

The Dutch Racks Revisited: the puzzle of Hudson River reaches

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Abstract: Supposedly, the Hudson River was divided by the earliest Dutch navigators into fourteen reaches between New York and Albany. This factoid, though often repeated, remains questionable and unsubstantiated. Two colonial Dutch charts (the Hendrickson Figurative Map of 1616 and the Noort Rivier Chart of 1639) offer fresh insight and support a different conclusion: that Dutch mariners did not name or designate every stretch of the river as a “reach” per se. Primarily, the trickier sections were named—the four “lower reaches” in the Highlands (Seylmakers rack, Cocks rack, Hoogh rack, and Vosse rack) and the four “upper reaches” north of Inbocht Bay (Backers rack, Jan Pleysiers rack, Klevers rack, and Harts rack). The inclusion of the Lange rack, or Long Reach, mentioned in Robert Juet’s journal, brings the total number of named reaches to nine.

By way of introduction, I went in search of the name of the stretch of river along which the Saugerties Lighthouse shines its light. Any lighthouse tower stands in a particular relationship to the horizon. On the seacoast, the visible range of a lighthouse is determined by the height of the tower and calculated using a geometric formula related to the curvature of the earth. On a river or small harbor, another limiting factor is the line of sight from one point of land to the next. Interestingly enough, the sight lines on the tidal Hudson River are unusually long. It does not meander in the manner of most rivers.¹ From the tower of the Saugerties Lighthouse, the visible distance is over

seven miles in either direction, looking upriver or downriver. One would expect to find the historic name of this long river section among the dozens of books that mention the Hudson's many reaches. Unfortunately, the answer is neither easy nor obvious. Arthur Adams in *The Hudson River Guidebook* speculated that this section (from Kingston to Athens) was *Vasterack*, explaining that the name referred to "the great width of the Hudson around Inbocht Bay."² However, this is anglicizing *vaste*, which more properly translates from Dutch as fixed, firm, steadfast, or unmoveable. This was just one of many examples of confusion that necessitate a reexamination of the received knowledge about Hudson River reaches.

The descriptions of the reaches are vague and conflicting. Anything more than a cursory search eventually encounters a confounding puzzle of secondary and tertiary sources relying on supposition and scant evidence. With few exceptions, any information on the topic is prefaced by a variation of the following statement made by Wallace Bruce in 1873 in *The Hudson River by Daylight*: "The Hudson was divided at one time by the old navigators long before the days of 'propelling steam' into fourteen Reaches."³

This factoid is usually followed by a list of some or all of the presumed Dutch names for the *racks*, or reaches.⁴ Quoted in guidebooks and general-interest books about the Hudson River for over a century, it has appeared in print often enough (over a dozen times) that it is generally accepted as historic fact.⁵ Its repetition belies the persistent confusion over the actual names, sequence, and location of the reaches along the river.

The Puzzle

Properly identifying the Dutch *racks* has been a conundrum at least since the early nineteenth century. In 1816, Egbert Benson lamented that “the distances denoted” by nearly all the *racks* “cannot be now ascertained.”⁶ The situation did not improve over the next two centuries. William Gekle and Arthur Adams, who were likely the last writers to look into the topic in depth, acknowledged the difficulty of making sense of the reaches and confessed to the conjecture involved in their efforts.⁷ In 1982, Gekle outlined the puzzle as follows:

It is generally agreed that there are fourteen sailing reaches on the Hudson River between Manhattan Island at its mouth and Albany, beyond which there are no sailing reaches. It is also agreed that these reaches were charted and named by the Dutch who first sailed their yachts and sloops on the River in appreciable numbers. Beyond that, there is little agreement as to where the reaches are, or their sequence, or between which two points they extended.⁸

Gekle also pointed out the assumption underlying his formulation of the problem: “One of the difficulties, it now seems to me, is that everyone has assumed that the reaches ascended the river in continuous progression, one taking up where the last one left off. It should have been obvious to me, and to everyone else, that this is not and could not be the case.”⁹ Similarly, Adams (as quoted by Gekle) said of the shortcomings of his sources: “I suspect that they have been copying each other and each covering up their own ignorance since about 1900.”¹⁰ Despite their thoroughness, both Gekle and Adams arrived at the same old result: “a grand total of fourteen Reaches.”¹¹ Ultimately, they were hindered by the errors of the sources available to them. Perhaps, with access to better historic source material, they might have come up with a different answer.

