CANADA'S FAMOUS DINOSAUR HUNTER

Introduction

Focus
Canada is internationally known for the quantity and quality of its fossils—and for the high calibre of the work done by the Canadians who investigate and interpret them. This *News in Review* module introduces you to Philip Currie, Canada's most famous palaeontologist. It also explores the world—past and present—of Canada's dinosaurs.

Did you know . . .
Dinosaur means "terrible lizard" in Latin.

Did you know . . .
A company in Beamsville, Ontario—Research Casting International (www.researchcasting.ca)—is the world's leading supplier of dinosaur exhibits for museums.

Sections marked with this symbol indicate content suitable for younger viewers.

At some point in his or her life, almost everyone has been in love with dinosaurs. A combination of their bizarre appearance, the fact that they actually did once rule the earth, and their total extinction makes them almost irresistible. For a fortunate few, dinosaurs become a life-long interest, and a career. These are the palaeontologists—men and women who hunt fossils in the field and study them in the lab.

Canada's most famous palaeontologist is Philip Currie, a veteran of over 30 years of exploring fossil remains around the world. For Canadians, his greatest contributions have been in the badlands of Alberta, home of Dinosaur Provincial Park. This park is the source of some of the finest examples of dinosaur fossils ever found. It also has them in quantities matched only in a few other areas of the world. Here, Currie continues to lead researchers in hunting and locating new specimens annually.

For many years, many of the specimens found in Dinosaur Provincial Park had to be sent to other countries for study and interpretation. In 1985, the opening of the Royal Tyrell Museum in Drumheller, Alberta, meant that this was no longer true. The man responsible for the museum's existence was none other than Philip Currie.

Currie has helped assure Canada's pre-eminence in the world of fossil hunters by working with other scientists from around the world. In addition to Canada, two other countries—China and Argentina—are believed to be the most outstanding future sources of fossil discoveries. Currie was leader of the first international team to work with Chinese scientists when foreign palaeontologists were first welcomed into China. He returns every year to continue his work there. Currie also works in Argentina, where he was co-discoverer of a dinosaur named *Mapusaurus roseae*, the largest carnivore (meat-eater) discovered to date.

Currie is also on a crusade. He believes that Canada faces a shortage of palaeontologists and would like to see more young people realize that fossil hunting makes a great career. Currie points out that mathematical models show that many more different types of dinosaurs remain to be discovered. We likely know fewer than 30 per cent of those that existed in the millions of years they walked Earth. Many of the "biggest and best," like *Mapusaurus*, remain to be found.

For Discussion

Are you up to Currie's challenge? Does the idea of a career that combines great physical and mental challenges appeal to you? Explain your views fully.

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Video Review

This video review is in two parts. Answer the questions in Part One in the spaces provided. Part Two consists of questions for class discussion.

Part One: Viewing

1. When did the dinosaurs disappear from Earth? _____
2. Where is Dinosaur Provincial Park located? _____
3. How long has Phil Currie been unearthing dinosaur remains? _____
4. How did Phil Currie become interested in dinosaur hunting?

   _____

   _____
5. How was an extremely important bone bed of *Edmontosaurus* dinosaurs discovered?

   _____

   _____
6. How important do his fellow professors think Currie is as a palaeontologist?

   _____

   _____
7. What "amazing connection" was the Archaeoraptor in the Utah museum supposed to show?

   _____

   _____
8. What did the Archaeoraptor actually turn out to be?

   _____
9. Why did *National Geographic* select Currie as their advisor on the Archaeoraptor story?

   _____
10. What project of Currie's is unique among dinosaur hunters?

    _____
11. What does Currie think is the future of dinosaur hunting?

    _____

    _____

Part Two: Discussion

Working in small groups, read and then discuss the following quotations. Record your ideas in your notebook. Be prepared to share your thoughts with the rest of the class.

