

Thanks for using *Wire Mothers: Harry Harlow and the Science of Love* (ISBN: 978-0-9788037-1-1) 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 the ideas and theories of Harry Harlow, John Watson, and B.F. Skinner.

What was the state of psychology research like when Harlow began his experiments? [Do you think you'll see changes that are that big?]

Do you think experiments like the ones Harry Harlow did are useful? Should they be done today?

Harlow made a comparison between feeling depressed and being in a contraption ("the pit of despair") he created. What does being depressed feel like to you, in physical terms?

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

How would you describe Dylan Meconis' artistic style? What is its most striking feature?

What's going on with the cover? Why do you think the creators chose this image?

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? In what ways has the book changed your mind about these issues and people?

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

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

Storytelling questions

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 26 and 50. Why do you think they're similar? How about pages 32 and 67?

What role do sound effects play in the story? Why do you think they're handled differently on pages 28, 40, and 45-49?

What happened between the last panel of page 49 and the first panel of page 50?

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

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...

"Dr. Harlow, why do you think love is learned?"

"Professor Skinner, what drives the behavior you call affection?"

"Carl, what was the most interesting thing Dr. Harlow showed you that night?"

Vocabulary

attachment
behaviorism
depression
rhesus monkey
psychology
germ theory
affection
love

More to explore

Deborah Blum, *Love at Goon Park: Harry Harlow and the Science of Affection* (Cambridge, MA: Perseus, 2002). The one book to read about Harlow's life, and his work.

Clara Mears Harlow (ed.), *From Learning to Love: The Selected Papers of H.F. Harlow*

(NY: Praeger Publishers, 1986). This comprehensive overview of Harlow's scientific career, presented via his original scientific papers, is remarkable in a number of ways, but the two most important features of this book are Clara Mears Harlow's biographical sketch of her husband and how accessible the work is to a non-specialist reader.

Harry Harlow, "Autobiography," published in *Discovery Processes in Modern Biology: People and Processes in Biological Discovery*, edited by W.R. Klemm (Huntington, NY: R.E. Krieger Publishing, 1977). I used both the published version and unpublished/unedited manuscripts of this piece. Even in the published version, the editor couldn't stop Harlow from sounding like himself. Thanks to the University of Wisconsin (Madison) Department of Special Collections in the Memorial Library for providing access to this and other manuscripts.

Harry Harlow, "Monkeys, Men, Mice, Motives, and Sex," Chapter 1 of *Psychological Research: The Inside Story*, edited by Michael H. Siegel and H. Philip Zeigler (NY: Harper & Row, 1976). Here again I used published and unpublished versions, which are quite similar...the jokes and puns are tightened up and generally better in the published version!

Harry Harlow, "My Life With Men and Monkeys" (transcript of an address given at the University Club, Madison, Wisconsin, in 1959). Harlow's humor and intelligence is even more unmistakable when captured live.

Harry Harlow, "The Nature of Love," (Address of the President at the 66th Annual Convention of the American Psychological Association, Washington, D.C., August 31, 1958) first published in *American Psychologist*, vol. 13, 573-585. The paper that started it all is compelling, convincing, and readable.

Harry Harlow, "Studies with Stagner, From Laboratory to License," "The Meaning of Motherhood," and other miscellaneous unpublished documents and letters. The Harry F. Harlow papers at the University of Wisconsin (Madison) Archives in the Memorial Library provided much of the material that allowed Harlow to come to life in these pages. He was particularly cutting and witty in his personal letters, and the anecdote about love, affection, proximity, and psychoanalysts comes from a letter he wrote to Dr. Robert Perloff in 1977.

James Lileks, *Mommy Knows Worst: Highlights from the Golden Age of Bad Parenting Advice* (NY: Three Rivers Press, 2005). Much less serious than any of the other books listed here, this book has some amusing (in an "I can't believe they believed that!" sort of way) examples of bad parenting advice from bygone days. Perhaps it does have a serious subtext, though: Years from now someone will probably write a book about the ridiculous things we—and the current crop of experts—believed about parenting.

CBS Television Network, "Mother Love," from *Conquest* hosted by Charles Collingswood (NY: Carousel Film & Video, 1960, 1995). It turns out that this was very good television.

B.F. Skinner, *The Shaping of a Behaviorist: Part Two of an Autobiography* (NY: Alfred A. Knopf, 1979). Though this book reads more like a sequence of anecdotes than a story, it's still a fascinating account of Skinner, his work, and how that work intersected with his personal life.

John B. Watson, *Psychological Care of Infant and Child* (NY: W.W. Norton & Company, 1928). Remarkably, this was reprinted in 1972, so even long after Harlow's work young mothers could still get many excellent child-rearing tips along the lines of "kissing the youngster on the forehead, or the back of the hand...would be all the petting needed for a baby to learn that it is growing up in a kindly home." The excerpts I focused on in the main story were passages Harlow had personally made note of in his own papers.

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. Dylan Meconis was an original contributor to the groundbreaking *Flight* series and a nominee for the Friends of Lulu Kim Yale award. She is also a launch contributor to Girlamatic, a member of the Pants Press collective and Periscope Studio, and has been blogged just about everywhere.

Interview

How did you first become aware of Harlow's work, and why did you decide to tell this story?

Jim: I don't know! I remember I read a book on Harlow, but I don't know why I was reading it – my background is not in psychology or biology. But at some point I probably saw the picture of a baby rhesus monkey clinging to a horrific-looking wire mother-surrogate, and thought, "What a tremendous visual that is! There must be a story sitting behind that experiment!" And as it turned out, there was.

Harlow is a very complex character in the book—was that part of the appeal?

Jim: Yes. This scientist in cold, emotionally distant times, what we think of as the 1950s. This was when the American façade was the perfect home life, the nuclear family, all this business. He has troubles with his personal life, and yet, through

his work life, demonstrates one of the most important mysteries about life as a whole: Is there such a thing as love? Very compelling.

How'd you find Dylan for the art?

Jim: I'd seen her webcomics and her work in the Flight anthology, along with her illustration work. She's adopted a lush, full-black style for the book, and it's not a lot like the web work she's done. She chose a slightly different style. I didn't ask her to do it in any particular style, so when the first sketches showed up, I hadn't art-directed them in any way – and they were great! She chose wisely (laughs). She was always spot-on with the story, and spot-on with the mood. I was extremely pleased when she said yes to the project, and I'm extremely pleased with the finished work.

Harlow's experiments seemed to reveal a biological need for love, but many of his later experiments on monkeys were, by most standards, very cruel and unloving. Is this contrast something you cover in the book?

Not explicitly. I think an alert reader will gather that Harlow might be heading down a dark path in future experiments, but we only give a couple of visual hints in the story. There are at least three reasons for that.

First, there's only so much space, so you have to choose your focus. Second, Harlow's story does have a natural beginning, middle, and end if you stick to this aspect of his research. Third, I think Harlow's story is overall a story of hope, not despair. So while it's a dark story, and the undercurrents aren't all positive, I chose to end it before things took a turn for the worse. I hope readers will learn more about him by checking some of the references we cite in the back of the book. There are other Harlow stories to tell, but they didn't fit in this book.