Previous attempts to sort out the Dutch *racks* were hampered by the paucity of primary documents. The two readily available colonial Dutch sources were Johan De Laet's *Nieuwe Wereldt* description of the "Noordt river" from 1625 and the Jansson-Visscher *Belgii Novi* map of the region circa 1650. De Laet, who is often quoted as the authority on the subject, mentioned twelve *racks*, listing names for ten of them. De Laet never assigned proper names to the first two reaches. Rather, he stated that *within* "the first reach" on the western shore dwells a tribe of people named "Tappaans," and "the second reach" *extends* to a narrow part named "Haverstroo."¹² Although De Laet applied the term "reach" in these two instances, they remained unnamed. Later, those eager to apply names to every part of the river took the liberty of applying "Tappan" and "Haverstraw" to the entirety of the first two "reaches." The names survive as Tappan *Zee* and Haverstraw *Bay* (not "reaches" *per se*).

The *Jansson-Visscher* map series, first published circa 1650, showed all the *racks* named by De Laet but located them on the map with little regard for the actual geography.¹³ For instance, the four *racks* associated with the Hudson Highlands are shown opposite Manhattan. This led to the awkward challenge of trying to reconcile the river's apparent geography with De Laet's description and the *Jansson-Visscher* distortions. Subsequently, any effort to name every section of the river compelled historians, including Gekle and Adams, to elongate named reaches and speculate about their location. Gekle's description of the *Jansson-Visscher* map as "the first detailed map" of the region indicates that Gekle and Adams did not have access to earlier, more accurate maps or charts.

In a couple of instances, historians misapplied names of landforms to unnamed reaches based on supposition and scant evidence. Writing in the early nineteenth century and building upon De Laet's original twelve reaches, Egbert Benson added the dubious "Martyr's Reach" to the list (from the island Martler's Rock) and counted thirteen.¹⁴ In 1873, writing for sightseers on steamboats, Wallace Bruce brought the number to fourteen by adding the "Great Chip Reach" for the Palisades, borrowing the name from "the Bergen Deed of Purchase, viz., the great chip above Weehawken."¹⁵ More accurately translated as "great cliff" and describing a prominent landmark, it does not necessarily designate a *rack*, or reach. Since publication of *Hudson River by Daylight*, writers have echoed Bruce's summation of "the Old Reaches," repeating the errors of their predecessors and struggling to locate the reaches along the river. They likely would have benefited from access to better historic source material, specifically the *Hendrickson Figurative Map of 1616*¹⁶ and *Noort Rivier Chart of 1639*.¹⁷

Map versus Chart

Maps are designed for various purposes, and the *Jansson-Visscher* map series was promotional in nature. It was designed to assert Dutch territorial claims and encourage Dutch emigration to the colony. It focused on showing land areas, settlements, and Dutch names of New Netherland. The scale and accuracy are on par with a tourist souvenir map and impractical for navigation. Although the map has historic value in other contexts, it is an impediment to figuring out the Dutch *racks* along the Hudson River.

In contrast to the promotional *Jansson-Visscher* map, the *Hendrickson Figurative Map* and *Noort River Chart* are nautical charts—specialized maps of bodies of water and adjacent shorelines for the purpose of navigation. They show details helpful to mariners, such as submerged hazards or obstructions like shoals and rocks, as well as other pertinent information such as shoreline landmarks, islands, seamarks, channels, inlets, bays, and depth soundings. Geographic details beyond the visible shoreline are often vague or absent. When considering the question of the names and features by which mariners navigated the Hudson, a nautical chart would be more helpful than a general interest map.

