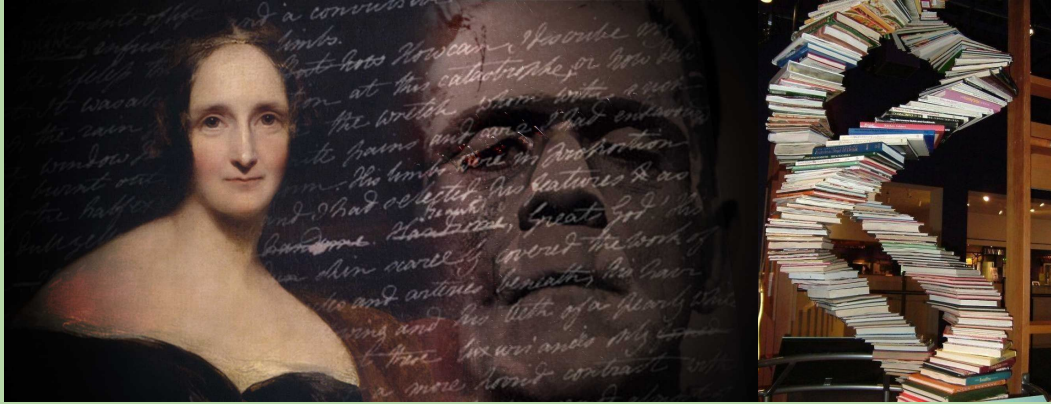


# Stitching the Seams of Textual Bodies



## The Pittsburgh-MITH Bicentennial Frankenstein Project

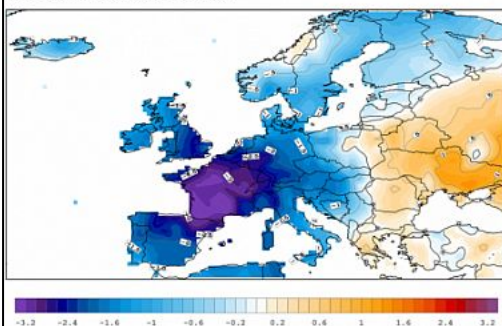
Dr. Elisa Beshero-Bondar

Director, Pitt-Greensburg Center for the Digital Text | Associate Professor of English

Contact: [ebb8 at pitt.edu](mailto:ebb8@pitt.edu) | [@epyllia](mailto:@epyllia) These slides: <http://bit.ly/FrankenTextGen>



1816 Summer temperature anomaly



## Frankenstein's Genesis

1814 Elopement of young radicals: 16-year old Mary Godwin and 22-year-old Percy Shelley

**Summer of 1816:** "The year without a summer": *The Shelleys and Mary's half-sister Claire Clairmont go to Europe to visit Lord Byron*. Scandalous, exiled radical writers and "libertines". In 1821, Robert Southey will brand Byron's work a "moral virus" infecting society.

### Byron's 1816 challenge to his guests:

**"We will each write a ghost story..."**

They'd been reading German *Fantasmagoria* and Coleridge's more nightmarish poems...

1831 engraving: Villa Diodati, Byron's home in exile in 1816 on the shores of Lake Geneva.

Map of unusual cold temperatures in Europe during the summer of 1816. Credit: Creative Commons, authored by Giorgiopp2

\* She's the daughter of radical, free-thinking parents: William Godwin (author of *Caleb Williams* and *Political Justice*), and Mary Wollstonecraft (*Vindication of the Rights of Woman*).

\* He's a radical poet defying the aristocracy to which he was born. Details: <http://www.rc.umd.edu/reference/chronologies/mschronology/chrono.html>

## Mary Shelley's nightmare, as recounted in 1831



*'Night waned upon this talk, and even the witching hour had gone by before we retired to rest. When I placed my head on my pillow I did not sleep, nor could I be said to think. My imagination, unbidden, possessed and guided me, gifting the successive images that arose in my mind with a vividness far beyond the usual bounds of reverie. I saw – with shut eyes, but acute mental vision – I saw the pale student of the unhallowed arts kneeling beside the thing he had put together. I saw the hideous phantasm of a man stretched out, and then, on the working of some powerful engine show signs of life and stir with an uneasy, half-vital motion ...'*

