



Research Notes Number 28

Virginia, Discovered and Discribed: John Smith's Map of Virginia and Its Derivatives

Background Information

In 1607 English colonists landed at Jamestown Island with orders from the Virginia Company to mine for gold, search for survivors from the ill-fated Roanoke Colony, and explore the surrounding countryside for two months. Virginia Company investors hoped to find valuable minerals and metals and a short and quick passage to the Pacific Ocean, “the Other Sea.” Settlers never found gold or silver in large quantities, and only half-hearted attempts were made to discover the Roanoke Colony’s final establishment. Certain colonists did sail the Chesapeake Bay and the rivers flowing into it, but they never found the much sought-after water route to the Pacific Ocean. As a result of these explorations, a map of Virginia was produced that identified quite accurately the geographic, topographical, and maritime layout of the Chesapeake Bay, as well as the locations and names of the Native American groups and villages in Virginia’s Tidewater region.¹

Captain John Smith and a small party of colonists spent several weeks exploring and mapping the Chesapeake Bay; its adjacent rivers; and several rivers, coves, and inlets in Virginia’s Tidewater region. He interacted with Powhatan and Susquehanna natives, at times under trying circumstances, and toured the Chesapeake and Nansemond regions. In November 1608, Smith sent several documents to England, including a “Mappe of the bayes and rivers.”² Smith was unable to continue his ventures in Virginia after he suffered severe injuries from a gunpowder explosion. Forced to return to England for medical treatment, Smith left Virginia in September 1609, never to return. Three years later, Smith published his pamphlet, *A Map of Virginia with a Description of the Country, The Commodities, People, Government and Religion*. His map, *Virginia / Discovered and Discribed / Graven by William Hole*, was published to accompany the pamphlet.³ Later issues of the map include the date 1606 in the imprint.

Smith’s *Virginia* was the most accurate and detailed map of the Chesapeake Bay and the Atlantic coastline produced in Europe until 1673. It was the most widely available map of the region and one that mapmakers constantly relied on when drawing their own maps of Virginia. It was the basic

source for virtually all printed maps of Virginia for more than sixty years and is considered to be one of the most significant maps of colonial America ever published. His map “revealed to European geographers of the day, colonial promoters, and prospective settlers a huge inland sea, and dendritic patterns of navigable tributaries. The water routes showed colonists and hopeful English settlers how to move through the Chesapeake region.”⁴ The original map and subsequent states of the map are oriented west and include a scale of leagues and half-leagues, with 15 leagues measuring 68 millimeters on the map (for specific cartographic terms please refer to the glossary at the end of this note). Latitude is given from 36 to 41 degrees north. The map is dominated by the Chesapeake Bay and four major rivers: the Powhatan, Pamunk, Tappahannock, and Patowomec (now the James, York, Rappahannock and Potomac, respectively). One of the map’s unique features is the use of Maltese crosses on each river to delineate the extent of the exploring party’s personal knowledge.⁵ The date noted on Smith’s map, 1606, is the year the London and Plymouth Companies were granted permission to colonize and explore Virginia.

There are two illustrations on the map; one illustrates Powhatan’s lodge and the other shows a very large Susquehanna Indian brave based on John White’s drawing of “We roan or Great Lorde of Virginia,” as published by Theodore de Bry in his collection of voyages (1590).⁶ These illustrations are produced in nearly every copy of the map. Twelve known states of *Virginia* have been identified by alterations and additions to the original copperplate between 1612 and 1624, and it was printed in three contemporary publications: *A Map of Virginia* (1612); Samuel Purchas’s *Pilgrimes* (1625), and in reprints and reissues thereafter; and in Smith’s *The Generall Historie of Virginia* (1624), and in reprints thereafter. The amazing accuracy of John Smith’s map of Virginia made it the prototype map of the Chesapeake Bay until Augustine Herrman’s *Virginia and Maryland As it is Planted and Inhabited this present Year* was published in 1673. The characteristics introduced by Smith—the shape of the Chesapeake Bay, Delmarva Peninsula, and the three peninsulas—were used by contemporary and future cartographers.⁷