Multiple Meanings of “Reach”

Part of the confusion over the designation of the Hudson River reaches has arisen from the multiple meanings of the word “reach.” In common usage, a *reach* is any length of a stream or river. This usage underlies the assumption that colonial Dutch sailors named every section of the navigable Hudson. Historically, mariners used a narrower definition applied to the straight course of a *winding* river.¹⁸ To quote a nineteenth century nautical dictionary, a *reach* specifies “the distance between any two elbows on the banks.”¹⁹ In other words, the reaches are defined by the bends in the river. Absent a distinct bend or elbow in the river, a named reach should not be assumed when viewing a river map or chart from a sailor’s perspective. A second nautical meaning refers to the points of sail: “a vessel also is said *to be on a reach*, when she is sailing by the wind upon any tack” as in close reach, beam reach, or broad reach.²⁰ Several Hudson

River writers conflate the point-of-sail meaning of *reach* with the stretch-of-river, causing additional confusion.

The Cornelis Hendrickson Figurative Map of 1616

The first detailed chart of the Hudson River is attributed to Cornelis Hendrickson. Although it is referred to as a “map,” it is more like a nautical chart in its inclusion of details such as shoals. For instance, it shows the shallow tidal flats area around the mouth of Esopus Creek that later became known as the Saugerties Flats and was marked by the Saugerties Lighthouse. The map was prepared upon Hendrickson’s return from an exploratory voyage aboard the *Onrust* (Restless). It accompanied a report by Hendrickson as part of the application by the New Netherland Company to the Dutch States General for special trading privileges on August 18, 1616. The map was filed away and not published until over two centuries later.

The *Hendrickson Figurative Map* was one of two maps found in the archives of the Hague by a New York State historian J. Romeyn Brodhead in 1841. A facsimile was prepared and published shortly thereafter.²¹ In his report of his findings, Brodhead suggested: “The very detailed description given by De Laet, of all the ‘reaches’ in the Hudson, was probably drawn up from information furnished by the [Hendrickson] paper map, now under consideration, and the two harmonise in such a remarkable degree, that the curious in these matters may find it quite interesting to compare them together.”²² Apparently, no one followed his suggestion.

Comparing the *Hendrickson Figurative Map* with De Laet’s description is revealing. De Laet was basically narrating the course of the Hudson River from south to

north as depicted on the *Hendrickson Figurative Map*. His description of the river's reaches adheres closely to the *Hendrickson Figurative Map* except for a few possible misreadings. The map labeled eight *racks*, or reaches, with the term "rack" actually appended to the name.²³ De Laet used the term *rack* more freely as he described the first and second reaches without naming them. He also added *Visschers rack* and *Vasterack* to those named on the map, perhaps erroneously. He also changed the *Zopperack* on the Hendrickson map to *Vossen rack* and relocated the *Kleverack*. For these changes, he either supplemented information from another source or made transcription errors when looking at ambiguous script on the map. Consulting the *Noort Rivier Chart* of 1639 can help in this regard to see if there is support for De Laet's alterations and additions.

The Noort Rivier Chart of 1639

The chart *Noort Rivier in Nieuw Neerlandt* (The North River in New Netherland) is often attributed to Joan Vinckenboons. The chart was supposedly prepared at the request of Peter Minuit circa 1630, and it is occasionally referred to as the "Minuit Chart." Remarkably, it displays depth soundings in fathoms for the navigable channel from mouth of the river to Fort Orange. The level of detail and accuracy attests to its reliability as a primary source for identifying the Hudson River reaches by their colonial Dutch names.

The *Noort Rivier Chart* shows the same eight *racks* as the *Hendrickson Figurative Map* and in the same locations. It also adds a ninth rack: the *Langerack*, or Long Reach, mentioned in Robert Juet's journal of Hudson's 1609 voyage. The chart

does not confirm DeLaet’s change of sequence for *Kleverack* or the addition of *Visschers rack* and *Vasterack*, but it does corroborate his alteration from *Zopperack* to *Vossen rack*, or *Vosserack*.