1. In the video, Currie makes the following statement:

   "I know I'm too busy. I know that I do stretch myself pretty thin all the time, and of course, because of that, things do get overlooked and mistakes get made. On the other hand, I've always felt that although I lose track of some things, I mean, basically most of the time, it works out fine and things get done. To me, I think it's a much bigger sin to sit back and not do things because you're afraid that you are going to get involved in too many things and you're going to slip up on something. Yeah, you slip up on a few things, but overall, I hope my record will be pretty good."

   Do you agree with Currie that it is better to take on as much work as you can and make the occasional mistake than it is to strive for perfection in a few areas and miss out on other opportunities? Why or why not?

2. Currie explains his original interest in palaeontology as follows: "I know that I got interested in dinosaurs because somebody took the time to write a book about dinosaurs and what dinosaur hunting was all about. He made it so exciting to me that I decided to become a vertebrate palaeontologist, and for me, one of the greatest thrills is to have a kid walk up to me and say, 'Hey, I wrote to you 10 years ago, and you took the time to respond to my letter. Thank you very much. I'm still interested in dinosaurs,' and I think that's really cool."

   Have you ever developed a strong interest in a particular subject or activity because of a book you have read or a person you have met? Does that interest continue to this day? Have you ever been able to thank that person for their help? Who is most responsible for developing a major personal interest in your life?

3. As the video shows, Currie leads annual ecotours in Dinosaur Provincial Park. He also is involved in more sophisticated ones that take place in the Gobi Desert in Asia.

   How important do you think such tours are in raising public awareness of the work of palaeontologists? Are they likely to attract more than a very small audience? Would you be interested in participating in one of his tours? Explain.

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Phil Currie: Dr. Dino

Further Research
Additional biographical and professional material on Phil Currie can be found at: The University of Alberta (www.biology.ualberta.ca/faculty/philip_currie/); Rocky Mountain Dinosaur Resource Center (www.rmdrc.com/science/Phil%20Currie%20article%202.pdf); and Discovery Channel (www.discoverychannel.ca/animals/dinohome/dinoarchives/troodon/).

Further Research
The Royall Tyrell Museum's Web site is www.tyrrellmuseum.com. Virtual tours of some museum galleries may be taken at www.seevirtual360.com/themes/2/theme02.aspx?listingID=8716.

When he was 11 years old, Phil Currie already knew he was going to be a dinosaur hunter. Gloria Chang of the Discovery Channel quotes him as saying: "I read a book by Roy Chapman Andrews called *All About Dinosaurs.* And *All About Dinosaurs* was all about being a paaleontologist. And as soon as I read what palaeontologists did, I decided that was the field for me" (www.exn.ca/Dinosaurs/story.asp?id=2000032952&name=hunters).

Currie actually dates his first interest in dinosaurs to when he was a six-year-old growing up in Oakville, Ontario. He remembers pouring himself a breakfast of Rice Krispies, when a plastic dinosaur figurine fell out of the box. Currie was amazed to discover that this was no imaginary creature, but one that had existed millions of years ago.

To the dismay of his mother, Currie became an eager collector of fossils. His fossil finds were limestone rocks imprinted with the remains of ancient marine animals that he found near Lake Ontario. He also amassed a large collection of comic books and other materials dealing with dinosaurs. More than once Mrs. Currie tried to throw them out.

A Distinguished Career

Currie received his undergraduate science degree from the University of Toronto, and went on to McGill University in Montreal, receiving his Ph.D. in 1981.

In the years since leaving McGill, Currie has become one of the world's leading palaeontologists. He has collected and worked with more fossils than anyone else. He enjoys both his field work at dig sites and the time he spends in the lab studying his finds. He attributes most of his success to hard work, but some of it he sees as due to luck. An example of good luck was the day he dropped his camera case. When he went to retrieve it, he found it lying next to what turned out to be the full fossil remains of a *Tyrannosaurus rex*.

