

*Geographers and Map-makers,  
British and American,  
from about 1750 to 1789*

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IT SEEMS paradoxical that the expansion of the British Empire during the eighteenth century stimulated no scientific study of geography in Great Britain,<sup>1</sup> nor the production of any notable works other than cartographical. The 'science' or 'doctrine' of geography found in the writings of the period had been defined by the geographer Bernhard Varen in 1650 as 'that part of mixed mathematics which explains the state of the earth and of its parts, depending on quantity, *viz.* its figure, place, magnitude and motion, with the celestial appearances, etc. By some it is taken in too limited a sense, for a bare description of the several countries; and by others too extensively, who along with such a description would have their political constitution.' He had divided geography into two parts: (1) the General or universal, and (2) the Special or particular, concerning each country from the chorographical and topographical point of view.<sup>2</sup> As I shall note presently, Britain had geographers of a sort, but they were 'miscellaneous' writers (to use a British phrase) who merely informed their readers uncritically about nations, empires, and the world.

<sup>1</sup>Alan Downes, 'The Bibliographic Dinosaurs of Georgian Geography,' *Geographical Journal*, CXXXVII, pt. 3 (Sept. 1971), 379, 383, 384; [John] K. Wright, 'Some British "Grandfathers" of American Geography,' *Geographical Essays in Memory of Alan G. Ogilvie*, eds. R. Miller and J. W. Watson (New York, 1959), pp. 147, 148-149, and p. 149, n. 1.

<sup>2</sup>Bernardus Varenius (Bernhard Varen), *A Complete System of General Geography, Since Improved And Illustrated by Sir Isaac Newton and Dr. Jurin; and now Translated into English . . . by Mr. Dugdale* (London, 1733), I, 2. First edition: *Geographia generalis* (Amsterdam, 1650).

English topographers produced valuable works during this period, but their motivation was antiquarian, not geographical. This writing stemmed from an interest in Britain's past—prehistoric, ancient, medieval, and the recent 'modern'—and its antecedents can be traced back to the Elizabethan Age when William Camden's *Britannia* (1584) inspired the earliest in a long succession of county and city topographical histories. A mixture of narrative, descriptive geography, and documentation, they became a kind of literary *genre* that grew more elaborate during the eighteenth century; and they were highly valued then, and still are today, for the primary material in their contents.<sup>3</sup>

Although eighteenth-century geographers had generally accepted Varen's basic scheme of geographical knowledge, they had not developed a methodology for collecting and correlating data, that, along with critical analysis, could stimulate scientific concepts. They were predecessors but no vanguard in the advent of 'classical geography,' born of the German school of Alexander von Humboldt and Carl Ritter in the early nineteenth century.<sup>4</sup> Although British travelers and explorers in America and other parts of the world added in large measure to the stock of geographical and cartographical information, they were no Humboldts initiating a concept of regional geography from observation and recorded data. British geographers to match the comprehensive historical works of David Hume or Edward Gibbon were non-existent. No wonder that John Pinkerton, the Scottish antiquary, wrote the preface of his *Modern Geography* (1802) with memories of his 'late friend Gibbon, whose collection of voyages formed the most chosen part of his library. Why,' exclaimed Pinkerton, 'did he not write geography! Why has a Strabo been denied to modern times!'<sup>5</sup>

While statesmen and soldiers in imperial rivalry jostled for

<sup>3</sup> William Upcott, *A Bibliographical Account of the Principal Works Relating to English Topography*, 3 vols. (London, 1818). This topographical writing culminated in the collaborative *Victoria History of the Counties of England*, published in the twentieth century.

<sup>4</sup> Richard Hartshorne, *The Nature of Geography; a Critical Survey of Current Thought in the Light of the Past* (Lancaster, Pa., 1939), pp. 40-70.

<sup>5</sup> John Pinkerton, *Modern Geography . . . Digested on a New Plan* (London, 1807), I, v.

control of vast areas in America and India or sought to establish claims in advance of effective occupation, geographical writers at home tried in vain to digest the information, reliable and unreliable, that filtered through various channels. They were mostly armchair geographers, gathering data second- and third-hand if only because they could never hope to see the New World. They produced second- and third-rate books reflecting their circumscribed viewpoint and uncritical method. They lifted passages from previous writers in an age when plagiarism was not regarded as a serious offense. They cannot be summarily dismissed, however, inasmuch as their work found an inexhaustible market and became models of dull writing emulated by the early American geographers. The curiosity of Everyman about the world was accelerating.

Certain common traits appear in most of these British publications. The proper approach was through a description of the terrestrial globe, with analyses pertaining to it, and measurements of latitude and longitude. This 'General View' was followed by the 'Particular View' of all countries with emphasis on their physical features, in the manner of Varen, the first English edition of which had appeared as early as 1672.<sup>6</sup> Within this world purview, British authors allotted the largest percentage of text to their own country, but with the expansion of the Empire the American colonies received increasing attention. The spirit of patriotism which found expression directly or indirectly in these volumes was undoubtedly a motivating force in their production, profitable to the bookseller as well as to the author. Modern geography, 'that most useful Science,' was expected to appeal to the nobility and gentry who would provide the best market.<sup>7</sup>

<sup>6</sup>Annotated edition by Sir Isaac Newton (Cambridge, 1672), including 33 plates not published in the original edition.

