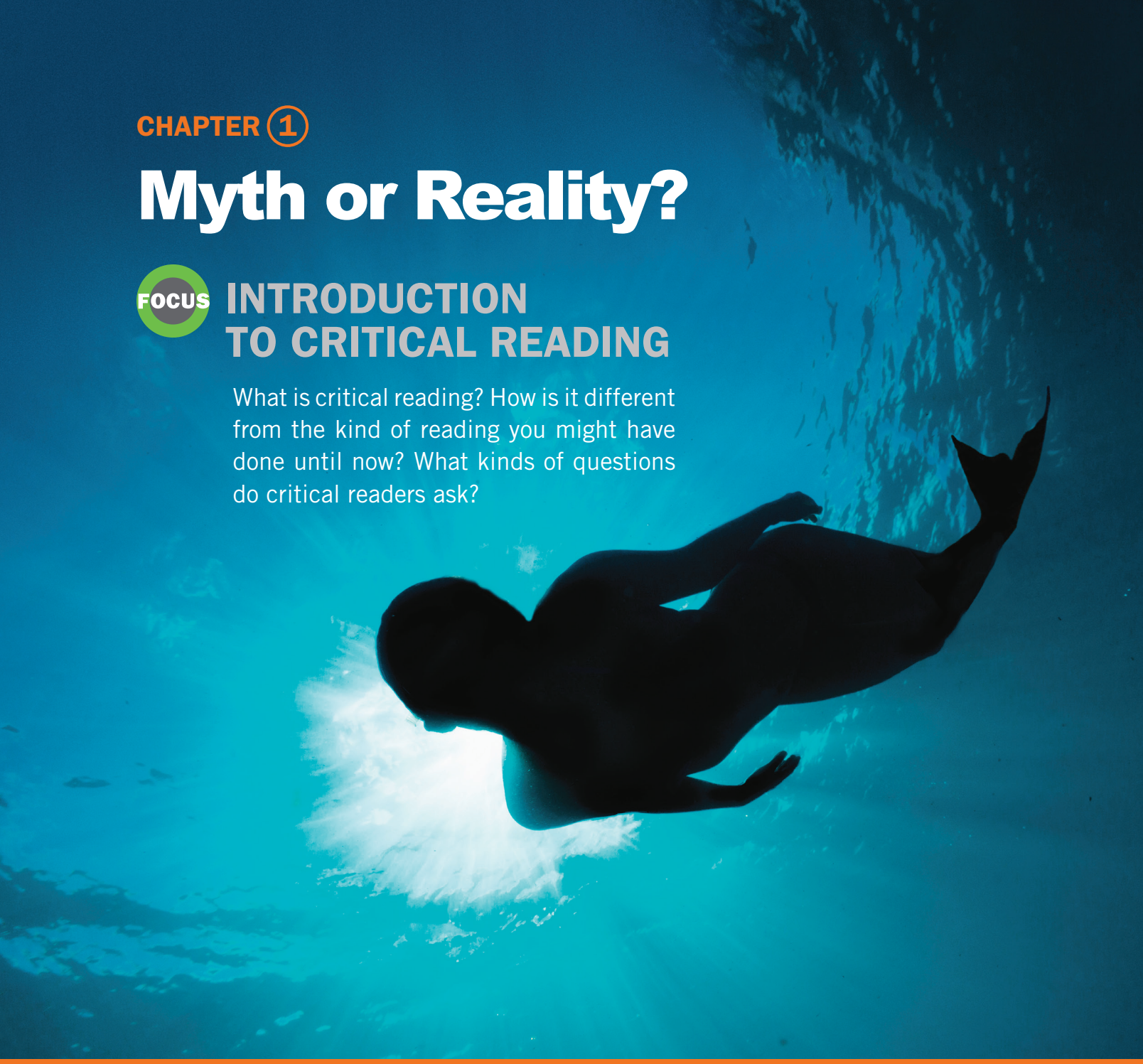
CHAPTER 1

Myth or Reality?



FOCUS

INTRODUCTION TO CRITICAL READING

What is critical reading? How is it different from the kind of reading you might have done until now? What kinds of questions do critical readers ask?

In this chapter
YOU WILL LEARN ...

- how you can use different reading strategies for different tasks;
- what critical reading is (and what it is not);
- why critical reading is an important skill to have;
- the key questions you will answer as you read critically; and
- how critical reading goes beyond reading strategies you already know.

Warm-up

Discuss the following questions with your group.

> What do you understand by the word *myth*? Can you think of any well-known myths from around the world? Share your ideas.

