

Nationalist Science and
International Academic Travel in
Early-Nineteenth-Century America:
Geological Surveys and Global Economics,
1800-1840

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Henry Darwin Rogers (1808-1866)

Leader of state geological surveys in Pennsylvania, New Jersey, and Virginia

Source:<http://libraries.mit.edu/archives/exhibits/wbr-visionary/index.html>

The Rogers Brothers



Robert Empie Rogers James Blythe Rogers Henry Darwin Rogers

**Robert Empie
Rogers**

**James Blythe
Rogers**

**Henry Darwin
Rogers**

**William Barton
Rogers**

http://images.google.com/imgres?imgurl=http://libraries.mit.edu/archives/exhibits/wbr-visionary/img/brothers.jpg&imgrefurl=http://libraries.mit.edu/archives/exhibits/wbr-visionary/brothers.html&h=484&w=750&sz=104&hl=en&start=1&tbnid=IUzrYK_rKt7M:&tbnh=91&tbnw=141&prev=/images%3Fq%3Dhenry%2Bdarwin%2Brogers%2Bjames%26gbv%3D2%26svnum%3D10%26hl%3Den

<http://images.google.com/imgres?imgurl=http://www.wm.edu/chemistry/images/history4.jpg&imgrefurl=http://www.wm.edu/chemistry/history.php&h=189&w=150&sz=48&hl=en&start=10&tbnid=vubocuxVgqQ7ZM:&tbnh=103&tbnw=82&prev=/images%3Fq%3Dwilliam%2Bbarton%2Brogers%26gbv%3D2%26svnum%3D10%26hl%3Den>



Sir Henry De la Beche

(1796-1855)

Director, British Geological Survey; India, Australia, New Zealand, southern China, southern Africa

Source:<http://www.scienceandsociety.co.uk/results.asp?image=10400332&wwwflag=&imagepos=1>



Benjamin Silliman

(1779-1864)

Yale University

www.geology.yale.edu/journals/silliman.jpg



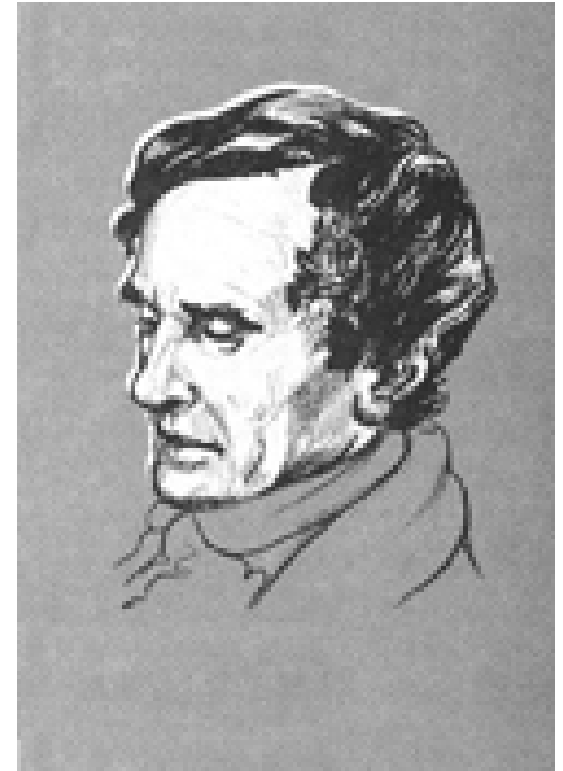
Amos Eaton
(1776-1842)

Williams College



Edward Hitchcock
(1793-1864)

Amherst College



Lardner Vanuxem
(1792-1848)

Columbia College
(South Carolina)

www.williams.edu/Geoscience/Images/Amos_Eaton.jpg www.bio.umass.edu/misc_images/hitchcock.jpg
<http://images.google.com/imgres?imgurl=http://www.mcz.harvard.edu/Departments/InvertPaleo/Trenton/Intro/GeologyPage/castofgeologists/lardnervanuxem123w.jpg&imgrefurl=http://www.mcz.harvard.edu/Departments/InvertPaleo/Trenton/Intro/GeologyPage/castofgeologists/sewardsurvey.htm&h=176&w=123&sz=19&hl=en&start=3&tbnid=XfnDdzxgxs5nIM:&tbnh=100&tbnw=70&prev=/images%3Fq%3D%2522lardner%2Bvanuxem%2522%26gbv%3D2%26ndsp%3D20%26svnum%3D10%26hl%3Den%26sa%3DN>



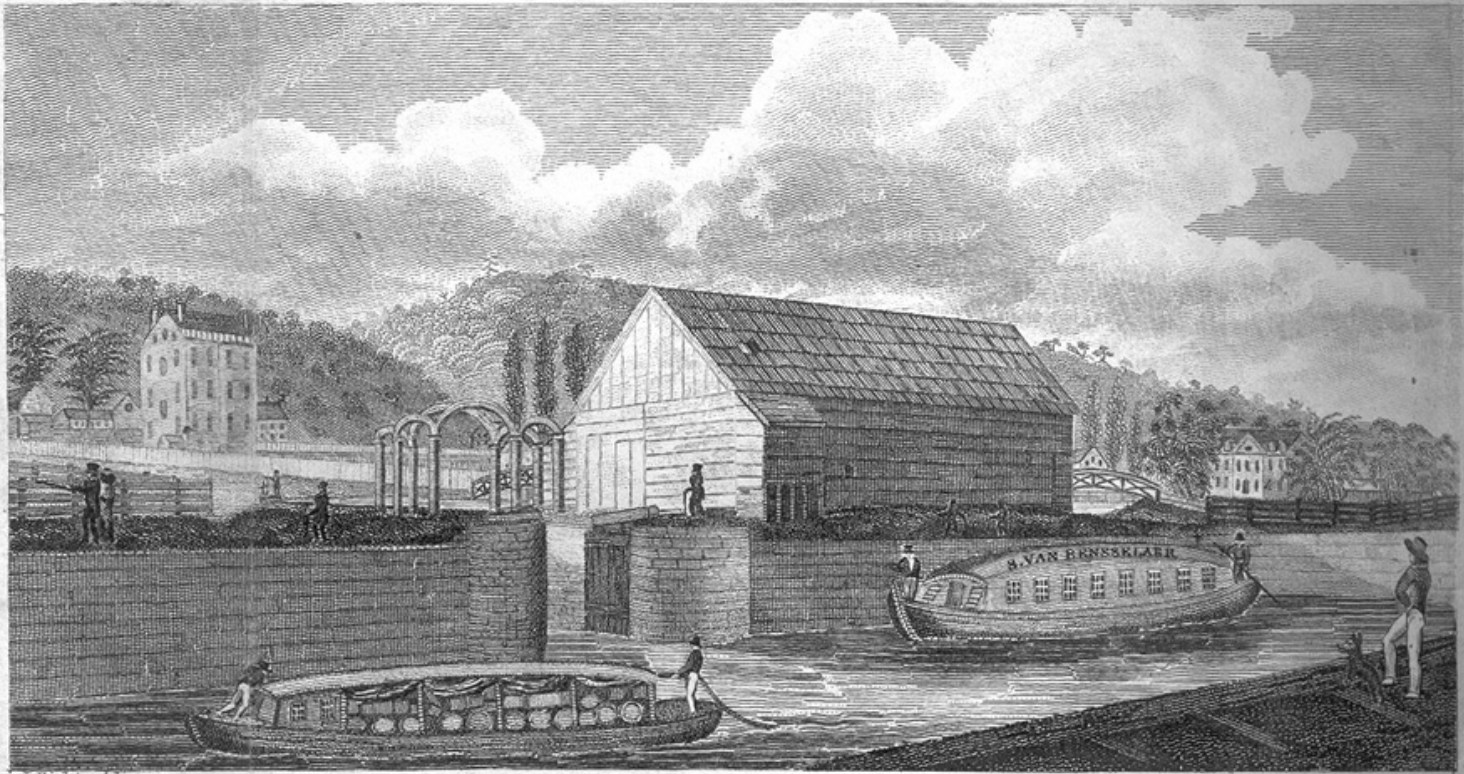
H. Inman del.

