

Finding VS Discovering A Lesson for Gr. 9-12

Introduction: In 1802 a 12-year-old boy named Pliny Moody uncovered some dinosaur tracks while plowing his family's farm fields in South Hadley, MA. Even though he was the first person in this country to find such a thing, he never received any credit and very little recognition for having done so. Years later, in 1844, Dr. James Deane acknowledged this fact in an article he wrote for Vol. 47 of the *American Journal of Science*. Dr. Deane was a medical doctor in Greenfield, MA, who had studied dinosaur track fossils and written about them. In his 1844 article, he said, "The specimen of Mr. Moody was purchased in 1839, and although the Final Report and other able treatises appeared subsequently, still the paramount claims of Mr. M. have ever been overlooked". What followed was a rather heated argument between Dr. Deane and Prof. Edward Hitchcock of Amherst College, who taught natural history and eventually became the state geologist. The men argued over who "found" the fossils as compared to who "discovered" them and what the implications were.

In preparation:

- Read about Pliny Moody here: Noah's Raven: Chapter 1: The Moody's Doorstep: <https://www.dinotracksdiscovery.org/stories/noahs-raven/1/> and here: People: Pliny Moody: <https://www.dinotracksdiscovery.org/supporting/person/>

Needed for the lesson:

- Webster's Dictionary 1828: <http://webstersdictionary1828.com/Dictionary/find>
- A modern online dictionary such as www.merriam-webster.com
- the following image, to be printed or viewed online: Artifacts and Documents: Artifacts: Fossil Found by Pliny Moody: <https://www.dinotracksdiscovery.org/supporting/evidenceitem/>

Teaching the lesson:

Pass around or show the image of the fossil footprints found by Pliny Moody. Ask students to imagine that they had found them. Ask:

- What do you know about this fossil?
- Would you say that you had "found" it, "discovered" it, or both? If you see a distinction between "found" and "discovered", what is it?
- Do you believe you deserve credit for your find or discovery?

1. Read Excerpt A of "Dr. Deane on the Discovery of Fossil Footmarks" and answer the questions.
2. Now compare the terms "find" and "discover" in the 1828 Webster's dictionary online. Do you think that Prof. Hitchcock's perceived difference between the words is reflected here? Was he right to see this as a difference between the meanings? Explain and provide examples.
3. Read Excerpts B and C and answer the questions.
4. Compare the terms "find" and "discover" in the modern Merriam-Webster dictionary. How do they differ, compared to the 1828 versions?
5. Think back to the dinosaur track that you examined at the beginning of this lesson. Based on what you know (or don't know) about it, would Prof. Hitchcock have said that you "found" or "discovered" this track? Do you think he would have given you any credit for your find/

discovery? Based on the modern definitions of the words, would you say that you “found” or “discovered” the track? Is this different from what you said at the beginning of this lesson?

To demonstrate learning, choose one of the following:

- Hold a class debate on one or several of the following topics:
 - It is 1844. Who discovered the first dinosaur tracks- Pliny Moody, James Deane, or Edward Hitchcock? You can read about Deane and Hitchcock here: Story: Whose discovery was it? Chapter 2: Publication: the Claim to Priority: <https://www.dinotracksdiscovery.org/stories/whose-discovery/2/>
 - It is 1844. Was Prof. Hitchcock right in his perception of the difference between “find” and “discover”?
 - Today, was Prof. Hitchcock right in his perception of the difference between “find” and “discover”?
- Imagine that you are a reader of the *American Journal of Science* in 1844. Write a rejoinder to Deane or Hitchcock.
- Imagine that Pliny Moody, James Deane, and Edward Hitchcock were alive today and Pliny found the tracks earlier this year. Describe what each person’s role in the story would have been by our standards. Would a controversy such as what occurred in 1844 be likely? Explain.

Suggested Answers

Excerpt A

According to Hitchcock, if a person knows something scientific about the thing that they “found” and understands the meaning of their find, then they can claim to have “discovered” it.

Deane was offended because Hitchcock didn’t regard Deane as knowledgeable enough to be listened to.