> Now, take one of the myths you have identified. Imagine you are reading an article that tells you that the myth is actually true. How would you know whether or not to believe it? What questions might you ask about the article?

Critical Reading: an Overview

Review of Reading Strategies

> The search for mythical animals is a waste of time and money. Discuss.

Imagine you have been given this essay topic in a course entitled *Introduction to Biology*. Your first task is to do some reading on the topic.

When you first studied academic reading in English, you probably learned some different reading strategies. You almost certainly learned that different strategies work best in different situations. Complete the chart with the correct information. The first example has been done for you.

STRATEGY	WHAT IT MEANS	WHEN I WOULD USE IT
Predicting	Looking at the title, subtitles, pictures, maps and other visual clues to guess what might be in the article.	When I have a long article and I need an idea of what will be in the article. Predicting gives me some clues about what I can expect to learn.
Skimming		
Scanning		
Careful reading for total comprehension		

These strategies will have served you well, but as you approach university or college study, you will find that they are not enough. To succeed in academic studies, you need to read *critically*.

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What Is Critical Reading?

Everyone knows what reading is, but what is *critical* reading? What does *critical* really mean? It can mean several things; take a few minutes and brainstorm how many uses of the word *critical* you can think of. You might come up with examples similar to these:

- You may know that to *be critical of* someone or something is to "disapprove of" or to "have a negative response to" that person or thing. Example:
  Some people are critical of the government's economic policies.
- You may also know that *critical* can mean "very important," rather like *crucial* or *vital.* Example:
  Today's meeting is critical to the future of the project.
- You may refer to a situation as *critical*, meaning that the situation is very serious. Example:
  The situation in the Middle East has reached a critical point.
- If a patient in a hospital is in *critical* condition, you can guess that things are not looking good for him or her. Example:
  The survivors of the plane crash are in critical condition in the hospital.

These are all useful meanings of the word critical, but none of these explains what we mean by *critical reading*. There is another meaning of the word *critical*.

Think about the word *critic*. What does a movie critic do? He or she watches a movie—often a newly released movie—and writes a review of the movie. This review might include comments about the acting, the plot, the directing, the soundtrack, the special effects and more. This report might be negative, or it could just as easily be positive; no matter what, it expresses a **judgment** about the quality of the movie.

Be careful!

You probably know the verb *to criticize* (= say something negative about a person or situation). Don't let this confuse you; critical reading does not have to be negative. Your critical analysis of a text might actually be quite positive!

The key word here is **judgment**. When you read critically, you do similar things to those a movie critic does. In your case, you do not notice or comment on actors or special effects; you notice and comment on the text you are reading. Specifically,

- you **analyze** the circumstances of the publication of a piece of writing: *who* wrote it, *when* and *where* it was published and *why* it was written;
- you **question** how the author reaches his or her conclusions and on what evidence these are based; you **evaluate** any original research the author might have done, as well as any other sources the author uses to support his or her points;
- you **compare** and **contrast** this piece of writing with what you already know about the topic; you **consider** whether it supports what others have written or whether it presents a new opinion;

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> you **assess** the strengths, weaknesses and general validity of a piece of writing, based on your careful reading of it. Your response may be positive, or it may be negative; your evaluation of a text is your own, and it may not be the same as that of your friend, your classmate or even your teacher.

Be careful!

A critical response is not an emotional response. There are some topics that people will always have very strong feelings about; these feelings are sometimes based on religious or political beliefs. You may read an article in which the author presents an opinion very different from your own. It is easy to become angry with the writer and to dismiss the text as nonsense. Instead, you need to look objectively at the author's argument. Come to a reasoned analysis, not an emotional reaction.

An example of critical reading

Look at the following text.

The First Moon Landing

On July 20, 1969, two Americans named Neil Armstrong and Edwin "Buzz" Aldrin did what no other humans had ever done: they walked on the moon. They had travelled to the moon in the Apollo 11 spacecraft; attached to Apollo 11 was a smaller Lunar Module, which made the landing. A third team member, Michael Collins, piloted the main spacecraft and did not walk on the moon.

Armstrong stepped onto the surface of the moon and made his famous statement that the moon landing was "one small step for man, one giant leap for mankind."

The 1969 moon landing was a key event in twentieth-century history. This was the era of the Cold War, and the USA and USSR were engaged in a "space race" to achieve supremacy in space exploration. In 1957, the Russian satellite Sputnik 1 had orbited the earth; however, by landing on the moon on that July evening, the Americans claimed victory in the intense competition.

If you are asked to write a paper *describing* the moon landing, you will find some useful information here. You will be able to answer the following questions:

> Who first walked on the moon?

> What were the first words spoken on the moon?

> When was the first moon landing?