As it turns out, the colonial Dutch only gave proper names to the serpentine stretches of the navigable river, which are also the narrower, trickier parts.²⁴

Unsurprisingly, the usage of the Dutch *rack* as it appears on the 1616 *Hendricksen Figurative Map* and 1639 *Noort Rivier Chart* is not the common usage of “reach” but is the nautical meaning referring to short sections between elbows along *meandering* areas of river. These are the “lower” reaches through the narrow Highlands and the “upper” reaches of shoals, split channels, and middle grounds. Longer or wider sections were not named.

Here is a side-by-side comparison of the *racks* as shown or listed on the *Hendrickson Figurative Map*, De Laet’s account, and the *Noort Rivier Chart*:

<u>Hendrickson, 1616:</u>	<u>De Laet, 1625:²⁶</u>	<u>Noort Rivier, 1639:</u>
	het eerste rack [first]	
	het tweede rack [second]	
Seylmakers rack	Seylmakers rack	Seylmakers rack
Cocks rack	Kocks rack	Cocks rack
Hoogherack	Hogerrack	Hoogh rack
Zopperack ²⁵	Vossen rack	Vosserack
(Visschers hook)	Visschers rack	
		Langerack
het Backerrack	Kleverack [out of order]	Backers Rack
Ian Pleysiers rack	Backerrack	Jan Pleysiers Rack
het Kleverack	Ian Playsiers rack	Klevers rack
(Oosterhook)	Vasterack	
Herten rack	Hertenrack	Harts rack

The first set of four are the “lower reaches” grouped together in the vicinity of the

Hudson River Highlands from Stony Point to Breakneck Point: *Seylmakers rack*, *Cocks*

rack, Hoogherack, and Zopperack (on the Hendrickson Map) or *Vosserack* (according to De Laet's list and Vinckeboons Chart). The second set of four are the "upper reaches" north of Inbocht Bay: *het Backerack, Ian Pleysiers rack, het Kleverack, and Herten rack*.

Apparently, *Visschers hook* on the *Hendrickson Figurative Map* was turned into *Visschers rack* by De Laet. Another misreading or misinterpretation may have occurred in the case of De Laet's *Vasterack*, which could be a corruption of *Oosterhook* from the *Hendrickson Figurative Map*. Historians have struggled with the placement of the *Vasterack* because there is very little space to reasonably fit it among the tightly-packed upper reaches. Lacking corroboration from the *Noort Rivier Chart*, these two names should be disregarded until verified from another primary source.

Conclusion

Consulting the two colonial Dutch charts yields some surprising results. First of all, the colonial Dutch did not label every section of the tidal Hudson River as a *rack*. Secondly, several long stretches of the river were unnamed. Thirdly, a few of the oft-quoted names are questionable in origin. Finally, sufficient evidence exists for nine Hudson River reaches with Dutch names, not fourteen. To my original question about the Saugerties Lighthouse stretch of river, the answer is that it was not named as a reach by the Dutch.

The historic Dutch names of the Hudson River *racks*, or reaches, have enduring interest not only as the origin of place names but also for the puzzle they entail. These names are little more than a footnote to Hudson River history but for the role of naming

and mapping the river in asserting colonial claims and promoting Dutch emigration in the seventeenth century. The Dutch *racks* also offer hints as to how the river was perceived and experienced in the Age of Sail.

To replace the discredited factoid of fourteen reaches, here is a new one: the tidal Hudson is unusually straight for a river and is geologically similar to a fjord. The colonial Dutch named only the narrow, meandering stretches of the navigable river as *racks*, or reaches, that required extra attention when sailing—eight of them between New Amsterdam and Fort Orange (four lower reaches and four upper reaches). A ninth reach was named the Long Reach by the Englishman Robert Juet and designated as the *Langerack* by the Dutch.

