

Object: **Lift**

Question: **Why might you want to have a lift in your house?**

Here in this corridor is something special: it's an electrical lift! Not many houses have one of these! This lift was powered by an electrical motor, which could move the lift up and down when it was switched on. If you want to draw a motor in an electrical circuit, you use this symbol: an 'M' inside a circle.

The lift was installed when Colonel Gascoigne and Mrs. Gascoigne got older, and weren't able to use the stairs so easily to go up to their bedrooms. Unfortunately, though, one day the lift broke down when Mrs. Gascoigne was inside it, and she was trapped for hours until they could fix it and get her out! After that she never used it again!

Apart from that though, I do worry a bit about the electricity, because I don't really understand how it works. And I know it can be dangerous! People have been hurt in the past by getting electric shocks you know! Still, electric lights have meant less cleaning for me, because the lights don't give off any soot like candles and oil lamps did, so the place doesn't get so dirty!

Servants' Hall

Object: **Call board**

Question: **What was this used for?**

We're in the Servants' Hall now, where we¹ servants had our meals! This is a call board, and it showed us where in the house somebody needed our help. You can see how it has the names of different rooms in the house on it: the Morning Room, the Drawing Room, the Bathroom, and of course the front door! The board was connected to call buttons around the house, buttons like the one you can see in Colonel Gascoigne's office. People pressed one of these buttons and an indicator on the call board would tell us where we had to go. In this way the Gascoigne family or their guests could get a servant to come to them wherever they were with the push of a button.

Before we used electricity to do this, large houses had simple systems of ropes and bells which also did the same thing. So you can see how electricity was used to communicate within the house; but remember it was only used by the upper-class family to tell the working-class servants what to do!

Conclusion

I hope you saw everything you wanted to here at Lotherton Hall! Electricity is ever so interesting: we've learnt how gentlemen and ladies often had different styles of lighting, and how it allowed people to make more use of rooms which would otherwise have been quite dark at different times of the day!

Also, we've seen how the family used electricity to summon me or one of the other servants by using electrical call buttons! Oh, if you'll excuse me, I think I hear one now! Got to go, lovely to meet you, goodbye!

¹ In the video Bertha says 'us servants' – although this is not grammatically correct it is more in keeping with a colloquial pattern of speech, and teachers may wish to use this as a starting point for a discussion about grammar (for example asking which is more correct, us/we) and/or about how people actually use language.