> Where did the astronauts come from?

> How did they get to the moon?

> Why was this event important?

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You read this information, and if you trust the author, you accept it. Your goal is to learn the facts, not to question them.

However, as you read more, you might learn that not everyone accepts the moon landing as the truth. Some people believe it never happened and that it was filmed on a movie set or in the desert of the western USA.

What evidence do they put forward to support their claim? Here are some points:

- First, the astronauts who landed on the moon took a photograph. The flag in this photograph appears to be waving in the wind; there is no wind on the moon.
- Second, no stars are visible in any of the pictures taken on the moon, even though the pictures were taken in space.
- Third, close examination of the pictures and footage from the moon landing appears to show everyday items. There is a rock with the letter *C* on it (which suggests it may be a film prop). A woman in Australia claimed to see a Coca-Cola bottle roll across the ground as she was watching the footage on television.

These are only a few of the points made by those who do not believe the 1969 moon landing happened. Other events in recent history have attracted similar controversy. Here are some examples:

- Some people think the assassination of President John F. Kennedy in November 1963 was not the work of a single gunman but was part of a larger plot.
- Some people think the death of Diana, Princess of Wales, in 1997 was not an accident and that she was murdered by representatives of the British government or royal family.
- Some people think the American government knew in advance about the terrorist attacks in New York and Washington on September 11, 2001.

As you read about these events, you discover that different writers have different opinions on all this. You find yourself wondering who is right. You ask yourself, does this author have a good point, or does that one? Is this argument stronger than that one?

Do those who deny the moon landings have a point? You must decide, and your decision must be based on your *critical* reading of the writing in question.

The Importance of Critical Reading

In your courses at college or university, you might be asked to respond critically to a written article, a video, a website or a piece of art. Your instructor will want to see that you have not only *understood* the work but that you can *respond* to it, discuss its strengths and weaknesses and make your own decision about the merit of the work.

However, you need to apply critical reading skills to *any* research you are doing. As you research and write papers, you are not just collecting facts; you are dealing with opinions, theories and your own analysis of what you have read.

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You might be reading critically for the first time when you take courses in university or college. You might feel that critical reading is a "Western" skill, or something that is not expected in higher education in your own country. You might even feel that critical reading is disrespectful; you might wonder what gives you the right to make judgments about something that a respected academic has written, or to disagree with the opinions of someone much more knowledgeable than yourself.

You need to keep in mind that in Western countries, critical reading is encouraged and expected within higher education. Your university or college professors will be looking for evidence of critical analysis when they evaluate your work, so don't be afraid to show your own thoughts on a topic or a reading.

Questions to Consider

When you read, you should think about the following questions. Keep in mind that you do not need to answer these questions in order.

Before you read the text, you can think about these questions.

- Where was this text published? Was it published in a **peer-reviewed** academic journal, or somewhere else? How can you tell? Why does it matter?
- When was this text published? Is the publication date important? Is the material still relevant, or is it dated?
- Who wrote the text? What do we know about this person? What **credentials** might this author have? What **biases** might he or she have?
- What is the author's opinion of the topic being discussed? Why did the author write this text? Who is the text intended for? What does the author want the reader to do as a result of reading this text?

As you read the text, you can think about these questions.

- Is this a purely factual piece, or does the author present a personal opinion here? How can you tell what is a fact and what is an opinion?
- Does the text present a convincing argument about the topic in question? Has the author done **empirical research**, and if so, what conclusions are reached? Does the research methodology justify the conclusions presented? Are charts and graphs used? What information do they give?
- If the author is not presenting the results of his or her own empirical research, how are the author's points supported? Are there **statistics**? If so, where from? How about **quotations** from others? If so, who is being quoted? Does the author rely on **anecdotes**? If so, are these convincing? How effective is the author's use of supporting detail?
- How do you respond to a text that has no supporting evidence at all, but is simply a well-written presentation of the author's own opinion?

After you read the text, you can think about these questions.

- What is the larger **context** of this work? How does the text support or contradict other opinions on this topic? Who might agree with the text? Who might disagree? What should you do if a text presents an opinion that is very different from those presented

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in other articles you have read on the same topic? Should you ignore it, or should you consider it?

- How does the text compare with your own experiences and opinions? Does it support your own experiences, or does it contradict them? Does the text contain information (for example, about your home country) that you know to be incorrect?

Put It into Practice

Discuss the following questions with your group.