Here's the list of reaches and their approximate locations as can be determined from the *Hendrickson Figurative Map* and *Noort Rivier Chart* with comparisons to contemporary NOAA charts of the Hudson²⁷:

The “lower reaches” through the narrow Highlands:

Seylmakers rack (Sailmakers Reach): Stony Point/Verplank Point to Jones Point

Cocks rack (Cooks Reach): Jones Point to Anthonys Nose

Hoogh rack (High Reach): Anthonys Nose to Gees Point

Vosserack (Foxes Reach): Gees Point to Breakneck Point

Langerack (Long Reach): Danskammer Point to Crum Elbow

The “upper reaches” dotted with shoals and split channels:

Backers Rack (Bakers Reach): Roeliff-Jansen Kill to Catskill Creek

Jan Pleysiers rack (Bon-vivants or Fun-makers Reach): Catskill to Hudson

Klevers rack (Clovers²⁸ Reach): Hudson Middle Ground to Newton Hook

Harts rack (Stags or Hearts Reach): Newton Hook to Kinderhook

The following so-called *racks* are erroneous, lack sufficient evidence, and/or were added after the Dutch colonial era:

Great Chip: This is a landform, not a reach. Wallace Bruce added this “reach” in 1873 to fill in an apparent gap, operating on the assumption that every stretch of river had a Dutch name. The name is also erroneous: “Groote Clip” more accurately translates “great cliff,” not “great chip.”

Tappans: The name for a Native American tribe living on the west side of the Hudson, not a “reach” *per se*. It survives as Tappan Zee, not Tappan Reach.

Haverstroom: The name appears on the *Hendrickson Figurative Map*, but is not a “reach” *per se*. De Laet interprets the name on the map to indicate the “narrow part” of the river approaching Stony Point. It survives as Haverstraw Bay.

Martyr’s: This is another example of a name borrowed from a landform—Martler’s Rock, in this instance. This was the pre-Revolutionary War name for Constitution Island. If there is a Dutch source for this, it is not evident.

Fisher’s: Most likely a misreading of Fishers Hook by De Laet. Even so, there is room enough for this “reach” between *Vosserack* and *Langerack* from Breakneck Point to Damskammer Point.

Vasterack: Historians struggled to find a place for this one among the “upper reaches.” It is best left off the list for want of placement as well lack of evidence.

This latest attempt to solve the puzzle of the Hudson River *racks* is by no means the final word. Hopefully, this has cleared up some of the confusion instead of adding to it. At least, going forward, discussion of the “Old Dutch Reaches” can benefit from access to the *Hendrickson Figurative Map* and *Noort Rivier Chart*.

Endnotes:

¹ For remarks on the uniqueness of the “relatively straight path” of the tidal Hudson, see Tom Lewis, *The Hudson: A History*, (Germany: Yale University Press, 2007), 13.

² Arthur Adams, *The Hudson River Guidebook*, (New York: Fordham University Press, 1996), 10, https://www.google.com/books/edition/The_Hudson_River_Guidebook/KIkHuzvZTGYC.

³ Wallace Bruce, *The Hudson River by Daylight*, (New York: J. Featherston, 1873), 21, https://www.google.com/books/edition/The_Hudson_River_by_Daylight/Bno7AQAAMAAJ.

⁴ According to Arthur Adams, these Reaches are named, south to north: Great Chip, Tappan, Haverstroo, Seylmakers, Cresnet (or Cook’s), Hog’ses (or High), Martyr’s, Fisher’s, Lange Rack, Vasterack, Kleverack, Backerak, Jan Playsier’s, and Hart’s (or Hunter’s). Arthur Adams, *The Hudson River Guidebook*, (New York: Fordham University Press, 1996), 9-10, https://www.google.com/books/edition/The_Hudson_River_Guidebook/KIkHuzvZTGYC.