Peter Maverick sc.

TRAVELLING on the ERIE CANAL.

“Travelling on the Erie Canal” by H. Inman in *The Northern Traveller and Northern Tour* (1831). Owner: The Farmer's Museum, Cooperstown, NY.

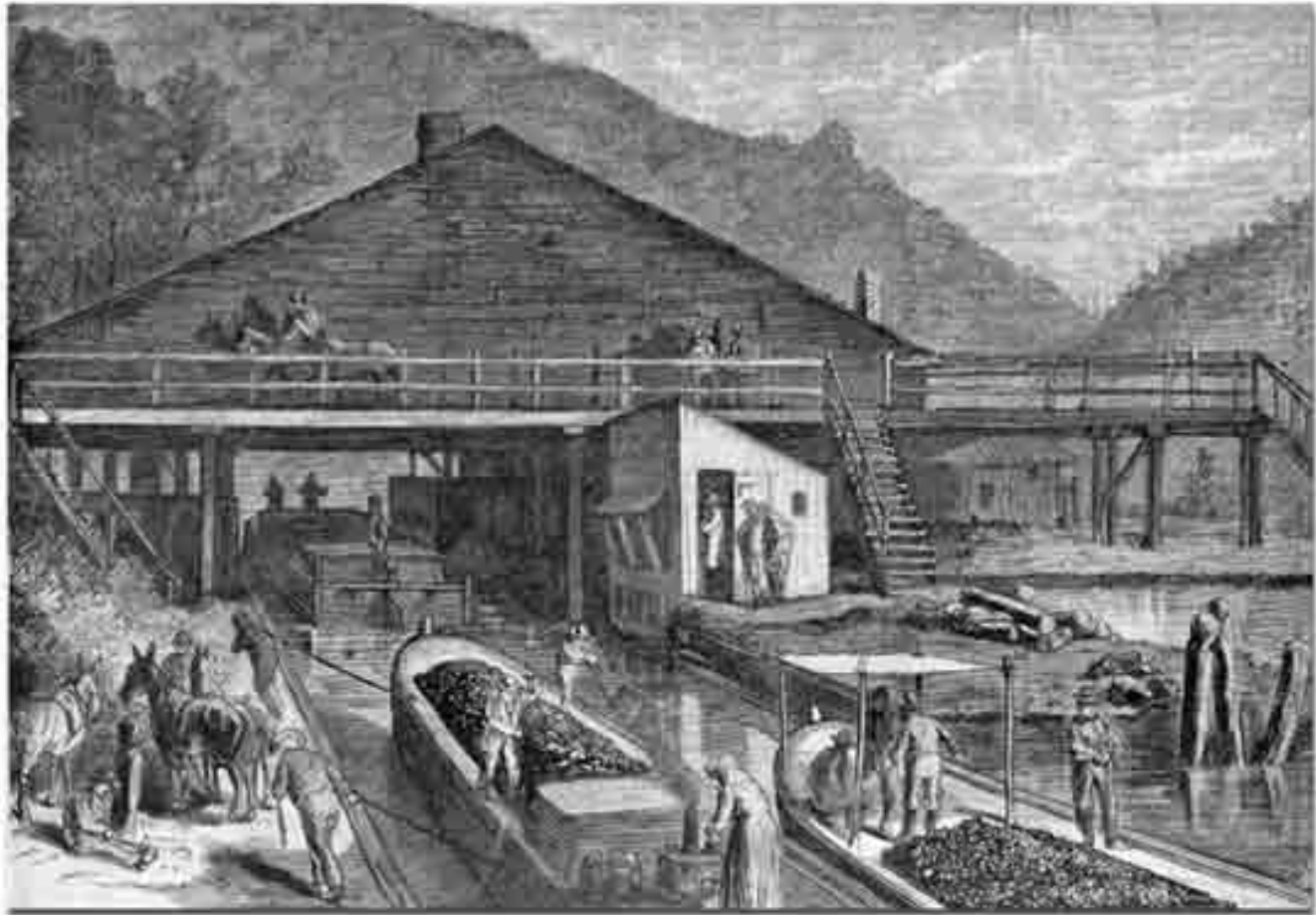
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ENTRANCE OF THE CANAL INTO THE HUDSON AT ALBANY

Entrance of the Erie Canal into the Hudson River at Albany, New York, 1823

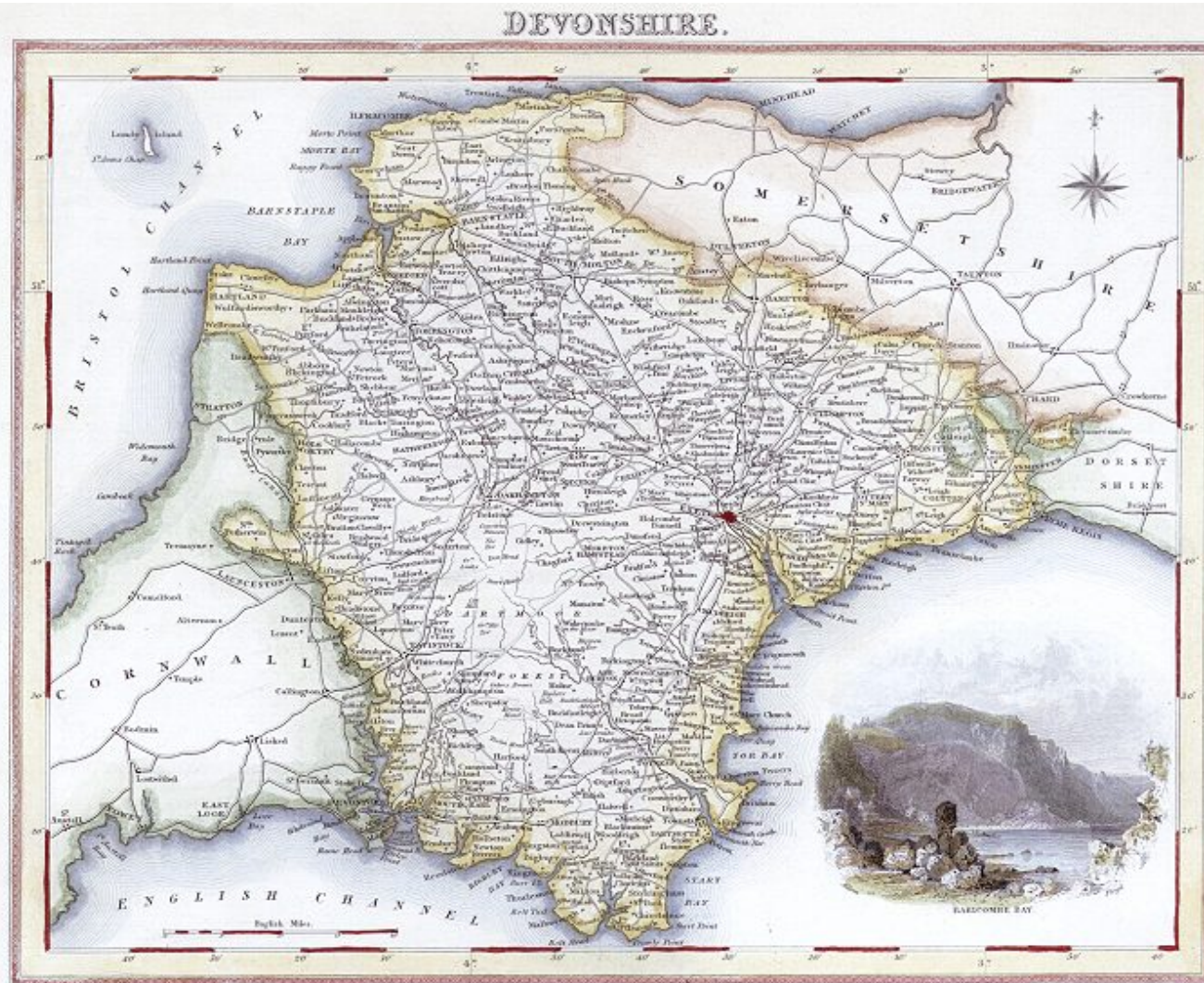
<http://images.google.com/imgres?imgurl=http://www.eriecanal.org/images/general-1/Eights-Entrance.jpg&imgrefurl=http://www.eriecanal.org/general-1.html&h=576&w=966&sz=286&hl=en&start=32&tbnid=LzPThzAb9yw4gM:&tbnh=88&tbnw=148&prev=/images%3Fq%3Drensseleer%2Bschool%2Bflotilla%26start%3D20%26gbv%3D2%26ndsp%3D20%26svnum%3D10%26hl%3Den%26sa%3DN>