A 1998 feature article in *Time* (July 6, 1998) listed some of his accomplishments: "During a career that has taken him from Ellesmere Island to Patagonia, he has explored the social patterns of huge meat-eating dinosaurs, identified two duck-billed dinosaurs, investigated flying reptiles and uncovered some of the first dinosaur eggs—in China. He's also helped create an encyclopedia and written two children's books (he's working on a third), and he is currently researching a text on theropods, or flesh-eating dinosaurs. He still found time last year to team up with Microsoft guru Nathan Myhrvold to construct a computer model that shows how giant dinosaurs known as sauropods used their tails as massive bullwhips, actually breaking the sound barrier with each thunderous swish—perhaps as a warning or terror tactic to panic enemies."

Currie is also the driving force behind the Royal Tyrell Museum in Drumheller, Alberta. The museum, about a two-hour drive from Dinosaur Provincial Park (where Currie has done much of his field work), opened in 1985. It has become one of the world's greatest palaeontology museums.

Currie has hunted fossils around the world, and is a pioneer in working with Chinese palaeontologists at some of their most important digs. In 1986 he

Did you know . . .
Currie does not hesitate to use the media—television, magazines, and film—to generate interest in palaeontology. His appearance and personality make him an appealing public spokesperson. Currie was used as a model for the character of palaeontologist Alan Grant in Steven Spielberg's film *Jurassic Park.*

Further Research
Learn more about the *Troodon* from Wikipedia at en.wikipedia.org/wiki/Troodon.

helped create the Canada-China Dinosaur Project, the largest palaeontology expedition in history. Currie's proposal beat out six other competitors. Currie believes that, over the next 20 years, Chinese sites will become the most important fossil digs in the world.

Currie is married to Eva Koppelhus, a palaeobotanist, or specialist in fossil plants. The two scientists frequently work together on projects.

Special Interests

Currie has special expertise in two main areas. The first of these is the anatomy of and social relationships of carnivorous (meat-eating) dinosaurs. Until recently, it was generally believed that large predators like *Tyrannosaurus rex* led solitary lives and hunted alone. Currie located and studied the remains of a group of 10 Albertasaurs, a smaller relative of the *T. rex*. He believes that they lived and hunted as a pack, and that other carnivores may well have done so.

Currie's other main interest is the relationship between dinosaurs and birds. He is one of the leading proponents of the controversial theory that modern birds are the direct descendants of dinosaurs. He has been quoted as saying (*Time*, July 6, 1998): "It's not that birds are descended from dinosaurs. Birds are dinosaurs."

Once asked to name his favourite dinosaur, Currie responded that it was the *Troodon*, one of the first North American dinosaur fossil discoveries. He gave as his reasons: its large brain, stereoscopic vision, "hands" for manipulating objects, and its close relationship to birds.

Analysis

List what you feel are the most important achievements in Currie's career.

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Canada's Dinosaurs

Did you know . . .
British Columbia is also home to the fossils of the Burgess Shale, one of the most important geological finds in history. The fossils are a collection of wonderfully weird marine creatures that lived during the Cambrian period, 515 million years ago. To learn more about the Burgess Shale fossils, you may start with the following Web sites: Parks Canada (www.pc.gc.ca/pn-np/bc/yoho/natcul/natcul15_E.asp); the Burke Museum of Natural History and Culture (www.washington.edu/burkemuseum/bshale/index.html); and the Burgess Shale Fossil Index, Smithsonian National Museum of Natural History (www.nmnh.si.edu/paleo/shale/pfoslidx.htm).

Canada was once home to a wide variety of dinosaurs. The fossil record in four provinces— British Columbia, Saskatchewan, Nova Scotia, and Alberta—has demonstrated this diversity.

British Columbia

Until recently, in British Columbia the fossil record for dinosaurs was mostly limited to footprints. Before 2002 only two sets of dinosaur bones had been found there. In 2002, a young palaeontologist named Rick McCrea was asked to investigate some dinosaur footprints in the Peace River area. He uncovered bones—the oldest dinosaur bones ever found in Western Canada—as well as tracks. He and fellow palaeontologist Lisa Buckley are now working at over 10 sites where they have found footprints and/or bones representing a wide variety of different dinosaur types.