<sup>7</sup>Wright, 'Grandfathers,' p. 149. The principal motive of Thomas Salmon's *A New Geographical and Historical Grammar* (London, 1754) was 'To create in the British Youth a laudable Ambition to excel in such pursuits as most conduce to their own Honor and Happiness, and the Prosperity of their Native Country.' (p. 8) The quotation in the text is from Patrick Gordon, *Geography Anatomiz'd; or, the Geographical Grammar*, 17th edn. (London, 1741), preface.

What gentleman's library did not contain Patrick Gordon's *Geography Anatomiz'd* or Thomas Salmon's *A New Geographical and Historical Grammar*? Hardly read for entertainment, they must have become 'standard reference works' (by our modern terminology), growing compendia of knowledge in successive editions, even as the known world was growing, although Salmon maintained that his book (in 640 pages) had 'the Charms of Brevity.'<sup>8</sup> During a half-century, Gordon's work, first published in 1693, appeared in reprint or new edition on an average of every three years, to the profit of the bookseller long after the author's death. Salmon's *Geographical and Historical Grammar* (1749) enjoyed 14 London editions in 35 years, but gradually abandoned the field to its competitor, William Guthrie's *A New Geographical, Historical, and Commercial Grammar* (1770), suggesting in its title more comprehensive content. Although Guthrie died in this same year, nevertheless, with the aid of its revisors, whoever they may have been, his book flourished in Britain and in America well into the nineteenth century, the direct antecedent of American geography in the new Republic.<sup>9</sup>

In these geographies, maps were often conspicuous by their paucity and poor quality. Insofar as they increased the cost of publication, they were limited to those already compiled, and reduced in size and legibility to meet requirements of book publication. In 1754, however, Thomas Salmon set a new standard in the third edition of his *Geographical and Historical Grammar*. He complained that 'since the days of my friend

<sup>8</sup>Salmon, *New Geographical and Historical Grammar*, p. 8. Despite Salmon's most detailed description of the British Isles, he declared, 'I would not be thought to want a due Regard for all Mankind: As I am a Citizen of the World, I look upon all Men as my Brethren, and have long endeavored to set them Right in their Notions of one another.' *Ibid.*, p. 9. In praise of Salmon see first American edition of William Guthrie, *A New System of Modern Geography* (Philadelphia, 1794-95), Preface of the American Editor [Mathew Carey], I, [3].

<sup>9</sup>Guthrie 'saw clearly that a new reading public, no longer restricted to students and the rich, had come to exist in Great Britain. . . . This country had become prosperous, important, world-wide in its commercial interests, and interested in new learning. . . .' W. Gordon East, 'An Eighteenth-Century Geographer William Guthrie of Brechin,' *Scottish Geographical Magazine*, LXXII (1956), 33. Wright, 'Grandfathers,' p. 151.

[Herman] Moll,' reputable cartographer who died in 1732, 'we have had nothing but Copies of Foreign Maps, by Engravers unskilled in Geography, who have copied them with all their Errors.' Now Salmon ordered a set of 23 new maps, drawn under his personal direction and engraved by a London craftsman of growing reputation, Thomas Jefferys, geographer to His Royal Highness the Prince of Wales.<sup>10</sup> William Guthrie sought to emulate Salmon in his first edition (1770), and Guthrie's collection of maps was expanded into an Atlas as a companion volume in later British and American editions.

What then, did these British geographers contribute to the expanding world of the eighteenth century? As compilers of information they were hawking a profitable commodity even as they offered it for educational purposes; but their geography did not germinate or produce new geographical ideas, nor can they properly claim kinship with the map-makers whose work contributed to the historical mainstream of cartography.

In contrast to the seventeenth century, the eighteenth was an age of technological rather than scientific advancement, producing an Arkwright and a Watt, not a Newton and a Bacon. The men of the Enlightenment kept an eye on the practical application of philosophical principles, whether in the realm of the natural or the moral; the Englishman in his Empire, like the Roman in his, was pragmatic rather than theoretical. Cartography, benefiting from improved technology, served this objective. The cartographic record as a primary source, though often with an admixture of secondary information, became increasingly important in the forefront of geographical knowledge.

One must be aware of the looseness of terminology, typical of this period when numerous occupations were in a transitional stage, and when specialization was yet to come. Today among the numerous professional geographers, cartographers are few and they are highly specialized scholars, artists, and crafts-

<sup>10</sup>Salmon, *New Geographical and Historical Grammar*, title-page and p. 10.

men. In the eighteenth century the hydrographer had won recognition for his charting of the sea and adjacent land and was sometimes designated as an 'engineer'; but 'cartographer' had not yet appeared in the language.<sup>11</sup> It is not to be found in Dr. Johnson's *Dictionary*, or yet in Webster's *American Dictionary* (1828).<sup>12</sup> Some travelers and explorers indulged in map-making, varying greatly in accuracy as well as general reliability. Some surveyors were map-makers, not merely plat-makers of limited local areas, thus incorporating precision with measurement and giving rise to the phrase 'actual survey,' which some publishers abused in offering maps to the public.<sup>13</sup> As the engraver was involved in map-making, he might also become a 'geographer,' whether or not he performed the role of both *delineator* and *sculptor*.<sup>14</sup> Such was the status of engraver Thomas Jefferys, mentioned above, who as a superior *sculptor* became 'geographer to his Majesty' George III. We can only conclude that the geographer worthy of the name was a map-maker recognized by his contemporaries as surveyor or hydrographer, with whom the engraver was closely associated.