Canal boats, full of coal, passing through a lock on the Lehigh Canal, c. 1830

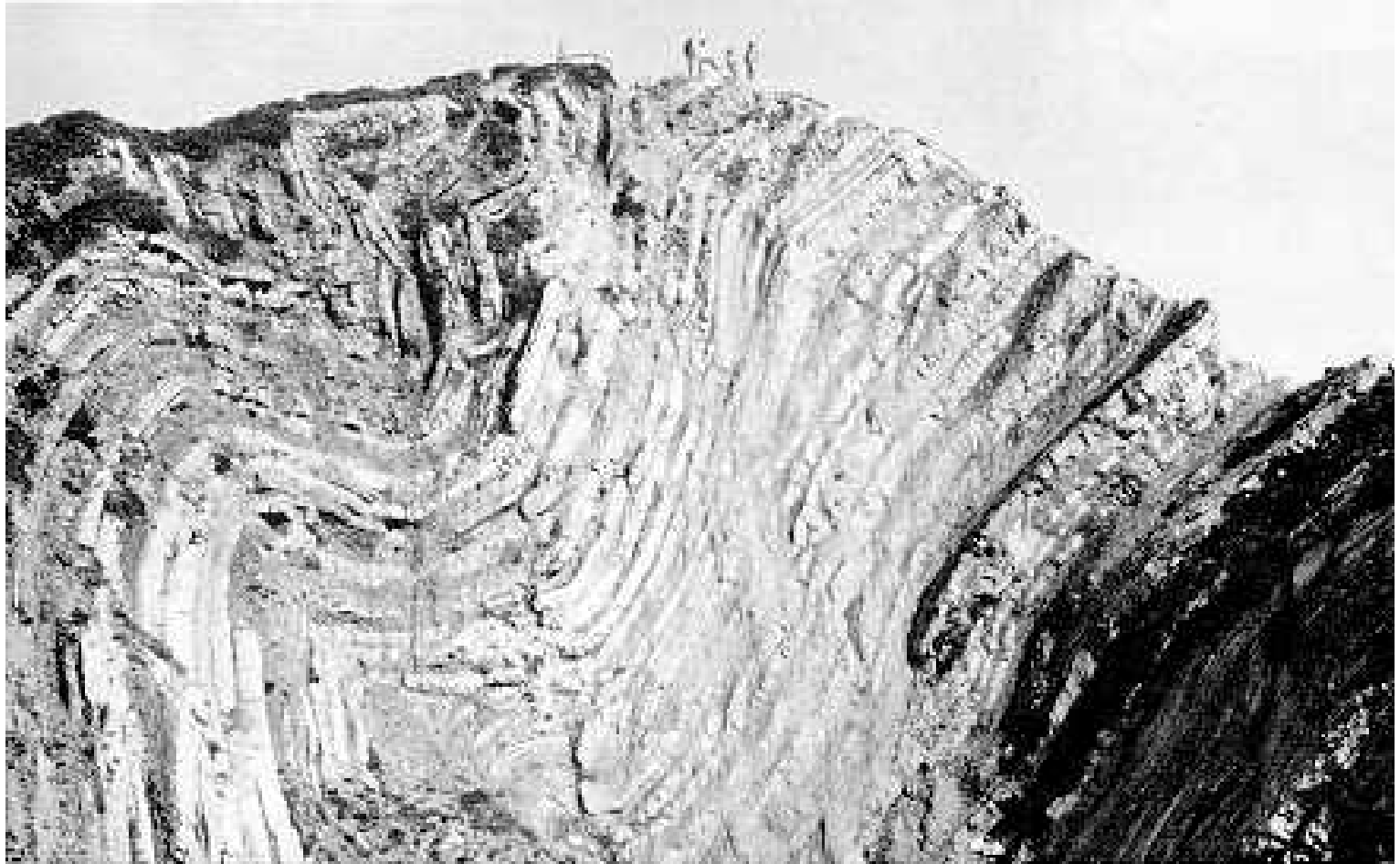
Undated etching. Courtesy of Pennsylvania Canal Society Collection, Canal Museum, Easton, Pennsylvania

<http://www.explorepahistory.com/displayimage.php?imgId=1527>



Map of Devonshire (1832)

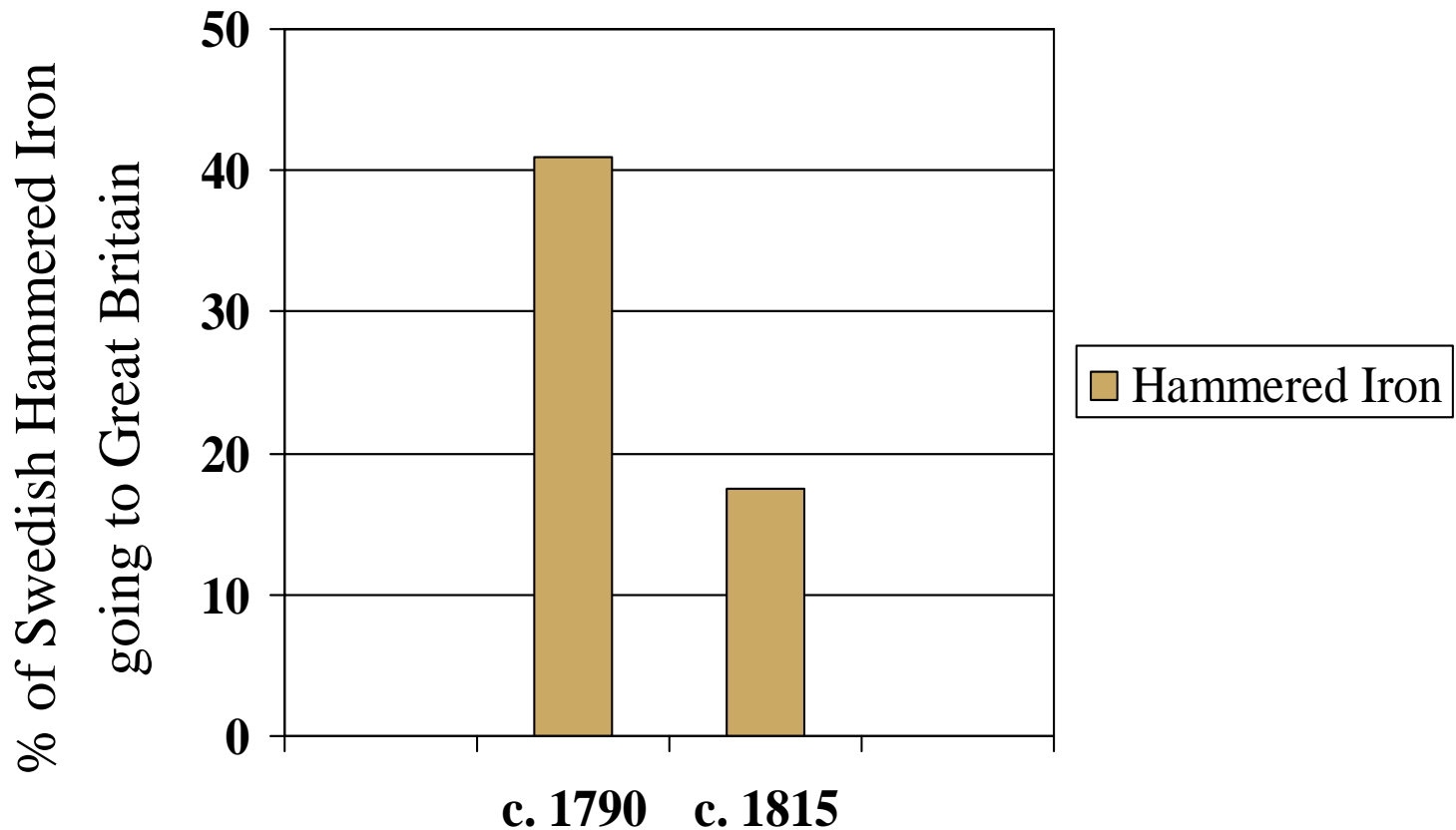
http://freepages.genealogy.rootsweb.com/~genmaps/genfiles/COU_files/ENG/DEV/walker_dev_1832.html



Geological features in southern England similar to those Rogers and De la Beche investigated.