The bones they have uncovered are between 93 and 95 million years old—more than 20 million years older than the bones found in Dinosaur Provincial Park in Alberta. Some of the footprints are even older—as much as 140 million years. As a result of these finds, the Peace Region Paleontology Research Centre was established in Tumble Ridge. Its Web site is www.prprc.com.

Saskatchewan

The badlands of southwestern Saskatchewan have been the subject of considerable fossil hunting activity for over a century. The greatest discovery to date was the 1994 unearthing of a partial skeleton of a *Tyrannosaurus rex*. The *T. rex* is now called Scotty by his many fans. His discovery led the Royal Saskatchewan Museum to set up a fossil research station in Eastend. The town has now opened a *T. rex* Discovery Centre. Its displays and programs focus on the fossil history of the area. Information on the Discovery Centre may be found at www.dinocountry.com.

Fossils of some of *T. rex*'s likely prey have also been found in the area. These include large horned herbivores (plant-eaters) like *Torosaurus* and *Triceratops*, and the duck-billed *Edmontosaurus*.

In addition to dinosaur fossils, Saskatchewan is the greatest source of marine fossils in Canada. Ninety million years ago, most of Saskatchewan was covered by an inland sea that was home to some of the largest marine reptiles that ever lived.

Nova Scotia

Nova Scotia has the distinction of being home to some of the oldest dinosaur fossils in Canada. In 1986, U.S. scientists found a huge deposit of fossils in the Bay of Fundy region near Parrsboro, NS. More than 100 000 pieces of bone were collected and shipped to the U.S. for study at Harvard and Columbia Universities (most were to be returned to Canada after the study was completed). The find was considered especially significant because the fossils date back to the period when dinosaurs were becoming the dominant species, 200 million years ago. Among the most important fossils found are those of Trithelodonts, animals with both reptile and mammal traits.

You can learn a great deal about Nova Scotia's fossils at the Virtual Museum of Canada Web site

Archives
The CBC has a short video available on the fossil discoveries at Parrsboro online at archives.cbc.ca/IDC-1-75-2052-12839-10/on_this_day/science_technology/twt.

Further Research
Midland Provincial Park, near Drumheller, Alberta, is the home of one of the world's great palaeontology museums, the Royal Tyrell Museum. Its Web site is www.tyrrellmuseum.com.

(www.virtualmuseum.ca/Exhibitions/TraceFossil/english/index.html). Additional information is available at the Fundy Geological Museum Web site (museum.gov.ns.ca/fgm/lab/dinosaurinfo.html). Here you can follow a series of updates from scientists working on the reconstruction of a Prosauropod found at the site, and information on ongoing digs in the area.

Alberta

Canada's most famous dinosaur fossil finds have been in Alberta, and the area in and around Dinosaur Provincial Park continues to be the source of many exciting discoveries. Further information on Dinosaur Provincial Park may be found in the next section of this guide.

It is not only the number of fossils found here that makes Alberta such an important site, but also the variety of dinosaurs. Few other fossil sites in the world can match the number of different types of dinosaur found in this one area. These include dinosaurs as large as Tyrannosaurs and smaller ones like Dromaeosaurs (raptors ranging in size from 0.61m to 6.1 m). In addition to the carnivores (meat-eaters) there are herbivores, both large and small. These herbivores were often prey for the carnivores. Some, like the five-metre-long *Styracosaurus*, had fearsome horns and plating to help protect them from attacks.

Activity

There are many great places to see dinosaur fossils in Canada. In addition to the ones mentioned in this guide, others are listed at the DinoDatabase (www.dinodatabase.com/dinowhre04.asp). Choose one of the sites listed in the DinoDatabase or in the guide, and check out its Web site. Write a short (two- or three-paragraph) description of the institution and the fossil collection that you would expect to see on a visit there.