1. A website from the United Nations Educational, Scientific and Cultural Organization (UNESCO) gives some statistics about the level of education reached by young women in Indonesia. Is this a reliable source?
2. You find an interesting article about addiction to online gambling. The article has some interesting statistics, but it was published ten years ago. Is it worth using?
3. You find a book about World War II that presents a different opinion from your other sources. What would you like to know about the author before you decide whether or not to take him seriously?
4. You are writing an essay on the importance of sports in elementary school. You have found a newspaper column that presents a convincing argument about this issue; however, the author has not given any evidence. Are you going to use this column as support in your essay?
5. An article tells you that research into space exploration is a waste of money. Do you think this article is presenting facts or opinions? How can you tell? What might you look for in the article?
6. You find some research that states that people who own dogs generally live longer lives than those who do not. The author has some convincing arguments, but you are not sure whether or not she has enough evidence. How much is enough?
7. A newspaper article tells you about human rights abuses in a certain country. The writer of this article has never visited the country in question; his claims are based on interviews with other people. How would you evaluate his information?
8. You find two websites about the use of seaweed as a source of energy. One is full of long words and complicated sentences; the other uses simple, clear language. Is the first one a more reliable source?
9. You have read nine different articles that tell you that there is no connection between wealth and happiness. The tenth article gives the opposite opinion: rich people are happier than those who are poor. What questions would you ask yourself about this article before you decide whether or not to consider it?
10. You come from a country in sub-Saharan Africa. A magazine story about communication technology in this part of the world has information that you know to be out of date. What does this tell you about the article and/or the publication?

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READING 1

Igopogo: The Monster of Lake Simcoe

The following text describes a mythical creature in Ontario, Canada.

As you read the text, think about the "Questions to Consider" on pages 6–7.

Before You Read

Work in groups of three or four. Discuss the following questions.

1. Do you know what the following creatures are? What do you know about them? What do they have in common?
   a) Loch Ness monster
   b) Chupacabra
   c) yeti
2. Can you think of any other creatures whose existence is uncertain? Are there any mythical creatures in your own country or culture that may—or may not—really exist?
3. This reading is about a strange creature that is said to live in the waters of a lake north of Toronto, Ontario. What would you like to find out in this reading? In pairs, write six questions.
   We would like to find out …

   a) _____.
   b) _____.
   c) _____.
   d) _____.
   e) _____.
   f) _____.

Key Vocabulary

The words below are all in the reading. Fill in the space in each sentence with the correct word.

NOUNS	rivalry	skeptic	spectator	
VERBS	settle	speculate		
ADJECTIVES	aboriginal	canine	controversial	notorious
ADVERB	allegedly			

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1. If something is _____, it is famous in a negative way.

2. A person who watches a sports event, such as a soccer or a tennis match, is a _____ .

3. If something _____ happened, people *say* that it happened, but there is no real proof of this.

4. If you doubt claims and statements, especially those that are generally thought to be true, you may be called a _____.

5. A _____ is a situation in which two or more people or organizations compete with each other, usually over a long period of time.

6. To _____ about something means to make guesses about something without knowing all the facts and details.

7. A _____ topic is one that causes a lot of disagreement because people have different opinions about it.

8. While *feline* is related to cats and *equine* is related to horses, _____ is used to describe features that are typical of dogs.

9. The _____ people of Canada are those people whose ancestors lived in Canada before explorers arrived from Europe.

10. People who _____ in a particular region are people who move there from somewhere else.

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Igopogo: The Monster of Lake Simcoe

By Rob Morphy

This long-necked, dorsal-finned, **canine**-featured critter[1] is one of the most unusual lake beasts reputed to dwell in North America.

Located in Southern Ontario—just 40 miles north of Toronto—Lake Simcoe is the fourth-largest lake in the province and a remnant of the colossal, prehistoric freshwater
5 sea known as Lake Algonquin. Algonquin's basin also included Lake Huron, Lake Michigan, Lake Superior, Lake Nipigon and Lake Nipissing.

[1] *Critter* is an informal word for an unspecified animal or other creature. The word is a variation on *creature*.

When the ice dam melted at the end of the last ice age, it dramatically reduced water levels in the region, leaving behind the lakes we see today.

This relatively small, island-riddled, oval-shaped body of water, which is approximately twenty miles long and sixteen miles wide, is known for its clean water, fantastic fishing and, most notably, the bizarre beast that's said to lurk within its gloomy, freshwater depths.

This unusual animal was dubbed Igopogo by the local fishermen—no doubt, in honour of her famous cousins Ogopogo of Lake Okanagan and Manipogo of Lake Manitoba. That having been stated, there seems to be a bit of a **rivalry** over the beast's appellation as, depending on whether or not you hail from Kempenfelt Bay or Beaverton, the monster has a few alternate *noms de plume*, including "Kempenfelt Kelly," "Beaverton Bessie"—which is, in and of itself, an homage to Lake Erie's more **notorious** Bessie—and even "Simcoe Kelly."