## Sharing the dream?

## Composition process, intervention, collaboration...



Chapter 7<sup>th</sup> 21 95

It was on a dreary night of November  
that I beheld <sup>the fiend on which</sup> my dream was completed, and  
with an anxiety that almost amount-  
ed to agony, collected my thoughts of life  
around me and endeavored <sup>that I might</sup> to infuse a  
spark of being into the lifeless thing  
that lay at my feet. It was already  
one in the morning, the rain pattered  
dismally against the window-pane, &  
my candle was nearly burnt out, when  
by the glimmer of the half-extinguish-  
ed light I saw the dull yellow eye of  
the creature open. It breathed hard,  
and a convulsive motion agitated  
its limbs.





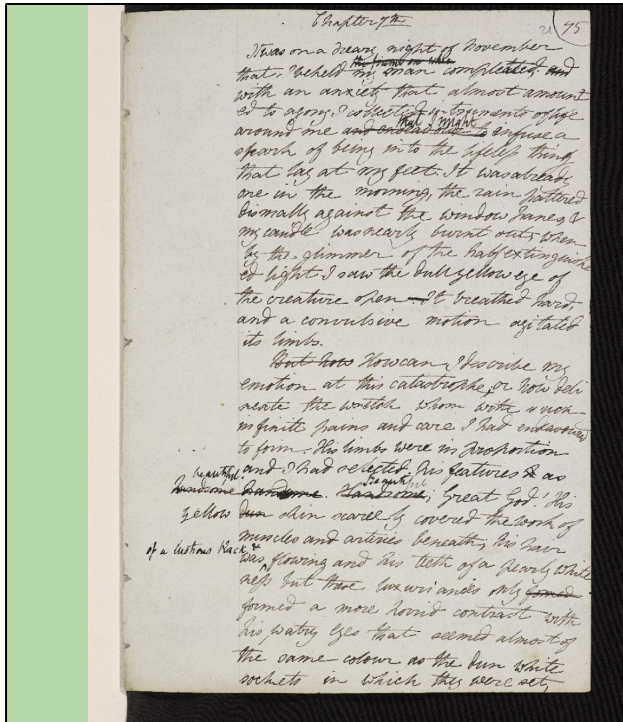
**(S-GA)**

**<http://www.shelleygodwinarchive.org>**

The *Shelley-Godwin Archive* is a project involving the Maryland Institute for Technology in the Humanities (MITH) and the Bodleian, British, Huntington, Houghton, and New York Public Libraries that will eventually contain the works and all known manuscripts of Mary Wollstonecraft, William Godwin, Percy Bysshe Shelley, and Mary Wollstonecraft Shelley.

Since its inception in 2011, S-GA has published Mary Shelley's *Frankenstein*, Percy Shelley's *Prometheus Unbound*, and a number of shorter works. The holdings of S-GA are still growing, with Shelley's *Triumph of Life* and Godwin's manuscript for *Political Justice* scheduled for publication in the next few months.





beautiful,  
handsome

#### Chapter 7<sup>th</sup>

It was on a dreary night of November

<sup>the frame on which</sup> that I beheld my man complete at ~~the~~ <sup>ed</sup>. And with an anxiety that almost amounted to agony I collected instruments of life

<sup>that I might</sup> around me and endeavour to <sup>infuse</sup> a spark of being into the lifeless thing that lay at my feet. It was already one in the morning, the rain pattered dismally against the window panes, & my candle was nearly burnt out, when by the glimmer of the half extinguished light I saw the dull yellow eye of the creature open.—It breathed hard, and a convulsive motion agitated its limbs.

yellow

of a lustrous black &

But how How can I describe my emotion at this catastrophe; or how delineate the wretch whom with such infinite pains and care I had endeavoured to form. His limbs were in proportion and I had selected his features <sup>as</sup>

<sup>Beautiful</sup> handsome . Handsome ; Great God! His ~~dark~~ skin scarcely covered the work of

Shelley-Godwin Archive:

<http://shelleygodwinarchive.org/sc/oxford/frankenstein/volume/i/#/p44>

There on a rainy night of November  
that "chill of error completed," and  
with an anxiety that almost amounted  
to agony, I waited for movements of life  
around me and endeavored to suppress a  
sprawl of being into the hellish thing  
that lay at my feet. It was a dead  
one in the morning, the rain rattled  
downward against the window panes &  
my candle was nearly burnt out - soon  
in the summer of the half-extinguished  
light, I saw the dull yellow eye of  
the creature open - it breathed hard,  
and a convulsive motion agitated  
its limbs.