1828 Dictionary Terms

Hitchcock was **wrong**: his perceived difference is not reflected in the definitions for “find”; it seems the terms can be used interchangeably- definition #2 for “find”: “to discover something not before seen or known”; definition # 5 “to discover or know by experience”

Hitchcock was **right**: in the 5th definition for “discover” are the phrases “to find out”, “to obtain first knowledge of”, and “to come to the knowledge of”. This implies that studying is part of the meaning for “discover”.

Excerpts B & C

Hitchcock might have thought of Deane as being an amateur. Deane might have had what Hitchcock deemed to be basic knowledge, but certainly less than Hitchcock himself had.

Hitchcock doesn’t seem to give Moody any credit at all.

Deane probably considered himself to know enough about the topic to be worthy of the term “discoverer”, although he admitted he didn’t know as much as Hitchcock. Deane doesn’t seem to give Moody any consideration either.

Modern Dictionary Terms

The definitions for “find” do include “discover”, treating them as synonyms, and describe “finding” as involving study or experimenting.

Likewise, the definition for “discover” includes “find”, but clarified- “find for the first time”, and “learn or find out”.

According to modern terms, either word might have described Pliny Moody’s action.

The modern terms are the same as those from 1828.

1828 Definition of “Find”

Excerpt from *American Dictionary of the English Language*, Noah Webster, 1828

1. Literally, to come to; to meet; hence, to discover by the eye; to gain first sight or knowledge of something lost; to recover either by searching for it or by accident.
 2. To meet; to discover something not before seen or known.
 3. To obtain by seeking.
 4. To meet with.
 5. To discover or know by experience.
 6. To reach; to attain to; to arrive at.
 7. To discover by study, experiment or trial.
 8. To gain; to have; as, to *find* leisure for a visit.
 9. To perceive; to observe; to learn.
 10. To catch; to detect.
 11. To meet.
 12. To have; to experience; to enjoy.
 13. To select; to choose; to designate.
 14. To discover and declare the truth of disputed facts; to come to a conclusion and decide between parties, as a jury.
 15. To determine and declare by verdict.
 16. To establish or pronounce charges alleged to be true.
 17. To supply; to furnish.
 18. To discover or gain knowledge of by touching or by sounding.
To *find* in, to supply; to furnish; to provide.
1. To *find* out. To invent; to discover something before unknown.
 2. To unriddle; to solve; as, to *find* out the meaning of a parable of an enigma.
 3. To discover; to obtain knowledge of what is hidden; as, to *find* out a secret.
 4. To understand; to comprehend.
 5. To detect; to discover; to bring to light; as, to *find* out a thief or a theft; to *find* out a trick.
To *find* fault with, to blame; to censure.

1828 Definition of “Discover”

Excerpt from *American Dictionary of the English Language*, Noah Webster, 1828

1. Literally, to uncover; to remove a covering.
2. To lay open to the view; to disclose; to show; to make visible; to expose to view something before unseen or concealed.
3. To reveal; to make known.
4. To espy; to have the first sight of; as, a man at mast-head discovered land.
5. To find out; to obtain the first knowledge of; to come to the knowledge of something sought or before unknown.
6. To detect; as, we discovered the artifice; the thief, finding himself discovered, attempted to escape.

DISCOVER differs from invent. We *discover* what before existed, though to us unknown; we invent what did not before exist.

Modern Definition of "Find"

www.merriam-webster.com/dictionary/find

Simple Definition of Find

to discover (something or someone) without planning or trying to : to discover (something or someone) by chance

: to get or discover (something or someone that you are looking for)

: to discover or learn (something) by studying about it

Full Definition of Find

Transitive verb

1 a : to come upon often accidentally : encounter

b : to meet with (a particular reception) <*hoped to find favor*>

2 a : to come upon by searching or effort <*must find a suitable person for the job*>

b : to discover by study or experiment <*find an answer*>

c : to obtain by effort or management <*find the time to study*>

d : attain, reach <*the bullet found its mark*>

3 a : to discover by the intellect or the feelings : experience <*find much pleasure in your company*>

b : to perceive (oneself) to be in a certain place or condition

c : to gain or regain the use or power of <*trying to find his tongue*>

d : to bring (oneself) to a realization of one's powers or of one's proper sphere of activity <*must help the*

student to find himself as an individual – N. M. Pusey>

4 a : provide, supply

b : to furnish (room and board) especially as a condition of employment

5: to determine and make a statement about <*find a verdict*> <*found her guilty*>