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Dinosaur Provincial Park: A Profile

Further Research
Dinosaur Provincial Park Web site is at www.cd.gov.ab.ca/enjoying_alberta/parks/featured/dinosaur/welcome.asp.

Dinosaur Provincial Park—the site of some of the most famous dinosaur fossil discoveries in the world—is located in the badlands of Alberta. It is roughly 250 kilometres east of Calgary, and about 48 kilometres north of the city of Brooks.

The park was established on June 26, 1955, and opened to the public in 1959. In 1980 it was declared a United Nations World Heritage Site.

The search for fossils in the area began in the 1880s and has continued ever since. Dinosaur Provincial Park is still considered to be one of the likeliest sources of significant undiscovered fossil finds in the world.

75 Million Years Ago

Conditions may be dry and harsh today in the badlands, but they were very different many years ago. In *Discover* (May 1999) Bruce Naylor of the Royal Tyrell Museum describes the area as it would have appeared during the time that dinosaurs roamed the area: "Near the end of the Cretaceous Period [144-65 million years ago], this place would have looked a lot more like the Gulf Coast does today. It was lush, with lots of coastal rivers, lagoons, and an inland sea."

That sea is now known to scientists as the Bearpaw Sea. The shores of the Bearpaw Sea attracted all kinds of dinosaurs, both carnivores (meat-eaters) and herbivores (plant-eaters).

When animals in the area died, conditions were perfect for preserving their remains. The dead were soon buried in the muddy sediment on the riverbanks, their remains protected from scavengers and the effects of the elements. Over the centuries these layers of sediment hardened, becoming limestone, mudstone, and ironstone. This resulted in total protection for the dinosaur fossils sealed inside.

The Fossils Emerge

Over millions of years the climate changed dramatically, and one ice age followed another. At the end of the most recent one—10 000 to 13 000 years ago—retreating glaciers scraped off the top rock layers. As the ice melted, streams cut deep into the softer rock layers and created the Red Deer River Valley. They also exposed the sediments with the fossils embedded in them. Annual rains continue to remove a two-centimetre layer of sandstone each year. Every year new fossils emerge from the rock.

Parks Canada (www.pc.gc.ca/progs/spm-whs/itm2-/site3_E.asp) describes the site as containing "the greatest concentration of Late Cretaceous dinosaur fossils yet found on Earth." More than 300 dinosaur skeletons have been found in the area. They may be seen in 30 different museums around the world.

In 1884, Joseph B. Tyrell (after whom the Royal Tyrell Museum is named) found a skull near Drumheller—a skull that turned out to be from the dinosaur now known as *Albertasaurus*. As a result, the Geological Survey of Canada sent Thomas Weston to hunt for fossils on their behalf. Weston discovered an especially large collection of bones in Dead Lodge Canyon, now part of the park.

From 1910 to 1917, the area was the centre of what became known as the Great Canadian Dinosaur Rush. Most of

Did you know . . .
You can pay a virtual visit to the Dinosaur National Park Field Station Visitor Centre at www.cd.gov.ab.ca/enjoying_alberta/parks/featured/dinosaur/floorplan.asp.

Further Research
Are you curious about what happens day-to-day at a fossil dig? If so, consult Gloria Chang's five-day "Dig Diary" from a fossil hunt in southern France. It's on the Discovery Channel Web site at www.discoverychannel.ca/animals/dinohome/dinodig/.

the exploration was conducted by scientists from the United States (for much of the period Canada was fighting in The First World War).

It was not until Alberta's 50th anniversary as a province (1955) that the park was established, originally as Steveville Dinosaur Provincial Park. Steveville was a ghost town by 1961, and the name was changed to Dinosaur Provincial Park.

Fossil Hunting Today

The park's reputation as an outstanding source of fossils has brought palaeontologists from all over the world to work there. To protect its fossils, in 2000 the Alberta government passed a law forbidding the removal of any fossil resources from the province without written government permission.