Several derivatives exist for the various states of the John Smith map. The most complete bibliography of Smith’s map of Virginia was prepared by Coolie Verner. In addition to identifying the twelve states (or variations) of the map, Verner also identified nine derivatives; that is, maps of different size and decoration that retain the Smith map’s geography and orientation. Those derivatives were drawn, engraved, and published by various cartographers and publishers, beginning in 1618 and continuing into the 1700s. States of these maps also exist.⁸ The Library of Virginia’s Map Collection includes several of these fine examples of seventeenth - century cartographic works. In the Library’s Special Collections, original copies of *Pilgrimes* and Smith’s *The Generall Historie of Virginia* survive, as well as several nineteenth-century publications that include facsimiles. Listed below is the

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Library's collection of states and derivatives of the John Smith map. Except as noted, they are available for patron research in the Map Reading Room. Researchers are required to complete a registration form and present identification and proof of current address in order to use the collection. A stack service slip must be completed in order for researchers to request maps.

Original Smith Maps

State 8

Virginia.

Discovered and Discribed by Captain John Smith. Graven by William Hole. 1606.

Engraved by William Hole

State 8, first appearing in the 1624 edition of Smith's *Historie*

755/1608/1612/ca. 1624

Extensive changes were made on the original plates for this state. Three new names have been added ("Featherstones Ba ye," "Bollers bush," and "Sparkes Poynt"), the words "Page. 41/Smith" have been added in the lower right corner, and the scale cartouche has been re - engraved in spots, such as around the scale bar and the adjacent frame. For more information, please consult Tooley's *The Mapping of America*, p. 155.

State 9, housed in Special Collections

Virginia. Discovered and Discribed by Captayn John Smith. In *Purchas His Pilgrims*, book 9, volume 4.

London: Printed by William Stansby for Henrie Fetherstone, 1625. G159 P98 v. 1-5

This state of *Virginia* was inserted in the ninth book, volume four, of *Purchas His Pilgrims* published in 1625. Changes made to the original plate include the addition of three place names. The area around the scale bar has been re-cut and the initial "A" in Appamatuck has been extended. The brave's face has been touched up, making the eyes and eyebrows more pronounced. For more information please consult Verner's *Smith's Virginia and its Derivatives*, p. 24.

State 10, housed in Special Collections

Virginia. Discovered and Discribed by Captayn John Smith. In John Smith, *The Generall Historie of*

Virginia, New England, and the Summer Isles. London: Printed by I. D. and I. H. for Michael Sparkes,

1624. F229 S62 1624

State 10, *Virginia*, is best identified by alterations made to the Purchas page numbers added in State 7. The page numbers have been corrected to 1690 on the left and 1691 on the right instead of 1692 and 1693, respectively. There is a crease in the paper running to the left of the "a" in Chesapeake. For more information please consult Verner's *Smith's Virginia and its Derivatives* (1968), 25.

First American Reprint

Virginia.

Discovered and Described by Captayn John Smith 1606.

From John Smith, *The True Travels, Adventures, and Observations . . . in Europe, Asia, Africke, and America.*

Richmond: Franklin Press, 1819

755/1608/1612/1819

This is a facsimile of State 10 of Smith's *Virginia* printed from a copperplate, circa 1819. William Hole's name has been omitted from the imprint. This edition was produced by Francis Walker Gilmer and Rev. John Holt Rice, who were both members of the William Wirt Literary Circle in Richmond, Virginia. For additional bibliographic information, please consult Tooley's *The Mapping of America*, p. 157.

Virginia. Discovered and Described by Captayn John Smith. In John Smith, *The True Travels, Adventures and Observations . . . in Europe, Asia, Africke, and America*. 1st American reprint. Richmond: Franklin Press, 1819. Housed in Special Collections, F229 .S65 1819.

The first American reprint of John Smith's two-volume work, *The True Travels, Adventures and Observations . . . in Europe, Asia, Africke, and America* and the *Generall Historie of Virginia, New England, and the Summer Isles* was financed and published in Richmond by Rev. John Holt Rice, who established the *Virginia Literary and Evangelical Magazine*, forerunner of *The Southern Literary Messenger*. Francis Walker Gilmer, an aspiring young lawyer and the grandson of explorer and surveyor Dr. Thomas Walker, of Castle Hill in Albemarle County, initiated the project. In the dedication of the book to the "People of Virginia," the publisher indicates his high regard for John Smith by referring to him as "one of the most accomplished Hero's of the World."