Considered by many cryptozoologists[2] to be unique, even amongst her amazing peers, Igopogo is a rarely seen beast, which has been described as having a neck resembles a "stovepipe," crowned by an unusual canine-like head. This ostensibly mammalian description—which, it must be admitted, has in no way remained consistent throughout the many years of Igopogo sightings—has led some to **speculate** that this creature may be biologically akin to aquatic enigmas such as the notorious "Irish crocodile" the dobhar-chu or even the Australian bunyip.

While tales of this cryptid go as far back as **aboriginal** legends and accounts from the earliest Europeans to **settle** the area, the first modern report hails from July 22, 1963.

The eyewitnesses involved with this sighting, including one Reverend L. B. Williams, claimed that they saw not a typically mammalian, but a serpentine creature with multiple dorsal fins, that was anywhere from thirty to seventy feet in length, undulating in the water. It was also described as having a "charcoal covered" epidermis.

This creature was **allegedly** captured on film while two, uncharacteristically calm children watch from the shore. While there is no written account of when or by whom the obviously aged, black and white image was snapped, it remains an intriguing—if somewhat **controversial**—piece of potential photographic evidence of Igopogo's existence.

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[2] *Cryptozoology* is the study of animals whose existence is not certain, known as *cryptids*. The word comes from *crypto* = "secret" and *zoology* = "the study of animals." Someone engaged in cryptozoology is called a *cryptozoologist*. Another word with the same meaning as cryptozoology is *cryptobiology*.

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Two decades later, on June 13, 1983, William Skrypetz, a sonar[3] operator with Lefroy's Government Dock and Marina, took a sonar reading which revealed a creature with a massive body and long tapering neck that seemed to look very much like the archetypal lake monsters such as Champ or the Loch Ness monster.

During the 1980s, author, cryptozoologist and president of the BCSCC (British Columbia Scientific Cryptozoology Club) John Kirk III investigated this phenomenon and came to the conclusion that whatever might have lived in the lake had either migrated or had become deceased.

Kirk's assessment of the situation was not without merit, as the sightings of this animal—with the notable exception of Skrypetz's sonar hit—had dwindled to virtually nothing since the 1970s. Kirk's opinion of this creature's status changed in 1991, however, when he was given a copy of a videotape by former British army officer and fellow cryptozoologist Don Hepworth. The video—which was purportedly shot from the shores of Lake Simcoe during that same year—apparently shows a terrifying lake demon rearing its head during a hydroplane race.

According to the unnamed videographer's account, one of the racers suffered a mechanical breakdown while on the south end of the lake and was forced to halt and make repairs. Just as the racer lifted the engine hatch in order to assess the damage, a large animal suddenly surfaced directly in front of him, stunning the racer as well as the **spectators** on the shoreline.

The landlocked crowd began to panic, fearing the worst for the downed competitor. The racer himself would later claim that this possibly prehistoric apparition would continue to stare at him as it slowly lowered its head, finally submerging completely beneath the water.

Apparently, Kirk, upon repeated viewing of the controversial footage, confirmed that this creature was between nine and twelve feet long and had what he believed to be pinniped (seal- or sea lion–like) features. Unfortunately the quality of the video and proximity of the creature to the camera did not allow for a more thorough investigation of its species.

This video evidence—which is infamously difficult to find—has raised the profile of this creature considerably, yet **skeptics** continue to insist that what people are seeing is nothing more than normal seals who have slipped into the lake via the rivers that connect it to Lake Huron. Still others think it may be related to the now famous Pacific Ocean-dwelling sea monsters known as cadborosaurus.

While the "seal" theory may debunk some of the unusual sightings, it in no way explains away the strange sonar hit reported in 1983. Even now, a decade into the twenty-first century, Lake Simcoe remains one of the most underexplored cryptid habitats in North America.

(957 words)

Morphy, R. (2010, Nov. 13). Igopogo: Canada. *American Monsters.* Retrieved from http://www.americanmonsters.com/site/2010/11/igopogo-canada/

[3] *Sonar* is an acronym of the term *Sound Navigation and Ranging*; it is a technique whereby sound is used to detect underwater objects.

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Check Your Understanding

A. How many of your questions from "Before You Read" were answered in the article? Go back to your questions and fill in the answers where you can.