But how slow and favorable my  
emotion at this catastrophe for how did  
nature protest with a woman  
infinite pains and care. I had endeavored  
to form the limbs were in proportion  
perfect and I had selected the features & as  
American ~~beauty~~ <sup>beauty</sup>. ~~beauty~~ <sup>beauty</sup>. Great G.D. His  
gazes then slowly covered the work of  
murder and arteries beneath the hair  
of a lustful Rache  
his frowning and his teeth of a fearful threat  
all but there ~~was~~ <sup>was</sup> inside my ~~mind~~ <sup>mind</sup>  
formed a more horrid contrast with  
his watery eyes that seemed almost  
the same color as the pure white  
whets in which they were set.

beautiful.  
handsome

It was on a dreary night of November  
~~the frame on which~~  
 that I beheld my man compleat ed, And  
 with an anxiety that almost amount  
 ed to agony I collected instruments of life

*of a lustrous black &*

*Beautiful*  
handsome . Handsome ; Great God! His  
dun skin scarcely covered the work of

	<pre> &lt;add place="sublinear"&gt;&lt;metamark function="displace   &lt;/mod&gt; flowing and his teeth of a pearly white&lt;/l &lt;line&gt;ness but these luxurianc&lt;add place="intralinear &lt;line&gt;formed a more horrid contrast with&lt;/line&gt; &lt;line&gt;his watry eyes that seemed almost of&lt;/line&gt; &lt;line&gt;the same colour as the dun white&lt;/line&gt; &lt;line&gt;sockets in which they were set,&lt;/line&gt; &lt;/zone&gt;  &lt;zone type="left_margin" corresp="#c56-0045.01"&gt;   &lt;line&gt;&lt;add&gt;&lt;mod&gt;     &lt;del rend="strikethrough"&gt;handsome&lt;/del&gt;     &lt;add place="superlinear" hand="#pbs"&gt;beautiful.   &lt;/mod&gt;&lt;/add&gt;&lt;/line&gt; &lt;/zone&gt;  &lt;zone type="left_margin" corresp="#c56-0045.02"&gt;   &lt;line&gt;&lt;add&gt;yellow&lt;/add&gt;&lt;/line&gt; &lt;/zone&gt;  &lt;zone type="left_margin" corresp="#c56-0045.03"&gt;   &lt;line&gt;&lt;add hand="#pbs"&gt;of a lustrous black &amp;&lt;/add&gt; &lt;/zone&gt; &lt;/surface&gt; </pre>
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TEI Diplomatic Edition Encoding





Illustration from *De humani corporis fabrica libri decem* (On the fabric of the human body), 1627

Author: Adriaan van Spiegel (1578–1625)

Artist: Giulio Casseri (ca. 1552–1616)

Courtesy National Library of Medicine

## Victor Frankenstein's methods weren't so new

...investigating the bounds of life and death...and the human body as material "fabric"...

***It's alive!*** 1803: Giovanni Aldini electrically animates a hanged man, George Forster



*“the jaw began to quiver, the adjoining muscles were horribly contorted, and the left eye actually opened ... The action even of those muscles furthest distant from the points of contact with the arc was so much increased as almost to give an appearance of re-animation ... vitality might, perhaps, have been restored, if many circumstances had not rendered it impossible.”*

See

<http://www.executedtoday.com/2009/01/18/1803-george-foster-giovanni-aldini-galvanic-reanimation/>