This edition was printed by William W. Gray at the Franklin Press, reputed at the time to be the best printing shop in Virginia. The reproduction contains detailed engravings imitated from the original, including the Smith map of Virginia, and was expensive and technically difficult to produce. The map was copied from State 10, and it appears in volume one of *The True Travels*. It is clearly and carefully done, but noticeably different than the original map, particularly in the shading. The name of William Hole, engraver of the original map, has been omitted.

Copperplate

Virginia.

Discovered and Described by Captayn John Smith 1606.

Richmond, Virginia

1819

A reproduction of Smith's map was published in Richmond, Virginia, in 1819 to accompany an edition of Smith's *Generall Historie*, and it was printed from this engraved plate. The plate was rescued

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in 1867 from the brazier pot by the late Thomas H. Wynne and purchased for the Virginia State Library at the sale of his library in 1875.

Derivatives

Derivative 1, State 2.

Nova Virginiae Tabula.

Ex officina Guljelmi Blaeuw.

Engraved by Dirck Grijp

Published in *Atlantis Appendix*, Willem Blaeu.

Amsterdam

Editions published in 1630 and 1650

755/1618/1630 (Voorhees Collection), text verso: blank

755/1650, text verso: Latin

Jodocus Hondius Jr. (1594 or 1595–1629) engraved the original plate for State 1 of this Smith map derivative and published it as a single sheet, not as part of an atlas. Jodocus died in 1629 and his wife sold a number of his copperplates to Willem Blaeu (1571–1638). Blaeu replaced Hondius's imprint with his own, as shown above, and published *Nova Virginiae Tabula* in his first world atlas, *Atlantis Appendix*. This map is larger than Smith's map and it includes a new title and an explanatory note above the smaller Indian figure. The royal arms lack a motto and the waters are bereft of ships and sea monsters, but the trees are approximately the same size and shape.

Derivative 2

Nova Virginiae Tabula Petrus Kaerius Caelavit.

Engraved by Pieter van den Keere (1571–after 1646)

Published in *Atlas Minor Gerardi Mercatoris*, Johannes Janssonius Jr.

Amsterdam

First published in 1628, this edition was published between 1628 and 1636.

755/1628-1636 (Voorhees Collection)

The map lacks letterpress above the plate and the text verso is blank.

This second derivative of Smith's map, *Virginia*, is from *Atlas Minor Gerardi Mercatoris*, a smaller atlas that was more accessible to the public in size and cost. *Nova Virginiae Tabula* was the first derivative to appear in an atlas and is the only map depicting North America in *Atlas Minor*. The rounded cartouche contains the name of the engraver, Pieter van den Keere. This is the first use of this title based on Smith's map of the Chesapeake Bay.

Derivative 3 *Virginia*.

Erforschet und beschriben durch Capitain Iohan Schmidt.

Engraved by Matheus Merian (1593–1650)

Published in Part 13 of Theodore de Bry's *Grand Voyages, Dreyzehender Theil Americae*

Virginia, Discovered and Discribed: John Smith's Map of Virginia and Its Derivatives

Frankfurt

Published 1627 or later

755/1627 or later (Voorhees Collection)

Based on the 6th state of the John Smith map, this derivative includes images of the Indian figure and Powhatan's lodge from engravings based on John White's drawings that appeared in volume one of de Bry's *Grand Voyages*. Merian was an engraver and publisher in Frankfurt. He was the son-in-law and successor of Theodore de Bry, who died in 1598.

Derivative 4, State 1

Nova Virginiae Tabula.

Miliaria Germanico communia 15 pro uno gradu.

Engraved by Pieter van den Keere

Published in *Gerardi Mercatoris Atlas sive Cosmographicae*, Johannes Cloppenburg Amsterdam

Published in 1630 or 1636

755/1630 or 1636, text verso: French

In 1630 Johannes Cloppenburg first published *Nova Virginiae Tabula* in his atlas, *Atlas sive Cosmographicae*. The map had been engraved by Pieter van den Keere. It is one of four maps relating to North America to appear in Cloppenburg's atlas, and was placed in the appendix. This derivative includes a letterpress title above the neatline, "DESCRIPTION DE LA NOUVELLE VIRGIN. 47," and two poems are printed on the verso.

Derivative 4, State 2

Nova Virginia Tabula.

