



Paving the Way for STEM in History Museums

TEXAS
HISTORICAL
COMMISSION
REAL PLACES TELLING REAL STORIES

BEYOND
THE
ROAD
TXDOT

BULLOCK
TEXAS
STATE HISTORY
MUSEUM

Writing About Science for a History Museum Audience (When You're Not a Scientist)

Webinar Goals

By the end of this webinar you will:

- Understand how interpretive writing techniques can be powerful tools in making technical topics accessible
- Be equipped with multi-disciplinary approaches to storytelling
- Walk away with concrete examples of how STEM can be incorporated into history-based exhibits

During the discussion group you will:

- Work through a specific example of the concepts covered in this webinar, getting a chance to try techniques out for yourself

What is interpretation?

"a mission-based communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource."

"Information, as such, is not interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation does include information."

"the way that museums engage their audience with collections, information, and ideas"

"a professional explainer"

What is interpretation?

Interpretation is about more than simply providing information. It teaches.

Interpretation focuses on emotional and intellectual connections with information.

Interpretation connects new information to larger contexts.

Interpretation relates to the visitor and what they care about.



What is interpretation?

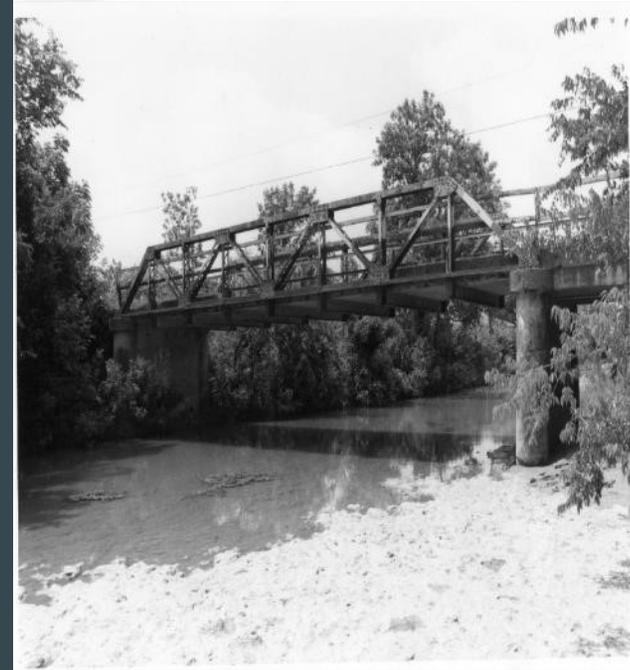
Ultimately, interpretation is active and is about CHANGE.

Interpretation is about BUILDING BRIDGES between your content and your visitor's lived experience.

Interpretation provides a method to help determine what you would like visitors to THINK, FEEL, and DO after having visited your site.



Interpretive Goals



Interpretive Goals

- What do you want visitors to learn?
- Why is this topic important?
- What's the story you want to tell?
- Who is your audience?
- Are there any particularly fascinating stories or facts that will draw visitors in?

Themes

- Themes are complete ideas that express a message or point of view (like a thesis statement).
- Themes connect tangibles and intangibles, things and ideas.
- Themes are not the same thing as topics.
- Themes are brief. The more concise you can be the more likely your audience will remember.
- Themes help you limit what your interpretation is about, and limits are good.

Remember: If someone is confused or challenged, they will disengage, give up, and miss out on everything you're trying to do.

Themes

D-5
 TECHNICAL LIBRARY

Bridge Specification
 Material Requirements

L-Number

Miscellaneous Specifications.....	1883-1897.....	L-5301
Do	1883-1897.....	L-5302
Do	1901-1934.....	L-5303
Do	1901-1934.....	L-5304
Do	1894-1898.....	L-5305
A.S.T.M. Specifications	1901-1936.....	L-4577 L-4578
Column Test Data.....	1881.....	L-5306 L-5307
Full Sized Eyebar Tests.....	1886.....	L-5308
Do	1894.....	L-5309
Do	1909.....	L-5310
Column Test Data.....	1927.....	L-4580 L-4583
Column Study.....	1924.....	L-3845 L-3891