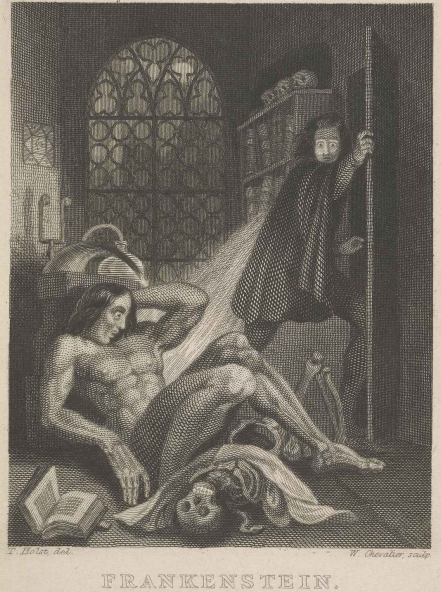
## Electrifying bodies on stage:

### Early depictions and performances of the Creature

Frontispiece of  
1831 *Frankenstein*:



Above: Richard Brinsley Sheridan as the Creature in an 1823 stage production: London's Covent Garden Theatre



## Electrified books: *Frankenstein* as hypertext experiment



**SCALE MODEL FRANKENSTEIN MONSTER**

**ALL PLASTIC ASSEMBLY KIT**

**PERFECTLY SCALED!**

YOU ASKED FOR IT—AND HERE IT IS: A COMPLETE KIT of molded styrene plastic to assemble the world's most FAMOUS MONSTER—Frankenstein! A total of 25 separate pieces go into the making of this exciting, perfectly-scaled model kit by Aurora, quality manufacturer of scale model hobby sets. The FRANKENSTEIN MONSTER stands over 12-inches when assembled. You paint it yourself with quick-dry enamel, and when finished the menacing figure of the great monster appears to walk right off the GRAVESTONE base that is part of the kit.

**ONLY \$1.00**  
plus 35c postage & handling

**12 inches TALL**

CAPTAIN CO., Dept. MO-20  
Box 6573, Philadelphia 38, Pa.

# E MODEL FRANKENSTEIN MON

## C ASSEMBLY KIT

IT—AND HERE IT IS: A molded styrene plastic world's most FAMOUS nstein! A total of 25 p into the making of this y-scaled model kit by manufacturer of scale ts. The FRANKENSTEIN over 12-inches when as- it yourself with quick- when finished the monac- great monster appears to e GRAVESTONE base that

**ONLY  
\$1.00**

plus 35c postage & handling

Dept. MO-20  
Philadelphia 38, Pa.

**PERFECTLY  
SCALED!**

**12  
inches  
TALL**


**Toying with the  
bodies of texts**

**Machine-reproducible**

**Can be taken apart  
and re-assembled  
infinitely**

**Amalgamation of  
multiple bodies**



 Like 952 people like this. Be the first of your friends.

## ABOUT US

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E-mail us at thecontentfarm at gmail dot com.

Thank you for your reading.

# How to Create a Frankenstein

Vampires will soon become passé. Zombies are all but played out. And werewolves? Don't make us laugh. Instead, make a mockery of life.

Follow this guide and soon your name will be a curse to your neighbors!

## STEPS

1. **Do not listen to anyone.** Your friends and colleagues are fools. Fools! Don't worry. They will come around after a few have been found with ~~crushed~~ trachea. For now, pay no heed.
2. **Practice your stitchery.** No one fears a Frankenstein with sagging seams. While loose skin can be fed through a sewing machine or serger, you'll want a needle and thread for the most important ~~patchwork~~.

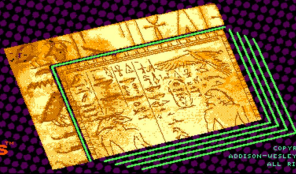


## **HYPERTEXT HANDS-ON!**

**An Introduction to a New Way of  
Organizing and Accessing Information**

**Ben Shneiderman & Greg Kearsley**

**Created  
with  
Hyperties**



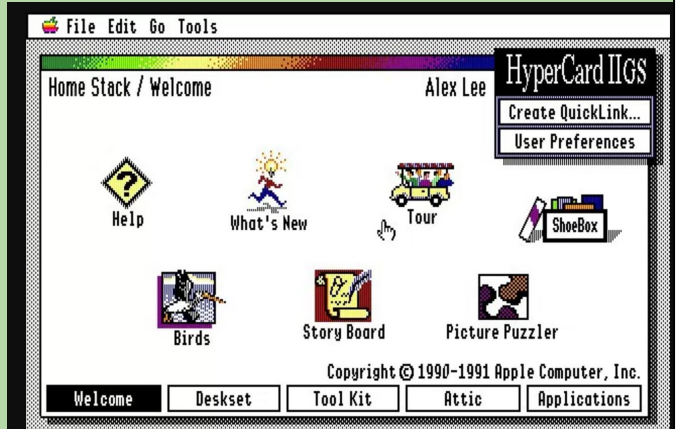
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[Click mouse button to start (or press '?' for instructions)]