Miliaria Germanico communia 15 pro uno gradu.

Engraved by Pieter van den Keere

Published in *Gerardi Mercatoris Atlas Sive Cosmographicae* by Jan Jansson van Waesberge or Johannes Cloppenburg

Amsterdam

Published 1673 and later

755/1630/1673 or 1734

First published in Amsterdam in 1630 by Johannes Cloppenburg, this fourth derivative of Smith's map of Virginia was engraved by Pieter van den Keere for the small atlas *Gerardi Mercatoris Atlas sive Cosmographicae*. This derivative is from an oblong plate and the moiré, a rippled effect, used to depict the ocean has been deleted. The reverse side is blank and there is no letterpress title.

Derivative 4, State 3

Nova Virginiae Tabula.

Miliaria Germanica communia uno gradu.

Engraved by Pieter van den Keere

Published in *Atlas Portatif*, Henri du Sauzet

Published 1734 or 1738

755/1630/ca. 1738 Voorhees Collection

755/1738 (1)

Henri du Sauzet obtained several plates from the oblong atlas *Gerardi Mercatoris* and combined them with plates from Sanson's octavo atlases of America, Asia, and Africa in the atlas *Atlas Portatif*. This map is unique in that no text appears on the verso and there is no letterpress title above the top neatline. The plate number "263" has been added within the border in the upper right corner. This map was first published by Johannes Cloppenburg and engraved by Pieter van den Keere.

Derivative 5, State 1

Nova Virginiae Tabula.

Amstelodami, ex officina Henrici Hondii.

Published in *L'Appendice de l'Atlas*, Henry Hondius.

Amsterdam

Published in 1633 or 1635

755/1633 or 1635, text verso: French

This is the Henricus Hondius derivative of the John Smith map, drawn from his brother Jodocus Hondius Jr.'s 1618 version. Upon Jodocus Hondius' death, his wife sold several of his plates to Willem Blaeu. Angry that his brother's plates were sold to his competitor, Henricus Hondius and his partner, Joannes Janssonius, hired engravers to cut several new plates for sale in an atlas to compete with Blaeu's. This map of Virginia was one of the first engraved, and is the only Smith derivative to include an Indian facing the Chesapeake Bay.

Derivative 6, housed in Special Collections

Virginia. Tipped in Gerardus Mercator, *Historia Mundi* or *Mercator's Atlas*. London: Printed by T.

Cotes for Michael Sparke and Samuel Cartwright, 1635. G1007 H67 1635

This is certainly a derivative of the John Smith map, but it represents the "whim of the engraver rather than any concern for geographical accuracy." Ralph Hall engraved *Virginia* for inclusion in the second edition of Wye Saltonstall's English translation of Mercator's famous world atlas. It also

appeared in the 1639 edition and was inserted in some copies of the 1635 edition. Hall decorated his map with a variety of animals and birds, as well as ships, a sea monster, and Indian vignettes from de Bry's engravings of John White's paintings. English hunters appear along the James River shooting at wild game, while American Indians are poised with bows and arrows on the north shore of the Potomac River.

Derivative 7 *Virginia*.

Published in *Atlas Minor*, Johannes Janssonius

Amsterdam

Published 1648 or 1651

Text verso: German

755/1648 or 1651 (Voorhees Collection), text verso: German

755/1651(1), text verso: German

Virginia was published in the 3rd edition of Janssonius's *Atlas Minor*, and replaced the derivative of Smith's map published in the first edition. This map is slightly larger than the one produced in the first edition and the title is located in the top left corner. The English coat of arms is shown, but the map's engraver is not identified.

Derivative 8, State 1 *Nova Virginiae Tabula*.

Engraved by Jacob Meurs

From *Die Unbekante Neue Welt*, Arnold Montanus

Amsterdam

Published in 1671

755/1671

Meurs prepared *Nova Virginiae Tabula* for publication in the Dutch edition of Montanus's *Die Unbekante Neue Welt*, the first encyclopedia of the Americas. According to Tooley in *The Mapping of America*, page 168, this is a careful copy of the Hondius-Blauve derivative of the John Smith map (derivative 1, state 2). It is smaller in size and more decorative. The pictorial representations of the Indian chief Powhatan and the Susquehanna brave depicted on the original map have been replaced on this version by an attractive cartouche featuring two Indians admiring a llama, a goat, and a unicorn—animals thought by some Europeans to be native to Virginia. This particular map does not include a watermark.