B. Answer the following questions in your own words using information from the reading.

1. What does Igopogo look like?

2. Where does it live? What do you learn about this place?

3. The first sighting of Igopogo occurred in 1963: true or false? Explain your answer.

4. In all eyewitness accounts, the description of Igopogo has been the same: true or false? Explain your answer.

5. Describe briefly what happened on

   a) July 22, 1963: _____

   b) June 13, 1983: _____

6. Why did cryptozoologist John Kirk change his mind about the existence of Igopogo?

7. What do skeptics think Igopogo really is? _____

Analysis and Discussion

Discuss the following questions with your group.

1. Where do you think this text was published?

   > In an academic journal for animal experts

   > In a daily newspaper in the Lake Simcoe area

   > In a magazine for tourists visiting Lake Simcoe

   > On a website for people interested in cryptozoology

   Explain your answer.

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2. How might the text be different if it had been published in one of the other sources listed on the previous page?

3. Do you think the author, Rob Morphy, personally believes in the existence of Igopogo? Explain your answer.

4. Why do you think Rob Morphy chose to write this article? What did he hope to achieve by doing so?

5. Based on what you have read, do you think there is sufficient evidence that Igopogo exists?

6. Which of the following pieces of evidence would convince you *with 100 percent certainty* that Igopogo exists?

	Yes	No
> A live Igopogo pulled from the waters of Lake Simcoe	○	○
> Igopogo footprints in the sand around Lake Simcoe	○	○
> A colour photograph taken by a tourist	○	○
> An eyewitness account from a local person	○	○
> An eyewitness account from a police officer	○	○

> Other: _____

7. What question(s) would you like to ask the author of this article?

8. Does Igopogo remind you of any other mythical creature you may have heard of? Tell us about it.

READING 2

The Call of the Weird: In Praise of Cryptobiologists

Now read another text on the same topic.

FOCUS **As you read, consider how this article compares to the previous article.**

Before You Read

Work in groups of three or four. Discuss the following questions.

1. Why do you think scientists might be attracted to the study of mysterious animals like Igopogo, the Loch Ness monster and others?

2. What could be gained from attempting to find one of these creatures?

3. The subtitle of this reading is *In Praise of Cryptobiologists*. Why do you think the author might want to write an article with this title? What might he say?

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Key Vocabulary

The words below are all in the reading. Match each word with the correct definition.

1 conventional (adj. line 16)	_____	a) a substance that carries genetic information within the body
2 credible (adj. line 8)	_____	b) an animal that kills and eats another animal
3 DNA (n. line 12)	_____	c) considered to be normal or usual
4 eccentric (n. line 16)	_____	d) without any written record of existence
5 intrepid (adj. line 76)	_____	e) an animal that carries its young in a pouch or pocket on its body
6 isolation (n. line 41)	_____	f) able to be believed or trusted
7 mammal (n. line 2)	_____	g) someone who acts in a way that is different from most people, or whose behaviour is considered strange
8 marsupial (n. line 5)	_____	h) exclusion or separation from other members of the group
9 predator (n. line 5)	_____	i) a member of a group of animals that give birth to live young and whose young are nourished by their mother's milk
10 undocumented (adj. line 50)	_____	j) daring; willing to take risks or put oneself in danger for the purpose of adventure

The Call of the Weird: In Praise of Cryptobiologists

By William Laurance

Last December an 8-second amateur video went viral. Shot in remote northern Tasmania,[1] the blurry footage featured a long-tailed mammal trotting across a meadow with an oddly stilted gait. According to the filmmaker, Murray McAllister, the animal was a Tasmanian tiger.

The Tasmanian tiger, or thylacine, is a wolf-sized marsupial predator that has been presumed extinct since the last known specimen died in Hobart zoo in 1936. Yet despite its apparent demise, reports of Tassie tigers refuse to die. Hundreds of sightings, many from seemingly credible observers, have been recorded, both in Tasmania and on the mainland.

When I saw the video there was something vaguely familiar about it. Then it hit me: the animal moved like a red fox. I'd raised a fox as a boy in the western US, and they have a peculiar way of trotting. Soon, others were saying the same thing. Then a fecal sample McAllister collected was analyzed for its DNA: it was a red fox.

[1] Tasmania is a state of Australia; its capital city is Hobart. Tasmania is an island, lying to the south of the mainland. The island is mountainous and is known for its unusual wildlife.

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McAllister has been searching for the Tasmanian tiger since 1998. Though he might not describe himself as such, he is a cryptobiologist, a chaser of mythical, mysterious or supposedly extinct species. Cryptobiologists are a diverse lot, ranging from conventional scientists to eccentrics far from the mainstream. All share a dream of discovering elusive or unknown creatures unrecognized by conventional science—and with it their share of instant fame.