## **Hypertext: The dream of the '90s...**

**Accessing and  
developing texts in  
nonlinear ways**

**Multiplying and  
individualizing points of  
access**



## Frankenstein replotted in 90s hypertext novel...

“Hypertext’s next step . . .

# PATCHWORK GIRL

is spectacular in every sense (from Rayban to Debordian to Cirque du Soleil). It is embodied writing in the company of Helene Cixous, Carolyn Guyer, Jeanette Winterson, and its progenitor and co-author (the other Shelley) Mary.

Jackson weaves aspects of the Frankenstein tale, graphic novels, feminist meditation, and pure storytelling into a riveting work of multiple fiction with a fugue-like poetry and an artist’s eye distinctly its (and her) own.

This is a work of dream and desire and defying boundaries, an electronic collage, a theatre of windows, and a cyborg song of communion and reunion.”


— MICHAEL JOYCE —

by **SHELLEY JACKSON**

For Macintosh or Windows, \$19.95

ISBN 1-884511-23-6

A self-described “student of the art of digression,” Shelley Jackson holds an AB in studio art from Stanford University and an MFA in creative writing from Brown University. Her work has appeared in *Degenerative Prose* and various journals, including *Conjunctions*. She has written and illustrated a children’s book, *The Old Woman and the Wave*, to be published by Orchard Books.



Experiments with Frankenstein subplot: what if Victor had created the Female Creature he'd promised? Experimental nonlinear navigation...hundreds of hypercards...plot your own course

# PA EE collation experiment in hypertext, ~ 1994

## *Frankenstein; or, the Modern Prometheus*

By [Mary Wollstonecraft Shelley](#)

<a href="#">Table of Chapters</a>	<a href="#">Table of Frames</a>
<a href="#">Contents</a>	<a href="#">Critical Commentary</a>
<p><b>Master Index</b></p> <p><a href="#">Biographies</a> <a href="#">Characters</a> <a href="#">Chronology</a> <a href="#">Contexts</a> <a href="#">Critical Commentary</a> <a href="#">Illustrations</a> <a href="#">Geography</a> <a href="#">Maps</a> <a href="#">Works Included in this Edition</a></p>	



# PA EE: Collation in tiny html pieces within frames

1818



Chapter



Contents Index



Frame



1831

When I was about fifteen years old, we had retired to our house near Belrive, when we witnessed a most violent and terrible thunder-storm. It advanced from behind the mountains of Jura; and the thunder burst at once with frightful loudness from various quarters of the heavens. I remained, while the storm lasted, watching its progress with curiosity and delight. As I stood at the door, on a sudden I beheld a stream of fire issue from an old and beautiful oak, which stood about twenty yards from our house; and so soon as the dazzling light vanished, the oak had disappeared, and nothing remained but a blasted stump. When we visited it the next morning, we found the tree shattered in a singular manner. It was not splintered by the shock, but entirely reduced to thin ribbands of wood. I never beheld anything so utterly destroyed.

The catastrophe of this tree excited my extreme astonishment; and I eagerly inquired of my father the nature and origin of thunder and lightning. He replied, "Electricity;" describing at the same time the various effects of that power. He constructed a small electrical machine, and exhibited a few experiments; he made also a kite, with a wire

When I was about fifteen years old, we had retired to our house near Belrive, when we witnessed a most violent and terrible thunder-storm. It advanced from behind the mountains of Jura; and the thunder burst at once with frightful loudness from various quarters of the heavens. I remained, while the storm lasted, watching its progress with curiosity and delight. As I stood at the door, on a sudden I beheld a stream of fire issue from an old and beautiful oak, which stood about twenty yards from our house; and so soon as the dazzling light vanished, the oak had disappeared, and nothing remained but a blasted stump. When we visited it the next morning, we found the tree shattered in a singular manner. It was not splintered by the shock, but entirely reduced to thin ribands of wood. I never beheld anything so utterly destroyed.