Derivative 8, State 1, Impression 1, housed in Special Collections

Nova Virginia Tabula. In Arnoldus Montanus *Die Unbekante Neue Welt*. Amsterdam, 1673. E143 M77 1673.

Derivative 8, State 1, Impression 2, housed in Special Collections

Nova Virginia Tabula. In John Ogilby, *America: Being the Latest and Most Accurate Description of the*

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New World. London, 1671. E143 O33 1671

Nova Virginia Tabula was originally prepared by Meurs for publication in *Die Unbekante Neue Welt*. John Ogilby published the English translation, *America: Being the Latest and Most Accurate Description of the New World* in 1671.

Derivative 8, State 2

Virginie Grande Region de l' Amerique Septentrionale Pierre Vander AA.

Engraved by Jacob Meurs

Published in *La Galerie Agreeable du Monde . . .*, Aa, P. vander

Published 1729, Vol. 63–64 755/1729?

The cartouches, scale, title, and the “Notarum Explicatio” from State 1 have been removed and replaced by a single cartouche; a new scale of German and French leagues is given; and three counties in eastern Maryland have been added.

Derivative 9, State 1

A Map of Virginia and Maryland.

Sold by Thomas Bassett in Fleet Street, and Richard Chiswell in St. Pauls Church-yard. Engraved by

Francis Lamb

Published by Thomas Bassett and Richard Chiswell in John Speed, *The Theatre of the Empire of Great Britain.*

London

Published in 1676

755/1676

In 1676 the English publishers Thomas Bassett and Richard Chiswell issued an edition of John Speed’s popular atlas entitled *The Theatre of the Empire of Great Britain*. In the atlas’s addendum, called “A Prospect of the most Famous parts of the World,” the publishers added new maps of the colonies of New England, Virginia, and Maryland. *A Map of Virginia and Maryland* was prepared by the English engraver Francis Lamb. It incorporates an interesting combination of information derived from the obsolete Smith map and Augustine Herrman’s map, *Virginia and Maryland As it is Planted and Inhabited this present Year 1670*. This is the last major derivative of the John Smith map and is a unique example of transition from one basic prototype map to another.

Derivative 9, State 1, housed in Special Collections

A Map of Virginia and Maryland. Sold by Thomas Bassett in Fleet Street, and Richard Chiswell in St.

Pauls Church-yard. In John Speed’s *The Theatre of the Empire of Great Britain*. London: Thomas Bassett and Richard Chiswell, 1676. DA11 S7 1676

Bibliography

- Burden, Philip. *The Mapping of North America*. Herts, England: Raleigh Publications, 1996.
- Cumming, W. P., Skelton, R. A., and Quinn, D. B. *The Discovery of North America*. London: Paul Elek Productions Limited, 1971.
- Cumming, William P. "Early Maps of the Chesapeake Bay Area: Their Relation to Settlement and Society." In David B. Quinn, ed. *Early Maryland in a Wider World*. Detroit: Wayne State University Press, 1982.
- Cumming, William P. *The Southeast in Early Maps*. 3rd edition. Chapel Hill: The University of North Carolina Press, 1998.
- Ford, Worthington Chancey. "Captain John Smith's Map of Virginia, 1612." *The Geographical Review* 14 (July 1924): 433–443.
- Grim, Ronald E. and Wolter, John A. *Images of the World: The Atlas through History*. Washington, D.C.: Library of Congress, 1997.
- Keuning, J. "The History of an Atlas: Mercator, Hondius." *Imago Mundi* 4 (1947): 37–62.
- Keuning, Johannes. "Blau's 'Atlas.'" *Imago Mundi* 14 (1959): 74–89.
- Keuning, Johannes. "Jodocus Hondius Jr." *Imago Mundi* 5 (1948): 63–71.
- McCary, Ben C. *John Smith's Map of Virginia*. Williamsburg: Virginia 350th Anniversary Celebration Corporation, 1957.
- Phillips, P. Lee. "Some Early Maps of Virginia and the Makers, Including Plates Relating to the First Settlement at Jamestown." *The Virginia Magazine of History and Biography* 15 (1907): 71–81, 213.
- Pritchard, Margaret and Taliaferro, Henry G. *Degrees of Latitude*. Williamsburg: Colonial Williamsburg Foundation, 2002.