Digs take place in the park for six or seven weeks every year. Most of the scientific work takes place in a restricted area of the park, and can only be seen by visitors on guided hikes and bus tours. Even those who skip the guided tours will have the opportunity to see some amazing fossils.

Those who would like an especially intense experience at Dinosaur Provincial Park may actually visit it with Phil Currie and Eva Koppelhus on a "Dinotour." They take a maximum of 25 people on a three-day tour that gives participants an opportunity to participate in an actual dig. Dinotour 2006 sold out quickly. Interested individuals may register for advanced notice of Dinotour 2007 at the Dinosaur Research Institute (www.dinosaurresearch.com/dinotour.htm).

Activity

Learn how dinosaur fossils are unearthed, preserved, and studied. The Smithsonian National Museum of Natural History takes you on a virtual interactive dinosaur dig at www.nmnh.si.edu/paleo/dinosaurs/interactives/dig/main.html.

CANADA'S FAMOUS DINOSAUR HUNTER
Archaeoraptor: A Dinofraud

Phil Currie has said that his involvement with the Archaeoraptor was "the greatest mistake of my life" (*National Geographic*, October 2000).

In November 1999, *National Geographic* published an article describing an exciting fossil find that had taken place in China. The article described what was supposed to be a clear link between birds and dinosaurs—a bird head and body with a feathered dinosaur-like tail. The fossil, it was felt, was from the very time when dinosaurs were becoming airborne. The consultant palaeontologist who examined the fossil before the article's publication was Phil Currie.

The discovery was believed to be especially important because it would finally resolve the much-disputed argument about whether birds really were the modern descendants of the dinosaurs. Phil Currie is one of the leading proponents of the theory that they are directly related.

The fossils come from the Liaoning Province of China. Literally thousands of flying and non-flying dinosaur fossils have been found here. It is one of the sites believed to best support the belief of the dinosaur-bird link.

Unfortunately for *National Geographic*—and for Currie—the fossil was very quickly identified as a forgery. It had been constructed from two different specimens. The top was built from the skeleton of an ancient fish-eating bird never before seen, *Yanornis martini*. The tail and hind legs were those of a recently discovered bird-like, feathered dinosaur called a *Microraptor zhaoianus* —the smallest adult dinosaur discovered to date.

Reconstructing a Fraud

Lewis M. Simons tracked down the story of Archaeoraptor for *National Geographic* shortly after the fraud was uncovered (*National Geographic*, October 2000). It began when a farmer from Liaoning discovered two separate slabs containing fossils.

Both fossil slabs, when they were found, divided vertically down the middle—much like you would divide an Oreo cookie. Each side contained the fossil imprint—one on the first slab, its mirror image on the counterslab. Probably hoping to increase their value, the farmer glued the tail from one *Microraptor* (dinosaur) slab to the *Yanornis* (bird) fossil. This forgery was then sold. The *Microraptor* counterslab remained intact and in China.

The dealer who bought the forged specimen from the farmer took it to a gem and mineral show in Tucson, Arizona. There he showed it to Stephen Czerkas, director of a small, non-profit dinosaur museum in Blanding, Utah. Czerkas was amazed by what was apparently a unique fossil and purchased it for US$80 000.

Czerkas approached an old friend—none other than Phil Currie—to see if he would be interested in joining Czerkas and his wife as co-author of a scientific paper on the new find. Currie also suggested the project to *National Geographic*, where he often worked as a consultant.

Currie apparently had his doubts from his first examination of the fossil. He was concerned because there was no clear connection between the body and the tail. But what he failed to do was pass on this concern to the author of the

Further Research
A description of the CT scans undertaken and examples from the scan can be found on the University of Texas Web site at www.ctlab.geo.utexas.edu/pubs/nature2000/.