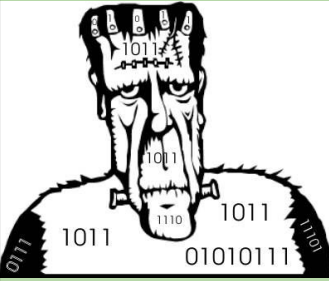
Before this I was not unacquainted with the more obvious laws of electricity. On this occasion a man of great research in natural philosophy was with us, and, excited by this catastrophe, he entered on the explanation of a theory which he had formed on the subject of electricity and galvanism, which was at once new and astonishing to me. All

When I was about fifteen years old, we had retired to our house near Belrive, when we witnessed a most violent and terrible thunder-storm. It advanced from behind the mountains of Jura; and the thunder burst at once with frightful loudness from various quarters of the heavens. I remained, while the storm lasted, watching its progress with curiosity and delight. As I stood at the door, on a sudden I beheld a stream of fire issue from an old and beautiful oak, which stood about twenty yards from our house; and so soon as the dazzling light vanished, the oak had disappeared, and nothing remained but a blasted stump. When we visited it the next morning, we found the tree shattered in a singular manner. It was not splintered by the shock, but entirely reduced to thin **[ribbands]** <ribands> of wood. I never beheld anything so utterly destroyed.

**[The catastrophe of this tree excited my extreme astonishment; and I eagerly inquired of my father the nature and origin of thunder and lightning. He replied, "Electricity;" describing at the same time the various effects of that power. He constructed a small electrical machine, and exhibited a few experiments; he made also a kite, with a wire and string, which drew down that fluid from the clouds.**

**This last stroke completed the overthrow of Cornelius Agrippa, Albertus Magnus, and Paracelsus, who had so long reigned the lords of my imagination. But by some fatality I did not feel inclined to commence the study of any modern system; and this disinclination was influenced by the following circumstance.]**





# Digital Bodies to Stitch Together

**1818 + 1831** editions: [PA Electronic Edition](#) (~mid 1990s: web 1.0)

**1823** edition: corrected OCR (new digitization)

**Draft Notebooks** (~1816+):  
[Shelley-Godwin Archive](#) XML

# **It's alive....! Bicentennial Revival 1818-2018**

*Motivating questions:*

- Can we make an edition that conveniently compares the ms to the print publications?
- Can we make a better edition to show changes to the novel over time, from 1816 to 1831?
  - How many hands? (Mary, Percy, Godwin)
  - How many volumes? (3, 2, 1...)
  - How many versions? Did we ever look at that 1823 edition?

## Generations of Building by Breaking...

**Mid 1990s:** Assembly of *PA-EE*: manual chunking for parallel view, akin to hypertext novel

**2007:** *Romantic Circles* compromised assembly of 1818 and 1831 PA EE

**Dec. 2016:** PA EE: hundreds of parts...compiled into 3 plain text files

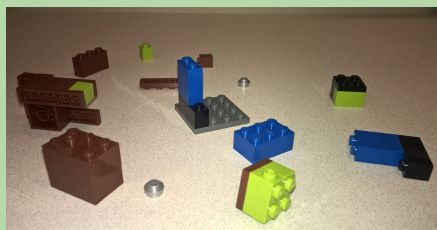
**Feb. 2017:** Pittsburgh Bicentennial Project begins: OCR of 1823 ed. completed at CMU

**May 2017:** 3 print editions prepped in XML: broken into 33 collation units across 3 print editions -> 99 pieces of Frankenstein to collate!