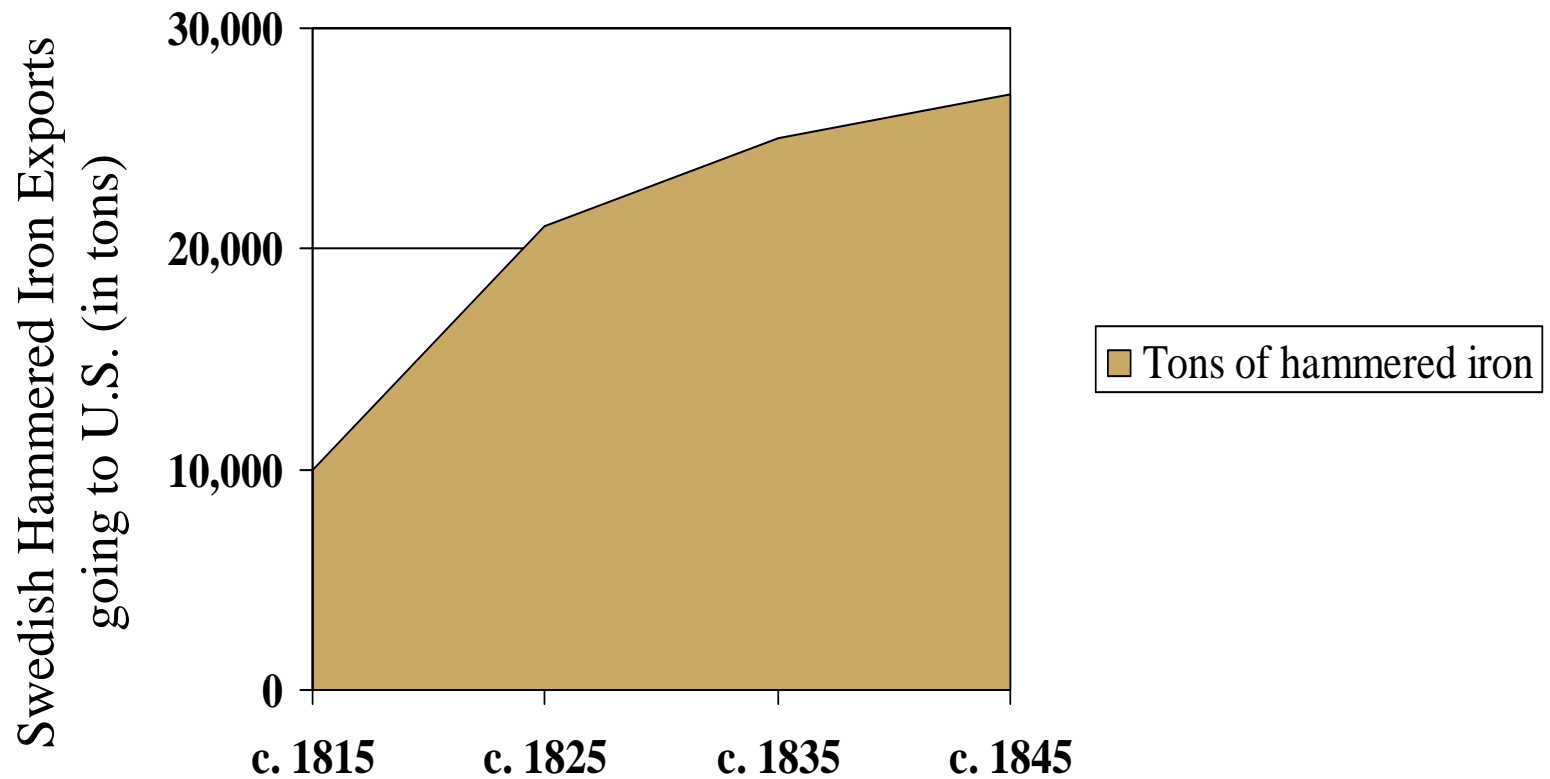
<http://images.google.com/imgres?imgurl=http://www.grisda.org/origins/images/0903301.jpg&imgrefurl=http://www.grisda.org/origins/09028.htm&h=296&w=442&sz=31&hl=en&start=9&tbnid=RzJnxDHejfif0M:&tbnh=85&tbnw=127&prev=/images%3Fq%3D%2522devonian%2Bsystem%2522%2Bbeche%26gbv%3D2%26svnum%3D10%26hl%3Den>

Percentage of Swedish Hammered-Iron Exports going to Great Britain (c. 1790-1815)



Source: E.F. Söderlund, "The Impact of the British Industrial Revolution on the Swedish Iron Industry" in L.S. Pressnell, ed., *Studies in the Industrial Revolution* (1960), 52-65, reprinted in R.A. Church, ed. *The Coal and Iron Industries* (Oxford, England, 1994), 58.

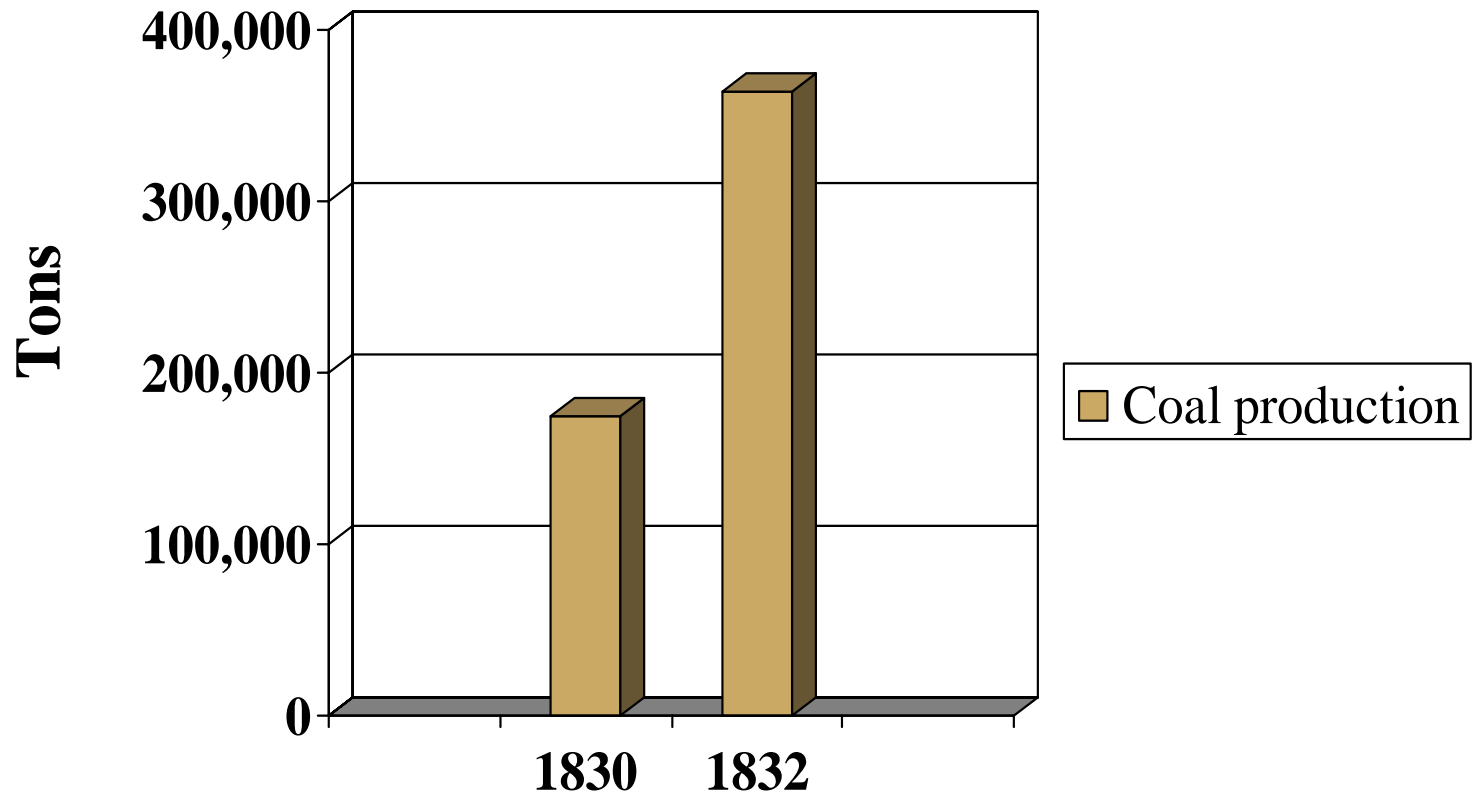
Total Swedish Hammered-Iron Exports going to the United States (c. 1815-1845)