⁵ The following books published between 1902 and 2012 included variations of Bruce’s assertion of fourteen reaches: Edgar Mayhew Bacon, *The Hudson River from Ocean to Source* (1902), 113-114; Esther Singleton, *The Hudson* (1908), 66; Stephen Jenkins, *The Greatest Street in the World* (1911), 447; Nelson Greene, *History of the Valley of the Hudson*, (1931), 769; Paul Wilstach, *Hudson River Landings*, (1933), 19; Robert Boyle, *The Hudson River: a natural and unnatural history* (1969), 51; Roald Van Zandt, “Robert Juet 1609, Note 3,” *Chronicles of the Hudson* (1971), 305; William Gekle, *The Lower Reaches of the Hudson River*, (1982), 2; T.C. Boyle, *World’s End* (1990), 142; Donna Merwick, *Possessing Albany*, (2003), 10; Tom Lewis, *The Hudson: A History*, (2007), 13-14; Jonathon Kruk, *Legends and Lore of Sleepy Hollow and the Hudson Valley*, (2011), 43; Susan Fox Rogers, *My Reach*, (2012), 16.

⁶ Egbert Benson, “Memoir on Names read before the Society December 31, 1816,” *Collections of the New-York Historical Society for the Year*, (New York: William Van Norden, 1849, 1849), 116-117, https://www.google.com/books/edition/Collections_of_the_New_York_Historical_S/3iIGAAAMAAJ.

⁷ Gekle noted: “Researching the reaches of the river can be a rewarding as well as frustrating experience.” Similarly, Adams commented that the Hudson River reaches “remain a pleasant subject for speculation.” William Gekle, *A Hudson Riverbook*, (Poughkeepsie, NY: Wyvern House, 1978), 18. Adams, *The Hudson River Guidebook*, 10.

⁸ William Francis Gekle, *The Lower Reaches of the Hudson River*, (Poughkeepsie, NY: Wyvern House, 1982), 30.

⁹ Ibid.

¹⁰ Gekle, *A Hudson Riverbook*, 18.

¹¹ Ibid.

¹² Johan De Laet, “New World,” *Narratives of New Netherland, 1609-1664*, (New York: Charles Scribner's Sons, 1909), 46, https://www.google.com/books/edition/Narratives_of_New_Netherland_1609_1664/cL8LAAAAYAAJ.

¹³ For two examples from the Jansson-Visscher map series, see Nicolaes Visscher, *Novi Belgii Novaeque Angliae nec non partis Virginiae tabula multis in locis emendata*, [Amsterdam?, 1655], Map, <https://digitalcollections.nypl.org/items/510d47d9-7a7f-a3d9-e040-e00a18064a99>; and Jan Jansson, *Belgii Novi, Angliae Novae, et partis Virginiae*, [1660], Map, <https://digitalcollections.nypl.org/items/510d47d9-7c06-a3d9-e040-e00a18064a99>.

¹⁴ Benson, “Memoir on Names,” 117.

¹⁵ Bruce, *The Hudson River by Daylight*, 21-22. Not only was this not a reach, but also the name “Great Chip” is off by one letter from the Dutch source. The deed description of the colonial Dutch-Indian land transaction of January 30, 1658 referred to the “Groote Clip” which more accurately translates “great cliff”). From “Indian deed for a tract of land on the west side of the North river” [January 30 1658], New Netherland Council, issuing body, *Dutch colonial council minutes, 1638-1665, Volume 8*, trans./ed. Charles T. Gehring and Janny Venema, (Syracuse, N.Y.: Syracuse University Press: 2018), 278, <https://digitalcollections.archives.nysed.gov/index.php/Detail/Objects/56279>.

¹⁶ “519 Map of a part of New Netherland, in addition to the newly discovered country, baye with drye rivers, laying at a height of 38 to 40 degrees, by yachts called Onrust, skipper Cornelis Hendricx, van Munnickendam,” [?, 1616], Map, http://www.nationaalarchief.nl/onderzoeken/archief/4.VEL/invnr/519/file/NL-HaNA_4.VEL_519, National Archives of the Netherlands. After relying on a lower resolution version for awhile, I was grateful to for the citation and link to the hi-res digital image of the *Hendrickson Map* provided by Douglas T Aumack in “Lost and Found: Rediscovering a Seventeenth-Century Map of New Jersey,” *New Jersey Studies: an interdisciplinary journal*, Vol. 8 No. 1 (2022): Winter 2022, <https://doi.org/10.14713/njs.v8i1.271>.