Further Research
An outline of some of Phil Currie's arguments for believing in the close relationship between dinosaurs and modern birds can be found on the Rocky Mountain Dinosaur Resource Center Web site www.rmdrc.com/science/science.htm, under the heading "Highlights from Dr. Phil Currie's lecture on 'Feathered Dinosaurs and the Origin of Flight.'"

upcoming *National Geographic* article, Christopher P. Sloan.

Computed Tomography (CT) scans performed at the University of Texas confirmed the disconnect. And a technician Currie sent to clean and prepare the fossil for further examination also expressed his opinion that the fossil was constructed from different specimens.

Currie never expressed his reservations to Sloan. Sloan assumed that Currie, as one of the world's leading palaeontologists and a trusted consultant to *National Geographic*, would alert him if he had concerns.

Ultimately, *National Geographic* published Sloan's story. Shortly thereafter Xu Xing, a Chinese palaeontologist who had briefly examined the Archaeoraptor in Utah, was shown a fossil by a colleague. It turned out to be the counterslab of the *Microraptor*, complete with its tail—a mirror image of the one glued to the Archaeoraptor fossil. Arachaeoraptor was clearly a forgery.

Currie has expressed his regret over this episode. To a certain extent he blames being over-extended for the problem. He was involved in so many projects at the time that he failed to give the Archaeoraptor sufficient attention—and failed to make clear his doubts about the quality of the specimen.

According to Julia Clarke, a paleontologist at the American Museum of Natural History in New York, the fallout from the Archaeoraptor incident was a blow for those scientists who believe in the bird-dinosaur connection. "The really unfortunate aspect of the Archaeoraptor forgery was that it was used to suggest that other feathered dinosaur fossils were also faked, and added a layer of confusion to public understanding that shouldn't be there. There's an abundant amount of evidence that the lineage leading to birds is nested in Dinosauria. There are many feathered flying and non-flying dinosaur fossils from these two regions that are not forgeries" (http://news.nationalgeographic.com/news/2002/11/1120_021120_raptor_2.html).

Discussion

The Archaeoraptor forgery was a major embarrassment for *National Geographic* and for Christopher Sloan. Had Sloan heard of Currie's initial reservations about the fossil, the article likely never would have been published. Do you think Currie's explanation that he was involved in too many projects is a valid excuse? Why or why not?

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Activity: Dinosaur Study

Many different kinds of dinosaurs lived in Canada in prehistoric times. Several of the most important and best known ones are listed—and pictured—on the Web site of the Natural History Museum of London, England, at http://internt.nhm.ac.uk/jdsml/nature-online/dino-directory//country.dsml?disp=gall&country=Canada.

This activity will give you an opportunity to learn more about them.

1. Go to the Natural History Museum site, where you may choose one or more dinosaurs to research (or your teacher may assign one or more to you).

2. Fill in the Dinosaur Study form (found on the next page) for each dinosaur as you complete your research.

3. Share your results with the rest of the class. As you do so, have a class member keep a list of which dinosaurs would have been active during the same periods and time spans.

Two Web sites that will be helpful in completing the form are:

Enchanted Learning (ZoomDinosaurs.com: www.enchantedlearning.com/subjects/dinosaurs/) — choose the "Dino Dictionary" option in the left-hand column; and DinoDictionary.com (www.dinodictionary.com/dinos_a.asp). An Internet search on the name of the dinosaur will also likely provide additional useful information.

Note that much more information will be available on some dinosaurs than on others. This is often a direct result of how many fossils have been available for study, as well as how intact the fossil remains have been.

Notes:

Dinosaur Study

Your Name: _____

Dinosaur's Name: _____

Item	Information
Scientific name	
Meaning of name (in English)	
Pronunciation	
Length	
Weight	
Bipedal (two-legged) OR Quadrupedal (four-legged)	
Diet: Herbivore (plant-eater) OR Carnivore (meat-eater) OR Omnivore (both)	
Period	
Time span (mya, or millions of years ago)	
Interesting additional facts	
Personal Comments	