**Summer - Fall 2017:** Hundreds of small XML + HTML files output from pages of SGA Notebooks. Working on simplifying the diplomatic edition code to collate with simpler print editions

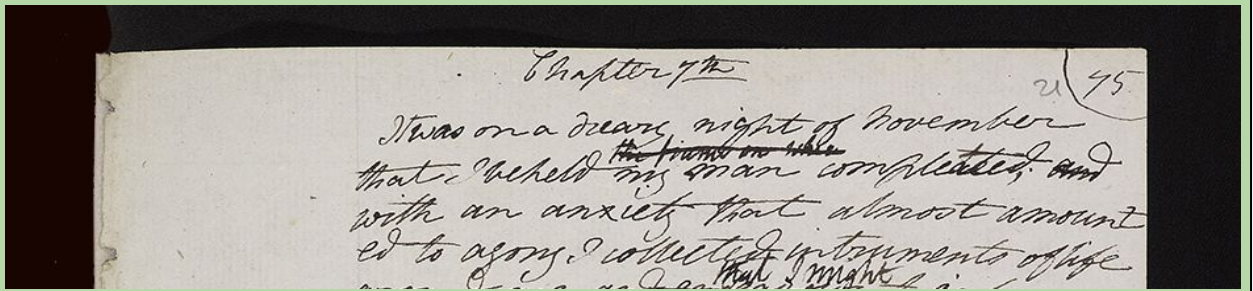
## Our strategy: Bodies built strong enough to break

1. small pieces optimal for collation
2. no single "complete" edition
3. Each output (plain text, XML, TEI collation) = **viable edition on its own**
  - Diplomatic + critical
  - Digital texts:  
Clean "plain" texts, XML with metadata, unified TEI from collation



## Our project with S-GA: genetically editing the text-bodies of Frankenstein

- Collated bodies to build a dynamic website
  - Read any of the three printed editions, with visual indicators of where variants are located
  - Variants from the manuscript link to page in S-GA and the pointer can be used to highlight the text area
  - Relevant text from the manuscripts can be embedded and shown in the edition, complete with authorial revisions, when present.





## Collation "stitchery"

fMSc56	f1818	f1823	f1831
--------	-------	-------	-------

- Can be done by hand
- Automated: via **CollateX**
  - Algorithms for locating union and "delta" points in streams of text
  - Inputs in a variety of formats (XML/TEI, plain text, JSON)
- Output / Visualization options:
  - Text table (here)
  - JuxtaCommons on the web
  - Develop a custom web interface

-	CHAPTER	CHAPTER	CHAPTER
-	IV.	IV.	V.
<surface> <graphic>	</head> <p>	</head> <p>	</head> <p>
</graphic><lb><mile stone spanTo="#c56-0 045.04" unit="tel;he ad"/>Chapter 7<hi rend="sup"><hi rend= "underline">th</hi>< /hi><anchor xml:id="c56-0045.04"/><miles tone unit="tel;p"/>< lb/>It	I<hi rend="smallcaps >T</hi>	I<hi rend="smallcaps >T</hi>	I<hi rend="smallcaps >T</hi>
was on a dreary night of	was on a dreary night of	was on a dreary night of	was on a dreary night of
November	November,	November,	November,
<lb>that I beheld <del rend="strikethr ough"><add hand="#pbs" place="s uperlinear">the	that I beheld the	that I beheld the	that I beheld the
frame on whic<add></del>	accomplishment of	accomplishment of	accomplishment of
my	my	my	my
man comple<add place ="intralinear">te</a dd><add>ed</add><add hand="#pbs" place="i ntralinear">,</add>. <del rend="strikethr ough">And</del><lb/> with	toils. With	toils. With	toils. With
an anxiety that almost	an anxiety that almost	an anxiety that almost	an anxiety that almost
amount <lb/>ed	amounted	amounted	amounted
to	to	to	to

infinite pain  
to form. His hair  
beautiful and I had seen  
~~handsome handsome~~. His  
yellow skin over  
muscles and a  
lustrous black <sup>4</sup>  
was flowing an  
rep but these  
formed a mo  
his watery eyes

