

# What is this?

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How many times has someone brought you something they found, believing you are the expert for its identification? It happens to me all the time. It seems every time I return from vacation, I find a rock a visitor left on my desk with a note saying, "What is this?"

Human curiosity provides a never-ending opportunity to learn. The community will deem anyone who works in museums and nature centers an "expert." It does not matter whether you have been in the position for 20 years or 20 minutes. Nor does your actual job description make a difference. You might be a naturalist, curator, interpreter, or administrator. Your job at your location will make you the expert in the public's eyes. How do you handle this responsibility? You might think, "Expert, wow. Can I put that on my resume?"

How do you become an expert? The first thing to remember is that no one alive is an expert at everything. Second, for the purposes of this article, I am referring to the ability to identify rather than know facts. Therefore, the number one question, "Where are your rest rooms?", is not addressed here. An interpreter is more likely going to be asked, "Is this a fossil?" rather than, "What is the square root of 345?" Finally we all have our interests, be they in nature or history, and that is where we can be of

greatest service to identify something.

The most important question is, "Where is it from?" A rock is just a rock until you know where it is from. Location is key to determine its geological history. A shiny black Miocene fossil shark tooth is pretty cool, but what's more unusual,



**Any triangular rock can be described as either a fossil tooth or an arrow head. The specimen on the left is a horn coral (also called a fossil claw) while on the right is a water worn piece of chert.**

finding it in North Carolina, or in a cornfield in Kentucky? How did it get there? These are the questions that are fun to explore.

I started my professional career in 1985 as the curator of science at the Louisville Museum of History and Science. Although my college diploma was in hand, of more impor-

tance was that I had a life-long exposure to the worlds of geology and nature. Identification of rocks, minerals, and fossils was second nature. I was somewhat knowledgeable about insects, shells, and other types of specimens that might be found in a collections storeroom. I identified my first rock for a visitor on the job not too long afterwards. We had a curator of history, so I did not have to deal with history.

If you are uncomfortable identifying things, I recommend passing the buck. The incredible diversity of items "out there" means that to be a true genius, it is better to know others who can identify various and sundry things than to try to learn it all yourself. There are plenty of experts out there. For those who have been on the job awhile, chances are you've already built up those connections through networking. For folks new in the business, you need to make those connections! Put yourself in your visitor's shoes—where would you go to get an unknown object identified? Get to know staff at museums and universities, members of a history or science society, antique dealers, appraisers, and well-known hobbyists in the region. Rule Number 1: Know people who know things. It is helpful to know a lot, but knowing other experts may be more practical.

There are a lot of resources out in the world that can make the challenge of identifying something easier. I'll start with rocks and fossils because that is my expertise and it seems everyone picks up rocks! They can be challenging to someone who has not spent years in the field. Most state geological surveys have staff knowledgeable in various areas of geological study—rocks, minerals, fossils, etc. Part of the survey's job is dealing with their state's citizens, and their educational mission includes identification. However, their office may be at the other end of the state and not practical for a lot of people.

Universities are another source for help. Sometimes the university is so labyrinthine or intimidating that many people cannot or will not go

there to track down potential experts. Their phone systems may be as convoluted as many banks or other big businesses and serve as a road-block. If you have cultivated connections among university professors, keep their phone numbers handy to help with the identification process. Even small colleges may have the staff to assist—you never know where those experts can be found!

While walk-ins tend to be most common for locations near urban centers, distance identification is becoming more popular. The advent of digital photography makes it possible for people from a few miles away—or halfway around the world—to send images for identification. Does it make things easier to identify? Unfortunately most people do not know how to photograph small things. I can't tell you how many blurred photos of rocks I have received! Most phone cameras are not designed for close-up images and much of the detail necessary for proper identification cannot be seen from five feet away. It may take a few attempts to get an image that is sharp enough to make an accurate ID.

