

**Thanks for using *Bone Sharps, Cowboys, and Thunder Lizards* (ISBN: 0-9660106-6-3) in your classroom. The following are some ideas for generating discussion, critical thinking, and further learning based on what your students just read.**

### **Content questions**

Which character do you find most memorable? Why? Be as specific as you can.

Describe the differences between Edward Drinker Cope and Othniel Charles Marsh.

What was the U.S. like when Cope and Marsh were at work? Charles R. Knight worked until the 1950s—how had things changed by the time he stopped painting? [Do you think you'll see changes that are that big?]

Do you agree with Chief Red Cloud about the Uncegilala story?

Charles R. Knight made a comparison between dinosaurs and birds well before most scientists saw this. Why do you think that is?

What section or story do you find most effective? Why? Be as specific as you can.

How would you describe Big Time Attic's artistic style? What is its most striking feature? How do you compare it to the style Mark Schultz used for the cover?

Choose a page in the book and describe how the writer and artist combine words and pictures in effective ways.

Take a look at pages 14 and 135. Why do you think they're so similar? How about pages 118-119?

What point do you think is being made on pages 102-104?

Which characters do you find to be the most interesting and engaging? That may be different than most memorable! Why? [Which character would you like to go on a vacation with? Which character(s) would you want to invite over for dinner?]

How would you describe the tone of the book? Cite specific pages and/or panels as examples.

Before reading this book, what was your attitude about scientists? Artists? In what ways has the book changed your mind about these issues and people?

If you could ask the artists any questions, what would they be?

If you could ask the writer any questions, what would they be?

### **Storytelling questions**

Why do you think pages 7-10 and 128 were done that way? How does it change the way you hear the story?

The same goes for pages 117-119—why do you think the pages are laid out that way?

Why do you think Big Time Attic uses a different style of art when they're showing Charles R. Knight's paintings? Would you do the same thing?

What happened between the last panel of page 120 and the first panel of page 121?

Pay close attention to backgrounds throughout these stories. How do the writer and artist establish and treat setting and environment?

Why did the story mix fact and fiction?

Why are myths woven into the story?

### **Ask the characters! Ask yourself!**

Now that you've read the book, try answering some questions as if you were one of the characters. Then, pretend like you were in the character's situation. How would you answer it for yourself...

"Mr. Knight, why do you think birds and dinosaurs are related?"

"Professor Marsh, do you think popularizing science benefits or diminishes the work of researchers like yourselves?"

"Mr. Cope, why don't we ever see your family in the story? (The same question goes for you, Professor Marsh.)"

"Chief Red Cloud, do you think working with the U.S. government, through Professor Marsh, helped your people a great deal?"

"Dr. Hatcher, who were you talking about in your lecture to the National Academy?"

"Mrs. Knight, what's it like living with—and taking care of business concerns for—a famous artist like Charles?"

## **Vocabulary**

paleontology  
fossil  
dinosaur  
Triceratops (and Ceratopsians)  
Elasmosaurus (and Plesiosaurs)  
Apatosaurus  
Brontosaurus  
Camarasaurus  
Dryptosaurus  
evolution  
Bridger Basin  
Mammoth  
Mastodon  
Ornithopods  
Sauropods  
Theropods

## **More to explore**

Sylvia M. Czerkas and Donald F. Glut, *Dinosaurs, Mammoths and Cavemen: The Art of Charles R. Knight* (NY: E.P. Dutton, 1982).

Richard Erdoes and Alfonso Ortiz, *American Indian Myths and Legends* (NY: Pantheon Books, 1984).

John Bell Hatcher, *Bone Hunters in Patagonia: Narrative of the Expedition* (originally published in 1903 as "Reports of the Princeton University Expeditions" and re-issued in 1985 by Ox Bow Press of Woodbridge, CT).

Hitakonanu'laxk (Tree Beard), *The Grandfathers Speak: Native American Folk Tales of the Lenapé People* (NY: Interlink Books, 1994), pp. 107-108.

Mark Jaffe, *The Gilded Dinosaur: The Fossil War Between E.D. Cope and O.C. Marsh and the Rise of American Science* (NY: Crown Publishers, 2000).

Charles R. Knight, *Charles R. Knight: Autobiography of an Artist* (Ann Arbor, MI: G.T. Labs, 2005).

Url Lanham, *The Bone Hunters* (NY: Columbia University Press, 1973).

Mark Norell, Lowell Dingus, and Eugene Gaffney, *Discovering Dinosaurs: Evolution, Extinction, and the Lessons of Prehistory* (NY: Nevrumont Publishing Company, 1995).