His limbs were in proportion	His limbs were in proportion,	His limbs were in proportion,	His limbs were in proportion,
<lb>and I had selected his features	and I had selected his features	and I had selected his features	and I had selected his features
<del rend="strikethrough">h</del>	-	-	-
as	as	as	as
<lb><del rend="strikethrough">handsome</del><anchor xml:id="c56-0045.01"><lb><add><del rend="strikethrough">handsome</del><add hand="#pbs" place="superlinear">beautiful</add></add><del rend="strikethrough">handsome</del><add hand="#pbs" place="superlinear">Beautiful</add></add>, Great	beautiful. Beautiful!-Great	beautiful. Beautiful!-Great	beautiful. Beautiful!-Great
God! His	God! His	God! His	God! His
<lb><del rend="strikethrough">dun</del><anchor xml:id="c56-0045.02"><lb><add>yellow</add>	yellow	yellow	yellow
skin scarcely covered the work of <lb>-muscles and arteries beneath; his hair	skin scarcely covered the work of muscles and arteries beneath; his hair	skin scarcely covered the work of muscles and arteries beneath; his hair	skin scarcely covered the work of muscles and arteries beneath; his hair
<lb><was<add place="sublinear"><metamark function="displacement">xml:id="c56-0045.03">~</metamark><lb><add hand="#pbs">of	was of	was of	was of
a lustrous	a lustrous	a lustrous	a lustrous
black &<add><add>flowing	black,	black,	black,
and	and	and	and
- flowing;	flowing;	flowing;	flowing;

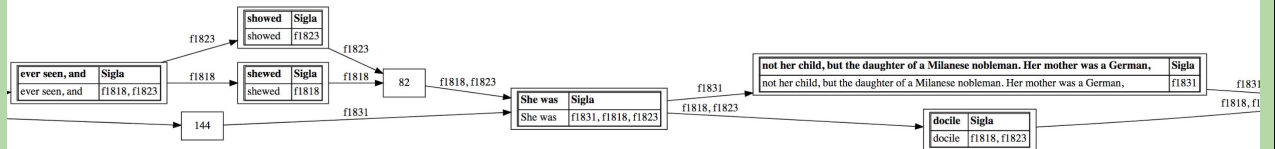
# Our collation stitchery in progress on GitHub:

The GitHub Repo: [https://github.com/ebeshero/Pittsburgh\\_Frankenstein/](https://github.com/ebeshero/Pittsburgh_Frankenstein/)

- **Text\_Processing branch** holds latest experimental commits
- Today's collation of Text Tables: 24 October, 2017



## CollateX SVG output: Deltas and Convergences





# "Genetic Text" Source Code:

Collated XML output: one file, combining multiple witnesses

a blasted stump. When we visited it the next morning, we found the tree shattered in a singular manner. It was not splintered by the shock, but entirely reduced to thin `<app><rdg wit="#f1818">ribbands </rdg><rdg wit="#f1823 #f1831">ribands </rdg></app>`of wood. I never beheld `<app><rdg wit="#f1818 #f1823">any thing </rdg><rdg wit="#f1831">anything </rdg></app>`so utterly destroyed. `<lt;/p>> <lt;p>> <app><rdg wit="#f1818 #f1823">The catastrophe of this tree </rdg><rdg wit="#f1831">Before this I was not unacquainted with the more obvious laws of electricity. On this occasion a man of great research in natural philosophy was with us, and, </rdg></app>`excited `<app><rdg wit="#f1818 #f1823">my extreme astonishment; and I eagerly inquired of my father the nature and origin of thunder and lightning. He replied, "Electricity;" describing at the same time the various effects of that power. He constructed a small electrical machine, and exhibited a few experiments; he made also a kite, with a wire and string, which drew down that fluid from the clouds. <lt;/p>> <lt;p>>`This last stroke completed the overthrow of `</rdg><rdg wit="#f1831">by this catastrophe, he entered on the explanation of a theory which he had formed on the subject of electricity and galvanism, which was at once new and astonishing to me. All that he said threw greatly into the shade </rdg></app>`Cornelius Agrippa, Albertus Magnus, and Paracelsus, `<app><rdg wit="#f1818 #f1823">who had so long reigned </rdg></app>`the lords of my `<app><rdg wit="#f1818 #f1823">imagination. But </rdg><rdg wit="#f1831">imagination; but </rdg></app>`by some fatality `<app><rdg wit="#f1818 #f1823">I did not feel inclined to commence the study of any modern system; and this disinclination was influenced by the following`