Everyone knows about fabled creatures like Nessie and Bigfoot, but cryptobiologists actually chase a far larger menagerie of exotic beasts, which they collectively term "cryptids." Some, like the Tasmanian tiger, clearly once existed. Others, such as giant vampire bats, conceivably might exist, having somehow escaped the attentions of conventional scientists. The third category, oddities such as the Jersey Devil and the Mothman, are strictly on the fringes.

The more credible side of the cryptobiology crowd can be a pretty serious lot. Some, such as tropical ecologist David Bickford of the National University of Singapore and Aaron Bauer, an evolutionary biologist and herpetologist[2] at Villanova University in Pennsylvania, are respected mainstream scientists. Bickford has discovered a number of previously unknown species, including a bizarre lungless frog that lives only beneath waterfalls in Borneo.

The most committed cryptobiologists spend big sums of their own money to finance their quests. Being outside the realm of traditional science, they don't usually have a choice. For example, the late Grover Krantz, a physical anthropologist at Washington State University, invested around $50,000 for a light aircraft, infrared heat detector and other expensive gear in a decades-long search for Bigfoot in the Pacific Northwest.

But for mainstream scientists, being a cryptobiologist isn't easy. Some have paid for their efforts in more than money. Roy Mackal, a dedicated chaser of Nessie and Mokele-mbembe, an aquatic dinosaur that supposedly lives in the Congo basin, was booted out of the biology department at the University of Chicago; few if any dispute that his cryptid-seeking was the chief cause. Others endure sneers from their colleagues, a loss of credibility and even academic isolation.

Why tolerate such treatment? "The search for the fringe and fanciful captivates many people," says Mike Trenerry, a biologist with the Queensland Department of Environment and Resource Management who uses automatic cameras to search for rare beasts. "We want to believe there is more out there than what we already know about."

And the truth, of course, is that even in the twenty-first century, the natural world is still brimming with mystery. Tropical biologists commonly find that half or more of the insect species they capture in the rainforest canopy are new to science. Undiscovered fish and other species are frequently found in the deep sea. Up to half of all the plant species in the Amazon are still scientifically undocumented.

Not all of the new discoveries are small or obscure. The Mindoro fruit bat, discovered in the Philippines in 2007, has a 1-metre wingspan. The same year saw the discovery of a venomous snake in Australia and a large electric ray in South Africa.

[2] A herpetologist is a scientist who studies reptiles and amphibians such as snakes, lizards, frogs, turtles and crocodiles.

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And despite the misfire of the recent Tasmanian tiger video, there are many Lazarus[3] species that have been rediscovered after having been presumed extinct. Until 1951, the Bermuda petrel had not been seen by scientists for 330 years. The Javan elephant, okapi, coelacanth, mountain pygmy possum, venomous Cuban solenodon and giant terror skink were also erroneously consigned to oblivion. The Laotian rock rat, discovered in 1996, is now the sole known representative of a rodent family that was thought to have vanished eleven million years ago. The Wollemi pine—the only known survivor of a 200-million-year-old plant family—was discovered in 1994 just a stone's throw from Sydney, Australia.

Coelacanth.

It is the Lazarus species, perhaps more than any other cryptid group, that most inspire cryptobiologists. They give them hope by revealing that nature is still very much shrouded in uncertainty. From the coelacanth to the mountain pygmy possum, Cuban solenodon and giant terror skink, even dramatic species are sometimes wrongly presumed to have vanished.

So we should celebrate the intrepid efforts of cryptobiologists. Yes, they chase bizarre creatures and flit around the fringes of conventional science, but we ought to appreciate their adventurous spirit rather than be disdainful. (893 words)

Laurance, W. (2011, June 22). The call of the weird: In praise of cryptobiologists. *New Scientist, 210*(2817), 30–31.

[3] Lazarus species are species that were thought to be extinct, but which have been discovered to still exist.

Check Your Understanding

A. Are the following statements true (T) or false (F)?

		T	F
1	Murray McAllister made a video of a Tasmanian tiger.	○	○
2	All people who search for mysterious animals are eccentric.	○	○
3	Cryptobiologists often search for creatures that definitely existed at one time.	○	○
4	Cryptobiologists are highly respected by their academic colleagues.	○	○
5	There is much that scientists don't know about the world's animals.	○	○
6	Cryptobiologists have found creatures previously thought to have disappeared.	○	○

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B. Complete each of the following sentences in your own words.

1. The author knew that the creature in the video was not a Tasmanian tiger because _____.
2. David Bickford has made a significant contribution to science because _____.
3. A lot of research into mysterious animals is funded by the researchers themselves because _____.
4. Roy Mackal lost his job because _____.
5. Even though cryptobiologists are not always treated well, they continue with their work because _____.
6. Cryptobiologists should be celebrated because _____.