U. S. Department of Agriculture
 Bureau of Public Roads
 DIVISION OF BRIDGES
 Washington, D. C.
 February 1939

D-5
 TECHNICAL LIBRARY

PROPERTY OF
 BRIDGE DIVISION LIBRARY
 TEXAS HIGHWAY DEPARTMENT
 FILE NO. 2096

Summary of Miscellaneous Specifications for Steel

U. S. Department of Agriculture
Bureau of Public Roads
DIVISION OF BRIDGES
Washington, D. C.

Year	Name	Wrought Iron		Steel						Full-Sized Eye-Bars			
		Tensile strength lbs. per sq. in.	Elastic limit lbs. per sq. in.	Tensile strength			Elastic limit			Tensile strength lbs. per sq. in.	Elastic limit lbs. per sq. in.		
				Soft	Medium	Rivet	Soft	Medium	Rivet				
1883	Kentucky and Indiana Bridge	*Specifications for iron and timber are as usual in first-class work*		70,000 min. (2)	80,000 min. (1)	58,000 65,000	40,000 min.	50,000 min.	Not given	65,000 min.	35,000 min.	1/	
1887	Keystone Bridge Co.	Bars in tension: 52,000- 5000 x area orig. bar Circ. orig. bar Shapes - 48,000 Plates < 24"-48,000 Plates > 24"-46,000		26,000	60,000 68,000 (3)	76,000 (1) 84,000	55,000 63,000	35,000	45,000	33,000	Reduction per sq. in. of (500 x width of bar) lbs.	Not given	2/
1888	Phoenix Bridge Co.	Tension members: 52,000- 7000 x area orig. bar Circ. orig. bar Plates < 24"-48,000 Plates > 24"-46,000 Shapes: 50,000-(7000)		1/2 T.S. min.	62,500 (2) 44,000	68,000 (1) 44,000	60,000 44,000	1/2 T.S. min.	1/2 T.S. min.	1/2 T.S. min.	Reduction per sq. in. of (500 x width of bar) lbs.	Not given	3/
1891	Reading Term. Philadelphia	Tension members: 52,000 min. Other iron: 48,000 min. Plates > 24": 46,000 min.		26,000 min.	62,000				1/2 T.S. min.		No tests specified	4/	
1894	F. H. Lewis	Tension members: 50,000 min.		26,000 min.	54,000	60,000	Rivets to be soft steel	32,000 min.	35,000 min.		56,000 min.	Not specified	5/
1896	Theodore Cooper				54,000 62,000	60,000 68,000	50,000 58,000	1/2 T.S.	1/2 T.S.	Not specified. Elong. = 25%	56,000 min.	Not specified	6/
1896	Ass'n. Amer. Steel Manuf.				52,000 62,000	60,000 70,000	48,000 58,000	1/2 T.S.	1/2 T.S.	1/2 T.S.			7/
1896	Pencoyd Iron Works				50,000 60,000	60,000 70,000	Rivets to be soft steel	1/2 T.S.	1/2 T.S.		No tests specified		8/
1897	Pennsylvania Lines West of Pittsburgh	Full-size tests: 62,000 - (7,000 $\frac{1}{2}$) Shapes - 50,000 $\frac{1}{2}$ Plates 12"-36"-48,000 Plates 36"-48,000 Plates 48"-58,000 Plates 54"-45,000		26,000 min. 26,000 32,000 32,000 32,000 26,000	62,000 62,000	62,000 70,000	60,000 58,000	55% T.S.	55% T.S.	55% T.S.	84,000 steel: (5,000 $\frac{1}{2}$) Soft steel: 48,000 - (8,000 $\frac{1}{2}$)	55% T.S. 55% T.S.	9/

See Sheet L-5302 for Cincinnati So. Ry. 1888, and for footnotes

L-5301



Relevance

- Relate to universal concepts
- Connect with something the visitor already understands
- Multi-disciplinary writing provides two chances to think about relevance



Creativity

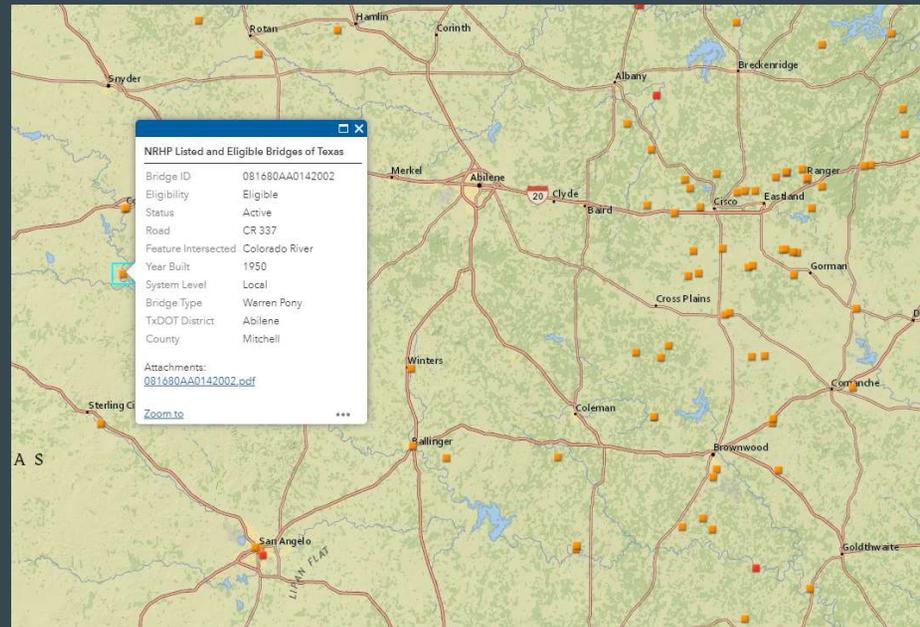
- Use every space you have for interpretation
- Get your visitor to change their thinking by physically changing their perspective
- Give visitors space to think creatively and connect to their own exploration, perception, confidence, and aesthetics