Intransitive verb

: to determine a case judicially by a verdict <*find for the defendant*>

findable play\ˈfɪn-də-bəl\ *adjective*

find fault

: to criticize unfavorably

Modern Definition of “Discover”

www.merriam-webster.com/dictionary/discover

Simple Definition of Discover

- : to see, find, or become aware of (something) for the first time
- : to show the presence of (something hidden or difficult to see) : to make (something) known
- : to learn or find out (something surprising or unexpected)

Full Definition of discover

Transitive verb

1. *a* : to make known or visible : expose
b: *archaic* : display
2. *a* : to obtain sight or knowledge of for the first time : find <*discover the solution*>
b : find out <*discovered he was out of gas*>

Intransitive verb

- : to make a discovery

Excerpt A

Dr. Deane on the Discovery of Fossil Footmarks

By James Deane, *The American Journal of Science*, Vol. 47, 1844, pgs. 388 & 389

Pg. 388

Now the most inexplicable part of this address is this, that having arrayed a company of original discoverers, Mr. H. should entirely cancel their claims, by appropriating to himself the honor of original discovery on the assumed ground of science!

.....that although others had *found* these important fossils, *he* only had *discovered* them, penetrated me with a keen sense of its injustice.

Pg. 389

In connection with my inability to comprehend the meaning of the original fossils, Mr. H. alludes to himself as one whose “professional business it was to examine such objects,” and repudiates the idea that *my* opinions could make an impression upon him, although he had hitherto repeatedly acknowledged the correctness of my views.

I acknowledge that accidentally blundering upon a thing, irrespective of those mental relations.....does not constitute a claim to original discovery.

According to Prof. Hitchcock, what is the difference between “found” and “discovered”?

Why was Dr. Deane upset about Prof. Hitchcock’s explanation? What did the remark imply about Dr. Deane?

Excerpt B

Prof. Hitchcock's Rejoinder to Dr. Deane

By Edward Hitchcock, *The American Journal of Science*, Vol. 47, 1844, pg. 398

I maintain that I first, and for several years alone, made these investigations in relation to the tracks of this country, and therefore may claim to be the *discoverer*, in a scientific sense, of fossil bird tracks;..... On the other hand, I acknowledge, and from the first have acknowledged- according to the strictest rules observed by naturalists in these matters- my great indebtedness to him [Deane] for calling my attention to the subject, and for specimens. I admit him to have been in a popular sense, the original *discoverer* of the footmarks; and had it not been for his scientific discernment, probably they would still have remained undiscovered.

Excerpt C

Dr. Deane on the Discovery of Fossil Footmarks

By James Deane, *The American Journal of Science*, Vol. 47, 1844, pg. 389

But are we to infer that the history of these impressions would still be a blank, had not the scientific pen of Mr. H. recorded it? Was *his* agency an indispensable requisite in promulgating a knowledge of their existence and character?

....no fallacy of argument can overthrow the simple fact, that if I had not *found* or *discovered* the footprints, put it in either contingency, neither would Mr. H. nor either of his numerous company of claimants, have *found* or *discovered* them.

What do you think Hitchcock meant by describing Deane as the “discoverer” “in a popular sense”?

From Professor Hitchcock's perspective, where does Pliny Moody fit in?

According to Deane, where does he see himself fitting in? Where does Pliny Moody fit in?

Common Core

English Language Arts Standards, gr. 11-12

CCSS.ELA-LITERACY.L.11-12.1.A

Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

Gr. 9-10

CCSS.ELA-LITERACY.L.9-10.5.B

Analyze nuances in the meaning of words with similar denotations.

Massachusetts Framework for English Language Arts and Literacy Reading Standards for Literacy in History/Social Studies

Gr. 9 & 10

4. Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies.

6. Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.

Gr. 11 & 12

4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text

6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.