Analysis and Discussion

Discuss the following questions with your group.

1. Which statement best summarizes the author's opinion about cryptobiologists?
   a) Most of them are not serious scientists. They are eccentrics who want instant fame by finding well-known mysterious animals like the Loch Ness monster. We should be disdainful of them.
   b) Some of them are on the fringes of science, but others are well-respected researchers. The discoveries made by these researchers can be valuable. We should encourage them.
2. In what kind of publication do you think this text was first published? Why?
3. Why do you think the video described in lines 1–4 went viral? Why did so many people around the world want to believe the animal was a Tasmanian tiger?
4. Do you think the author makes a strong case for supporting people who search for mysterious creatures? Why, or why not? Has the author convinced you of the value of this kind of research?
5. Imagine that someone who does not approve of cryptobiology reads this article. What do you think that person might say to the author? How might he or she argue against this kind of research?
6. Scientists who search for mysterious species often pay for their own research. What is your opinion about this? Do you think supporting this kind of research is a good use of a university's research budget? Why, or why not?

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Going Further

Focus on Language

A. The following chart contains ten words from the readings. Complete the chart with related words in the other categories, and, where possible, in the same category. (There may not be a word for each category.)

	NOUN	VERB	ADJECTIVE	ADVERB
1				completely
2	conclusion			
3		describe		
4	discovery			
5			familiar	
6		inspire		
7		migrate		
8			modern	
9	science			
10	survivor			

B. The two readings in this chapter are about *cryptozoology*, or *cryptobiology*. If we look at these words, we can see that they can be broken down into three parts:

crypto This is a prefix. Prefixes come at the beginning of words. The prefix *crypto* has the meaning "strange, unusual."

zoo/bio Each of these is a stem (the main part of the word). *Zoo* means "related to animals"; (a zoo—or *zoological garden*—is a place where animals are kept.) *Bio* has the meaning "life"; *biology* is the "study of living things."

ology This is a suffix. Suffixes come at the end of words. The suffix *ology* means "study of"; it is common in areas of education such as biology, psychology and geology.

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The following chart shows some other prefixes, stems and suffixes, together with their meanings.

PREFIXES		STEMS		SUFFIXES	
Prefix	**Meaning**	**Stem**	**Meaning**	**Suffix**	**Meaning**
anti-	against	anthro	human	-able[1]	able to be
auto-	self	capit	head	-ate[2]	makes a word a verb
contra-	opposite	dict	say, word	-er/-or[3]	someone who
de-	opposite, less, removed	geo	earth	-ful[1]	full of
inter-	between	graph	writing	-ic /-ical[1]	of, relating to
mal-	bad	ling	language	-ify[2]	make, become
micro-	small	man(u)	hand	-ism[3]	belief or quality
multi-	many	path	disease	-ize[2]	cause, become
post-	after	ped/pod	feet	-less[1]	without
sub-	under	port	carry	-ness[3]	state, quality
tele-	far	psych	mind	-ology[3]	study of
trans-	across	terr	land	-tion[3]	state, quality

[1] Words ending in these suffixes are usually adjectives.
[2] Words ending in these suffixes are usually verbs.
[3] Words ending in these suffixes are usually nouns.

Use the chart to figure out the meaning of the words in **bold** in these sentences.

1. **Anthropology** is a popular subject among students.
2. There are rumours that the novel is actually **autobiographical**.
3. The argument expressed in this article **contradicts** the textbook.
4. He died poor and **friendless**.
5. A **portable** stove is useful on a camping trip.

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6. Some notorious world leaders might have been **psychopaths**.
7. The designer's work was **substandard**, so his contract was not renewed.
8. Many people living in Switzerland are **multilingual**.
9. Do you think human **teleportation** will be possible in the future?
10. The **postwar** period was a time of great economic growth.
11. Lions, elephants and giraffes are **terrestrial** animals.
12. The police have hired a **graphologist** to look at the handwritten letter they received.

Independent Research

Choose one of the following creatures and carry out some online research about your creature. You will present your findings to the class.

- Chupacabra
- Loch Ness monster
- Mongolian death worm
- Bigfoot
- Sewer alligator

Synthesis and Written Response

Based on your reading of the texts in this chapter as well as your own research into cryptozoology, write a short response to the following prompt.

- The search for mythical creatures is a waste of time and money. Discuss.

REVIEW
of the chapter ...

- Answer the following questions.

1. What is the difference between reading for information and reading critically?
2. Why is critical reading important?
3. What are some of the questions you will ask yourself as you approach a text critically?

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