Stephenson, Richard W. and McKee, Marianne M. *Virginia in Maps: Four Centuries of Settlement, Growth, and Development*. Richmond: The Library of Virginia, 2000.

Tooley, R.V. *The Mapping of America*. New York: The Holland Press Limited, 1980.

Verner, Coolie. "The First Maps of Virginia, 1590–1673." *The Virginia Magazine of History and Biography* 58 (January 1950): 3–15.

Verner, Coolie. "Maps of Virginia in Mercator's Lesser Atlases." *Imago Mundi* 17 (1963): 45–61.

Verner, Coolie. *Smith's Virginia and Its Derivatives*. Map Collector's Series. Vol. 5, No. 45. London: The Map Collector's Circle, 1968.

Glossary of Cartographic Terms

border: A (usually) decorative device used to embellish the outer limits of a printed map image.

cartouche: An emblem-like device that may contain a title, legend, dedication, and author; may be simple or elaborate.

compass rose: A device used to indicate the direction of the eight major winds, eight half winds, and 16 quarter winds; the rhumb lines radiate from the compass rose.

copper plate: An engraved or etched copper printing plate.

derivative: Copies by mapmakers whose maps mirrored closely the original “mother” map that retain the geography and orientation, but introduce changes that sometimes degenerate the accuracy and detail of the original map.

engraving: Type of printing process wherein ink is retained in grooves cut with a tool into a plate, then paper pressed onto the plate picks up the ink.

imprint: A brief note in the margin of a map that gives some or all of the following: date of publication, date of printing, name of the publisher, name of the printer, place of publication, and number of copies printed.

letterpress: Text printed from movable type.

neat line: The printed line that defines the outer perimeter of a map, not to be confused with the border.

rhumb lines: Straight lines emanating from the compass rose, sometimes called “wind lines” or “compass lines.”

state: Each significant alteration to a printing plate creates another state of the image.

verso: The left page of an opened book; also the “back” side of a map or leaf, or the side on which the image does not appear; the reverse.

watermark: An integral design in the paper best seen with transmitted light.

Definitions based on those from F. J. Manasek, *Collecting Old Maps*, Norwich, Vermont: Terra Nova Press, 1998, and Helen Wallis and Arthur Howard Robinson, *Cartographic Innovations: An International Handbook of Mapping Terms to 1900*, Tring, Herts: Published by Map Collector Publications in Association with the International Cartographic Association, 1987.

Compiled by Cassandra Farrell
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Notes

¹ William P. Cumming, “Early Maps of the Chesapeake Bay Area: Their Relation to Settlement and Society,” in David B. Quinn, ed., *Early Maryland in a Wider World* (Detroit: Wayne State University Press, 1982), pp. 281–283; Ben C. McCary, *John Smith’s Map of Virginia* (Williamsburg: Virginia 350th Anniversary Celebration Corporation, 1957), pp. 1–3. ² McCary, *John Smith’s Map of Virginia*, p. 4.

³ *Ibid.*, 4.

⁴ Cumming, “Early Maps of the Chesapeake Bay Area,” p. 283.

⁵ R. V. Tooley, *The Mapping of America* (New York: The Holland Press Limited, 1980), p. 144; Coolie Verner, “The First Maps of Virginia, 1590–1673,” *The Virginia Magazine of History and Biography*, 58 (January 1950): 9.

⁶ Cumming, *The Southeast in Early Maps*, 3rd ed. (Chapel Hill: The University of North Carolina Press, 1998), p. 77; McCary, *John Smith’s Map of Virginia*, p. 7; Verner, “The First Maps of Virginia,” pp. 9–10.

⁷ Philip Burden, *The Mapping of North America* (Herts, England: Raleigh Publications, 1996), p. 202–205; Tooley, *The Mapping of America*, p. 143; Verner, “The First Maps of Virginia,” pp. 8–11.

⁸ Coolie Verner, “Smith’s Virginia and its Derivatives,” in *Map Collectors’ Circle*, No. 45, London, 1968; R. V. Tooley, *op. cit.*, p. 144.

⁹ Tooley, *The Mapping of America*, p. 167.