Source: E.F. Söderlund, "The Impact of the British Industrial Revolution on the Swedish Iron Industry" in L.S. Pressnell, ed., *Studies in the Industrial Revolution* (1960), 52-65, reprinted in R.A. Church, ed. *The Coal and Iron Industries* (Oxford, England, 1994), 58.

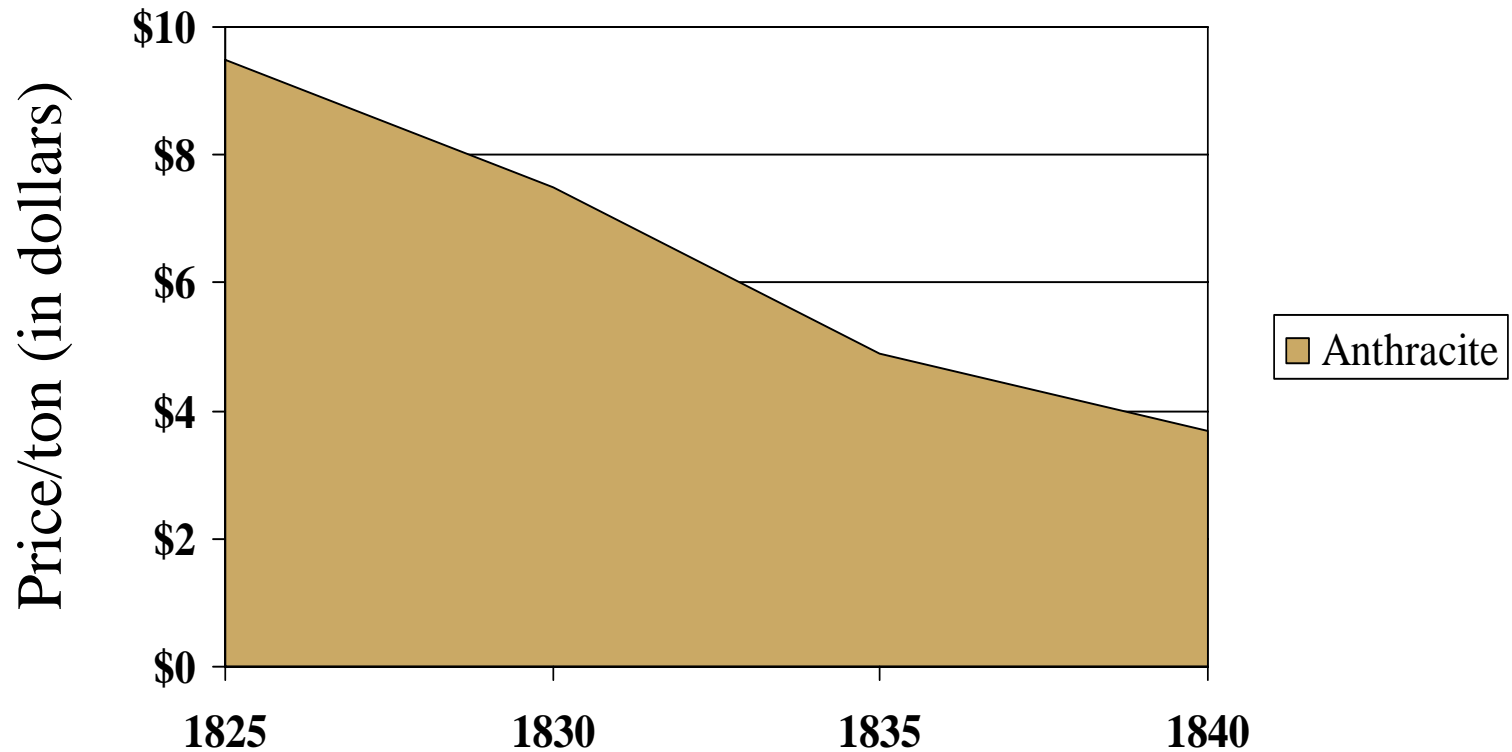
Coal Production in the United States, 1830-1832

(108% increase in three years)



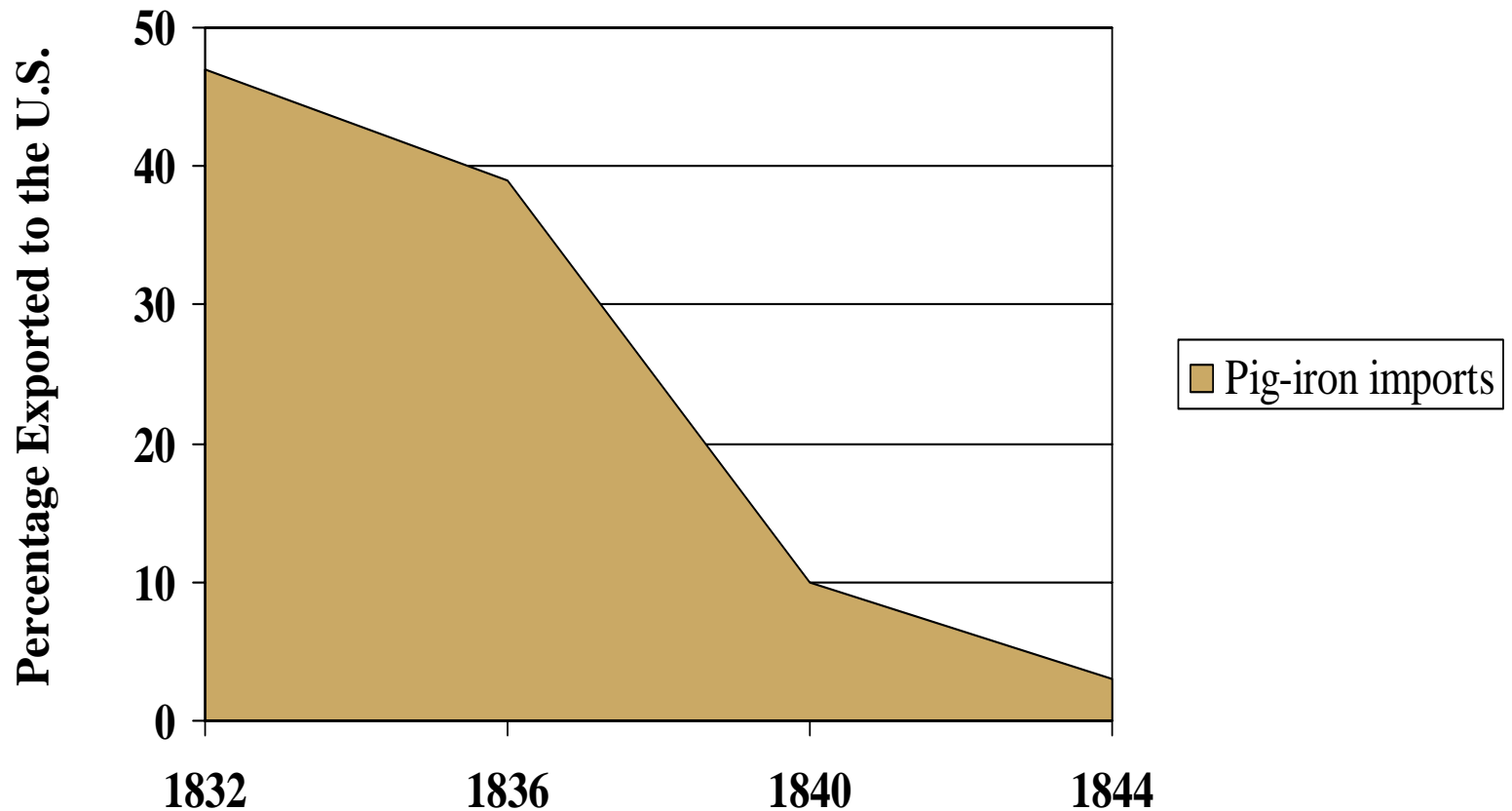
Source: Alfred D. Chandler, Jr., "Anthracite Coal and the Beginnings of the Industrial Revolution in the United States," *Business History Review*, 46:2 (Summer 1972), 141-181, reprinted in R.A. Church, ed. *The Coal and Iron Industries* (Oxford, England, 1994), 395-435