Structured Storytelling

Stories:

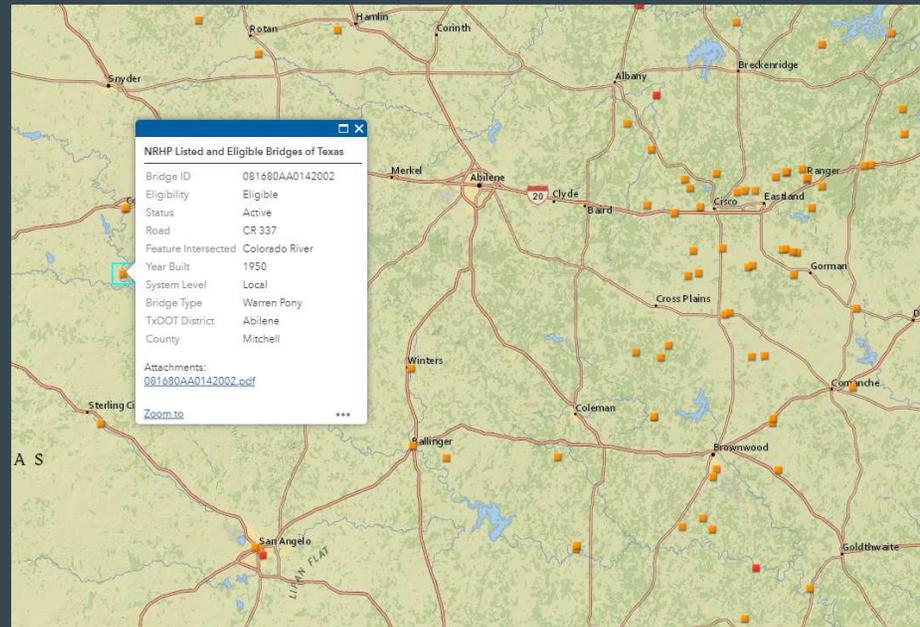
- have specific structure
- have a beginning, a middle, and an end
- have a conflict
- engage the viewer/reader/listener/visitor and take them on a journey



Structured Storytelling

What are the benefits of storytelling as a technique?

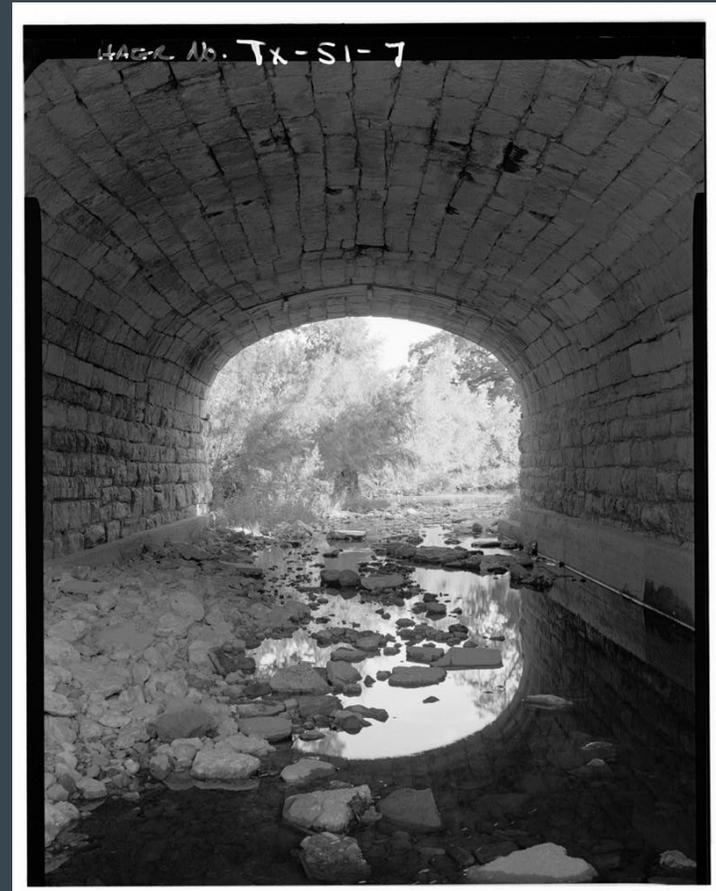
- Motivations
- Relevance
- Conflict
- Curiosity



Limitations

- How much space do you have?
- What and who are you writing for?
- What is your target reading level?
- How many words can you use?
- Do the details support your learning goals?

In other words: Just because you can,
doesn't mean you should.



Ready to put these concepts into action?
Join the Discussion this week

Thursday, 10am or 2pm
Friday, 10am