¹⁷ Joan Vinckeboons, *Noort Rivier in Nieu Neerlandt*, [?, 1639], Map, <https://www.loc.gov/item/2003623406/>, Library of Congress.

¹⁸ Arthur Young, *Nautical Dictionary*, (London: Longman, Green, Longman, Roberts & Green, 1863), 303, <https://books.google.com/books?id=8RpTAAAcAAJ>.

¹⁹ William Henry Smyth, *The Sailor's Word-book: An Alphabetical Digest of Nautical Terms*, (London: Blackie and Son, 1867), 563, <https://books.google.com/books?id=b9YwAAAAMAAJ>.

²⁰ Young. *Nautical Dictionary*, 303.

²¹ P.H. Loffelt, *Facsimile of Map of New Netherland which was annexed to the Memorial presented to the States General on the 18th August, 1816...shewing the extent of the discoveries made by Schipper Cornelis Hendricksen*, (New York: Sarony & Co., 1841), Map, <https://digitalcollections.nypl.org/items/f40c7720-84cd-0134-a91c-00505686a51c>.

²² J Romeyn Brodhead, “Observations Respecting the Two Ancient Maps of New Netherland Found in the Royal Archives at the Hague in 1841 by J Romyen Brodhead Agent of the State of New York Read by Mr Brodhead December 2,” *Proceedings of the New York Historical Society*, (New York: Press of the Historical Society, 1846), 190, https://www.google.com/books/edition/Proceedings_of_the_New_York_Historical_S/QmtIAAAAYAAJ.

²³ The pairing of the proper name with the term *rack* is a determining factor for evaluating whether a Dutch geographic name actually designates a river reach or not. This is lacking for the names *Tappan* and *Haverstroo*. This is also the case in the “Great Chip” and “Martyr’s” reaches, which were spuriously added by historians in the nineteenth century.

²⁴ This usage of *reach* is not unlike that on modern NOAA nautical charts—a specific area requiring extra attention or knowledge for the pilot, as in Tivoli Reach, Malden On Hudson Reach, or North Germantown Reach.

²⁵ The first letter of this word is difficult to read. It could be an unusual ligature. For lack of a better option, I interpreted this as “Z” to get “Zopperack,” which translates as “Soup Reach.” It is a moot point since the name was subsequently changed to Vossen rack, or Vosserrack.

²⁶ Joannes de Laet, *Nieuwe wereldt ...*, (N.p.: In de druckerye van Isaack Elzevier, 1625), 87-88, https://www.google.com/books/edition/Nieuwe_wereldt_ofte_Beschrijvinghe_van_W/VtRIAAAcAAJ.

²⁷ National Oceanic and Atmospheric Administration, *Hudson River New York to Wappinger Creek*, Harbor Chart 12343, Edition 21, 1:40,000, Washington DC: U.S. Department of Commerce, 2020, <https://charts.noaa.gov/PDFs/12343.pdf>; National Oceanic and Atmospheric Administration, *Hudson River Wappinger Creek to Hudson*, Harbor Chart 12347, Edition 32, 1:40,000, Washington DC: U.S. Department of Commerce, 2017, <https://charts.noaa.gov/PDFs/12347.pdf>; National Oceanic and Atmospheric Administration, *Hudson River Coxsackie to Troy*, Harbor Chart 12348, Edition 34, 1:40,000, Washington DC: U.S. Department of Commerce, 2020, <https://charts.noaa.gov/PDFs/12348.pdf>.

²⁸ “Klevers” could also translate to “Clubs” as in the suit in a deck of playing cards. Dutch to English translations were derived from Henry Hexham, *A Copious English and Netherdutch Dictionary: Comprehending the English Language with the Low-Dutch Explication*, (widow of Arnold Leers, 1675), <https://books.google.com/books?id=835FAAAcAAJ>.