Price of Anthracite Coal in Philadelphia, c. 1825-1840

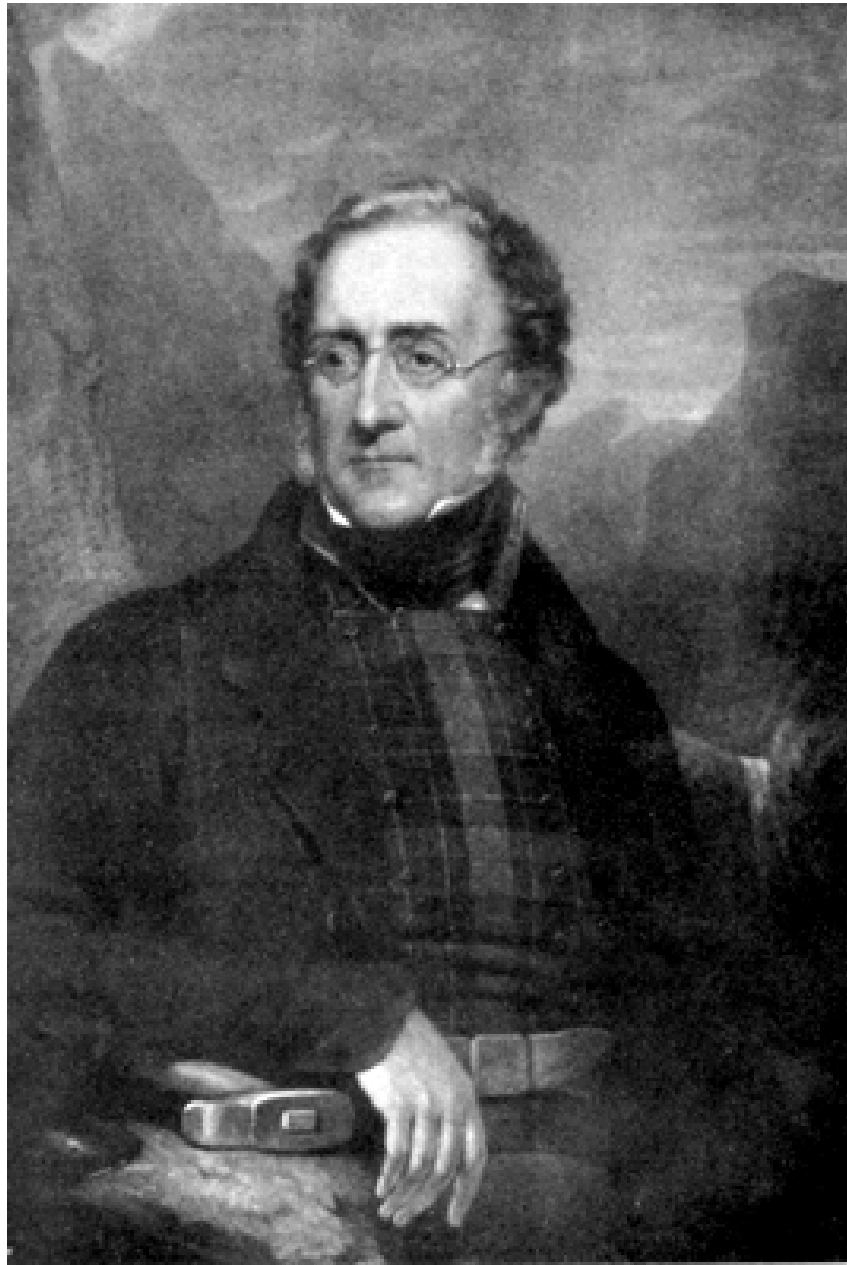


Source: Alfred D. Chandler, Jr., "Anthracite Coal and the Beginnings of the Industrial Revolution in the United States," *Business History Review*, 46:2 (Summer 1972), 141-181, reprinted in R.A. Church, ed. *The Coal and Iron Industries* (Oxford, England, 1994), 395-435

Percentage of British Pig-Iron Exported to the United States, 1832-1840



Source: Rainer Fremdling, "Foreign Trade Patterns, Technical Change, Cost, and Productivity in the West European Iron Industries, 1820-1870" in R. Fremdling and P.K. O'Brien, eds., *Productivity in the Economies of Europe* (1983), 154, reprinted in R.A. Church, ed. *The Coal and Iron Industries* (Oxford, England, 1994), 322-344