As one would expect, identification leads to funny stories. Some are just odd—like the woman who found a whale scapula in the attic of the house she moved into. Others are hilarious interpretations of ordinary objects. A classic at our park involves a woman who found a water-worn horn coral amongst the river gravel used to landscape her yard. She was familiar with the story of Prince

Madoc, a Welsh prince who allegedly commanded a fleet of ships and came to the new world around 562 C.E. He is supposed to have built a fort in the area. The woman thought the horn coral was—well, let's just say a soft part of the prince's anatomy. Maintaining a straight face and

### The Five Rules

1. Know people who know things.
2. Do not laugh, scoff, or give a negative response to someone's misidentification.
3. People bring their own personal baggage that may not make sense; treat everyone the same.
4. People won't always believe you.
5. People base their identification on the familiar.

professional decorum, I explained the nature of horn corals and showed her examples of fossils and interpretive models of living specimens that are on exhibit. She was satisfied with my explanation. After she left, our receptionist and facility housekeeper erupted in hysterical laughter to the

point where they had to set the phone system on "Do Not Disturb" for 10 minutes while they collapsed on the floor in tears of laughter. Rule Number 2: It is important not to laugh, scoff, or provide other negative emotional responses to someone's misidentification. Do you like to be made to feel like a fool? I treat everyone's object to be identified as something very special to the person who brought it in. Most of the time it is what I, as a geo-scientist/interpreter, would call an "ordinary rock."

A few years ago, a woman came in with a box of fossils found in a creek on her property. She thought the government's "fossil police" were after her and explained how she carefully documented everything collected. The specimens were water-worn limestone with scattered crinoid and brachiopod fossils embedded—typical rock from that part of the state. Rule Number 3: People bring their own personal baggage that may not make sense; treat everyone the same.

Some people make up their minds that they have identified their discovery and come for confirmation. They can't be convinced when their identification is wrong. Nearly 20 years ago, a woman from an adjacent county (with her sister from New York in tow) hauled in a large rock in the car trunk. It had been dug out of her neighborhood during construction. It was a large piece of chert, flared at each end like a vertebra. The silica had replaced the limestone around an expanded joint fracture in the surrounding rock. They thought it was the backbone from a dinosaur. The bedrock in that part of the county is from the Silurian Period, predating dinosaurs by nearly 200 million years. I explained how chert differs from fossil bone, the lack of vertebrates in the Silurian rock in Kentucky, and other points. The woman who found the rock acknowledged what I said made sense, but her out-of-state sister thought I was lying through my teeth! Rule Number 4: People won't always believe you. Don't take it personally.

Common misidentification of

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rocks leads people to believe they are looking at petrified eggs, fossil skulls, or other imaginary fossils. Round rocks are automatically assumed to be fossil eggs, sometimes with the yolk or embryo preserved. (Soft tissue like eggs and delicate eggshell are incredibly rare as fossils.)

Another fellow had a skull-shaped piece of chert—complete with eyeholes, a broken triangle where the nose would belong and a horizontal crack for a mouth. By describing the textural difference between chert and bone, I was able to convince him that it was not a skull. I also encouraged him to display it as a most unusual rock on the mantle of his fireplace.

Rule Number 5: People base their identification on the familiar. While a good imagination can reveal all sorts of creatures in puffy white cumulus clouds, no one is going to say that an alligator-shaped cloud is really an alligator! However, seeing a face, skull, or partial skeleton in a naturally weathered piece of rock and



**Various iron ores and slags are often mistakenly identified as meteorites.**

convincing them that it is just rock is much more difficult.

“Meteorwrongs” are very common rocks. People find a dark or especially heavy rock and assume it fell from the heavens. In 25 years of identifying potential meteorites for people, I’ve yet to see a true space rock. More than 90 percent are pieces of slag – essentially human-made rocks that

are a byproduct of melting any number of stony products from iron to glass to coal. The other 10 percent are rocks and minerals (like dense ironstone) that have been confused with meteorites. (Refer to rules 2 through 5.)

Identifying things for visitors is a terrific public service that all museums, nature centers and historical sites should offer. It can be fun, challenging, and educational for all concerned. You will meet some interesting people. It enables you to continue to learn about the local geology, and natural and/or cultural history while helping you help others. It keeps your mind sharp, too. Now, who put another rock on my desk?

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