Henry F. Osborn, *Cope: Master Naturalist: The Life and Letters of Edward Drinker*

*Cope with a Bibliography of His Writings Classified by Subject* (Princeton, NJ: Princeton University Press, 1931).

Douglas J. Preston, *Dinosaurs in the Attic: An Excursion Into the American Museum of Natural History* (NY: St. Martin's Press, 1986).

Frederick L. Rhodes, *Beginnings of Telephony* (NY: Harper & Brothers, 1929).  
Charles Schuchert and Clara M. LeVene, *O.C. Marsh: Pioneer in Paleontology* (New Haven, CT: Yale University Press, 1940).

Elizabeth N. Shor, *The Fossil Hunters* (Hicksville, NY: Exposition Press, 1974).  
George G. Simpson, *Discoverers of the New World* (New Haven, CT: Yale University Press, 1984).

William Stout, *Charles R. Knight Sketchbook, Volumes I-III* (Pasadena, CA: Terra Nova Press, 2002-2003).

David R. Wallace, *The Bonehunters' Revenge* (NY: Houghton Mifflin, 1999).

### **About the Creators**

All of Jim Ottaviani's books have been nominated for multiple awards, including Eisners & ALA Popular Paperback of the Year, and they also receive critical praise in publications ranging from *The Comics Journal* to *Physics World* to *Entertainment Weekly* to *Discover Magazine*, and get national broadcast attention in outlets such as NPR's Morning Edition and the CBS Morning Show. As for the artists, fresh from award winning work on *Top Ten* and *Smax* from America's Best Comics, **Big Time Attic's** Zander Cannon and his colleagues Shad Petosky and Kevin Cannon bring their considerable talents to bear on this unique story.

### **Interview**

*What was it that inspired you to write a book about six shooters, science and skeletons?*

Jim: This goes back to my day job as a librarian. I used to buy books for the engineering library, so I'd see lots of catalogs and purchase lots of stuff with really dull titles. About five years ago, though, I was working through the new releases and saw a book called "The Gilded Dinosaur." I couldn't justify buying it for the engineers—they need books about differential equations and tribology and such—but I wrote down the title for myself. I read it, and tracked down more about the characters, and decided that dinosaurs + the old west = the perfect combination of story elements to make for a fun book to write...and read!

*How much research went into the creation of Bone Sharps? How many books and sources did you consult?*

Jim: A whole lot. Measured in years, about three and a half. Measured in books, if you look in the back of *Bone Sharps* you'll see that, as with all of my previous titles, I let you know what I consulted to construct the story. This one has 20 references, but missing from that list are articles and websites and other miscellaneous things I consulted to get myself steeped in the period, or that provided visual reference for Big Time Attic to use. In total, I probably consulted more than 50 sources for this book.

*The book is done in landscape format. What made you choose that style over the more standard portrait style?*

Jim: I didn't choose it, really. I write complete and detailed scripts that try to work out most of the storytelling problems in advance. Before doing a final draft, I illustrate my scripts in stick figure/thumbnailed form so that I'm sure that what I've asked for is actually draw-able. I always send those layouts to the artists for them to use if they want to, and my layouts for *Bone Sharps* had the finished book in portrait format.

It's the artists' show once they have the script, though. So they gave me a call a short while after they got the script and reference material I sent them, and said "How about landscape?" How about it indeed?! That's part of the joy of working with great artists and designers like Big Time Attic. They think of things I didn't, and see things in my scripts that I didn't noticed.

*What was the division of labor on the art?*

Zander: It was very much interlaced. Sometimes Kevin's doing pencils on figures, and I'm doing inks. Sometimes it's the other way around. I could probably look at it now and I'd be hard-pressed to point out with 100% accuracy, who did what. There are places in there where you can definitely see that this is a face that I drew for sure or a hand that I drew, but you can also see a lot of Kevin's style, particularly in buildings, certain designs for clothing, various backgrounds.

Kevin: For me and the rest of the guys, the point was to just have a fluid style that wouldn't interfere with the story. I hope that came across.

*When you were going through the script, did you ever fight over things like who gets to pencil certain scenes?*

Kevin: Actually, there were very few pages in the book that weren't touched by everyone, [but] the Mastodon story is an example.

Zander: I mostly worked on the Mastodon story because...I don't know. I think I told everyone I really wanted to. Or maybe having one person work on it made it more dreamlike and more like a legend.