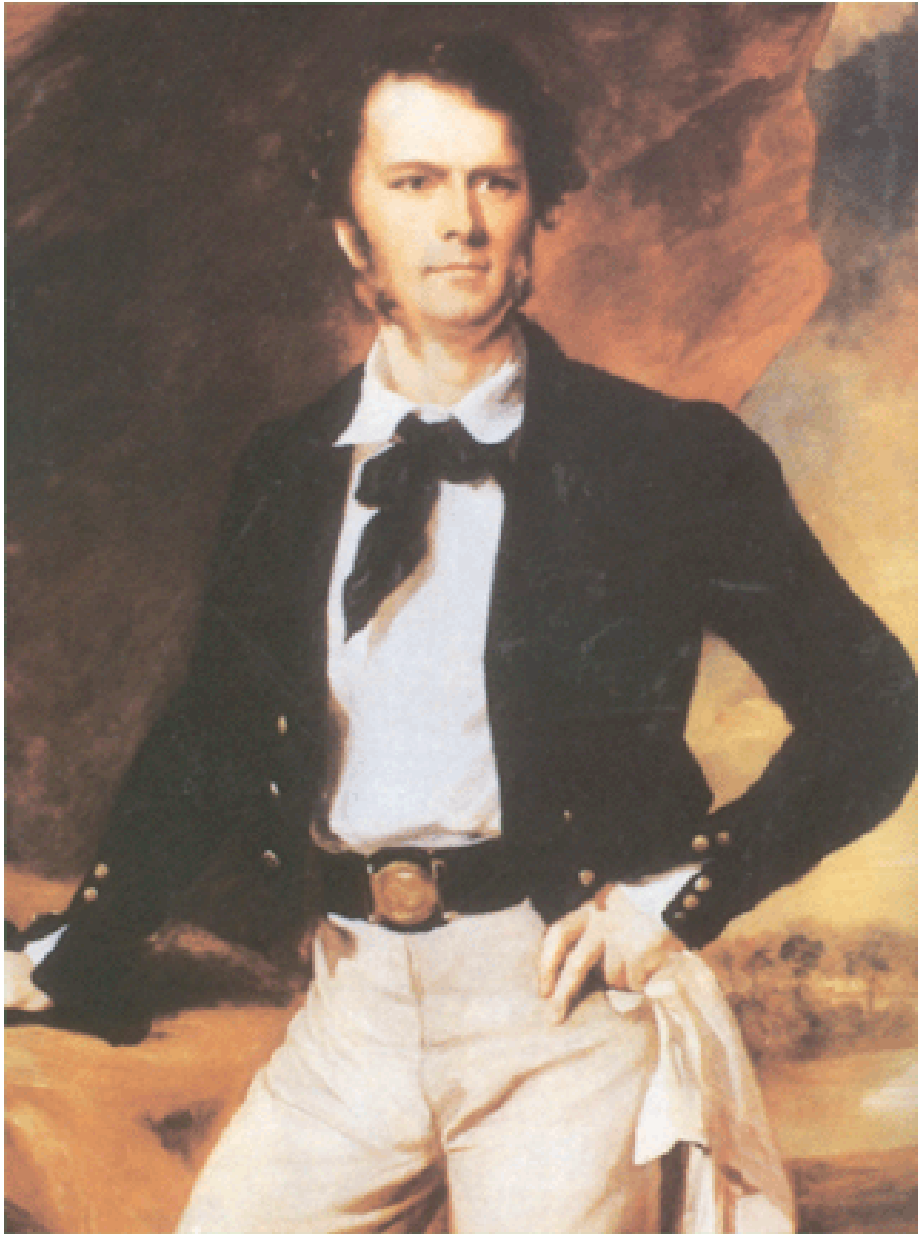


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Source:<http://www.scienceandsociety.co.uk/results.asp?image=10400332&wwwflag=&imagepos=1>



Sir James Brooke

The first “White
Raja of Sarawak”

*Source : Insight Guides
Malaysia: APA Productions
(HK) Ltd 1985 . M925.95*

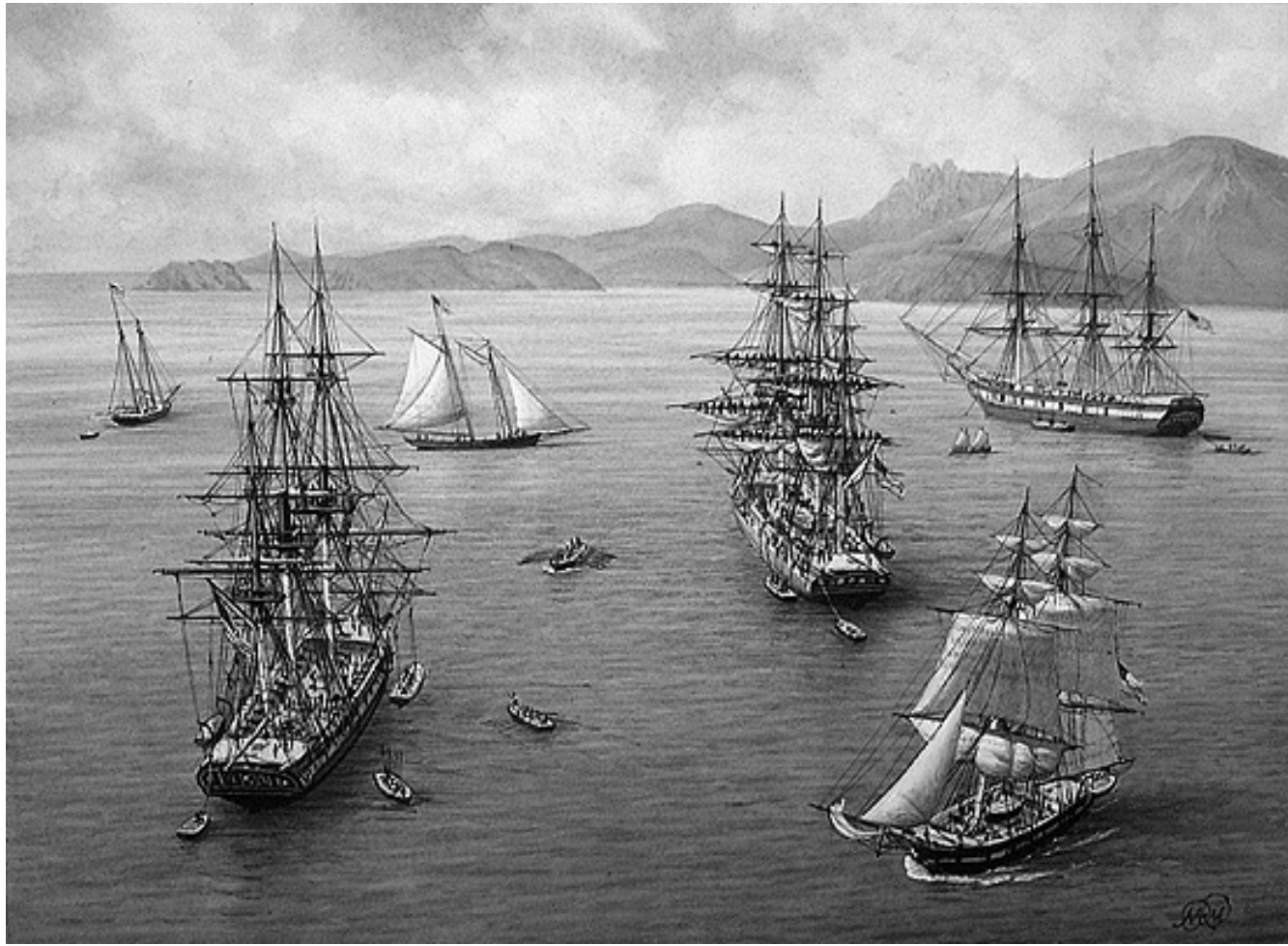
http://sejarahmalaysia.pnm.my/portalBI/pic.php?url_img=904



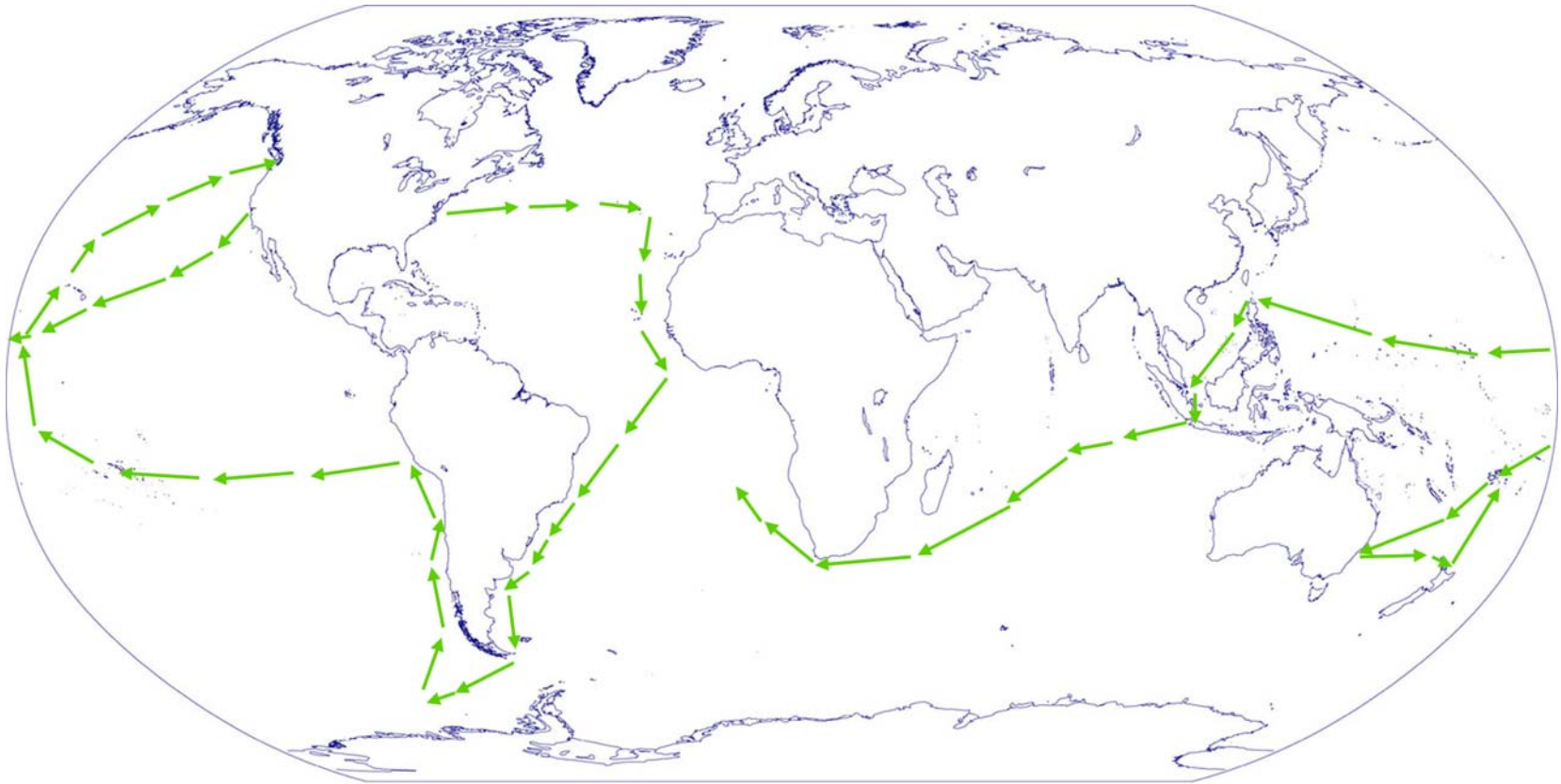


Lt. Charles Wilkes
(1798-1877)

http://images.google.com/imgres?imgurl=http://www.historylink.org/db_images/wlt147.JPG&imgrefurl=http://www.historylink.org/essays/output.cfm%3Ffile_id%3D5226&h=349&w=260&sz=31&hl=en&start=2&tbnid=mOLzNvVJ6rt3JM:&tbnh=120&tbnw=89&prev=/images%3Fq%3Dlt.%2Bcharles%2Bwilkes%26svnum%3D10%26hl%3Den



Sketch by Mark Myers. Six vessels of U.S. Exploring Expedition at Cape Horn, 1839. From left: schooner *Sea Gull*; flagship *Vincennes*; schooner *Flying Fish*; sloop-of-war *Peacock*; brig *Porpoise*; and storeship *Relief*. www.nathanielphilbrick.com/img/glory/us_ex_ex.jpg



Route of the United States Exploring Expedition (Wilkes Expedition), 1838-1842

http://images.google.com/imgres?imgurl=http://erato.acnatsci.org/peale/stories/Geographic_scope_html_4a742ac9.jpg&imgrefurl=http://erato.acnatsci.org/peale/stories/Geographic_scope.html&h=1400&w=2769&sz=381&hl=en&start=3&tbnid=57kVajR-kNBVfM:&tbnh=76&tbnw=150&prev=/images%3Fq%3Dwilkes%2Bexpedition%2B1838%26svnum%3D10%26hl%3Den



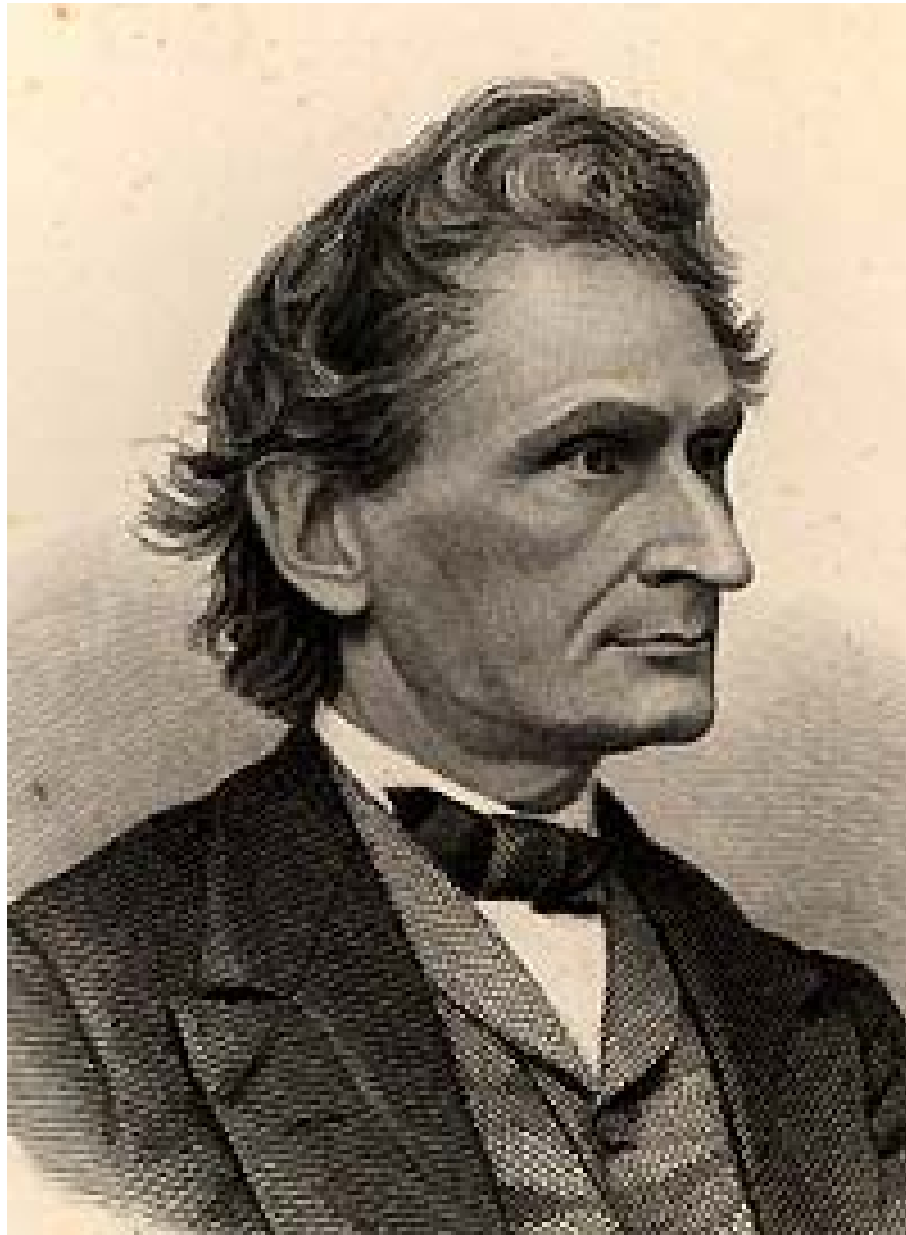
Convict labor imported to Labuan from Hong Kong
to work at the coal mine (1850)

<http://www.labuantourism.com.my/aboutlabuan/history.htm#>



Railway line built to transport coal from Tanjung Kubong mine to sea at Victoria Port (1852)

<http://www.labuantourism.com.my/aboutlabuan/history.htm#>



James Dwight Dana
(1813-1895)

<http://images.google.com/imgres?imgurl=http://www.geology.yale.edu/graduate/pics/dana.jpg&imgrefurl=http://www.geology.yale.edu/graduate/history.html&h=272&w=200&sz=44&hl=en&start=15&tbnid=CXJFpUA6x0zIoM:&tbnh=113&tbnw=83&prev=/images%3Fq%3D%2522james%2Bdwight%2Bdana%2522%26gbv%3D2%26svnum%3D10%26hl%3Den>