<sup>11</sup>Note its appearance in the *Manual of Geographical Science, Part the First, Cartography*, by J. R. Jackson (London, 1852), and the statement, 'We use the term map-maker, instead of that of geographer, advisedly; for in our estimation they are by no means synonymous. . . . Alas! that there should be so few, so very few good map-makers. Of all those who supply the public and cater to their appetite for maps, how many are there who produce anything of their own? Not one in ten—not one in fifty . . . , ' quoted in *Cartographic Journal*, British Cartographic Society, I, no. 2 (Dec. 1964), 36. The paucity of high-caliber cartographers still holds true today.

<sup>12</sup>Samuel Johnson, *A Dictionary of the English Language*, 4th edn. (London, 1773), defines *map* as 'a geographical picture on which lands and seas are delineated according to the longitude and latitude.' *Topography* in Webster is 'map or description of a particular place, city, town, parish, etc.'

<sup>13</sup>All the maps in Gordon's *Geography Anatomiz'd* were 'according to the latest observations,' but unidentified as to sources and of poor quality. On the training of a surveyor in the eighteenth century, see J. B. Love, *The Colonial Surveyor in Pennsylvania* (Ann Arbor, Mich., University Microfilms, [1971]), ch. 2.

<sup>14</sup>Until the third quarter of the eighteenth century, English cartography was generally inferior to the French because the map-making trade, lacking artists, had employed engravers 'whose skill consists in supplying the print-sellers with their productions in the most expeditious manner, and at the lowest rates.' John Green, *Remarks, in Support of the New Chart* (London, 1753), p. 4, quoted in G. N. D. Evans, *Uncommon Obscurate: the Several Public Careers of J. F. W. Des Barres* (Salem, Mass., and Toronto, Canada, 1969), p. 16.

Turning now more specifically to the American colonies during the quarter-century before the Revolution, we realize that the period of so-called 'salutary neglect' on the part of the Mother Country, extending to 1763, is exemplified unmistakably in the status of geographical knowledge, affected by belated activity in the field. The French were better prepared cartographically than the British on the eve of the Seven Years' War; in fact, we may assert that the Americans were better off in this respect in 1775, whatever their limitations map-wise, than the British in 1755. And some of the best maps the British had were colonial-made.

Seventeen fifty-five was the year of the famed *Map of the British and French Dominions in North America* (in 8 sheets) by the botanist Dr. John Mitchell, one-time resident of Virginia. In dimensions, area covered, and descriptive notes, the Mitchell Map ranked first for many a year and acquired an aura of authority through its use in negotiations by diplomats who were sometimes misled by its inaccuracies.<sup>15</sup> The Mitchell map, however, was a late-comer as compared with the works of the distinguished French cartographers, Delisle, Bellin, and D'Anville,<sup>16</sup> who had set forth the expansive territori-

<sup>15</sup> 'After the first Drawing of this Map in 1750,' Mitchell explained in the text, 'it was again corrected and improved, and I have since taken Care to procure and examine all the Information I could get, in order to render it as correct and usefull as possible; which has given occasion to this Second Edition. . . .' Both the first and the second editions were published in 1755. Most notable use of this map in diplomacy occurred during the Anglo-American peace negotiations of 1782-83. Lawrence C. Wroth, *An American Bookshelf 1755* (Philadelphia, 1934), pp. 33-34; Richard B. Morris, *The Peacemakers; the Great Powers and American Independence* (New York [1965]), p. 362.

<sup>16</sup> Guillaume Delisle, *Carte de la Louisiane et de Cours du Mississipi* (Paris, 1718); also in Delisle's *Atlas Nouveau* (Paris, 1730); re-issued in 1745. In this map the French laid claim even to Carolina, 'ainsi nominez en l'honneur de Charles 9 par les François . . . .' Jacques Nicolas Bellin, *Carte de la Louisiane et des Pays Voisins . . . 1750 . . . Sur de Nouvelles Observations on a Corrigé les Lacs, et leurs Environs* [Paris?] 1755. Jean Baptiste Bourguignon d'Anville, *Amerique Septentrionale* (Paris, 1746). 'D'Anville dominated the second half of the 18th century, as De l'Isle had the first and kept France in the forefront of geographical advance.' R. V. Tooley, *Printed Maps of America, Part I (Map Collectors' Circle, no. 68)* (London, 1971), p. 15. The map of *North America from the French of Mr. d'Anville* (London [1762?]) includes two sections of text, one on 'French incroachments'—'The French are intruders in Canada, part of Cabot's discovery. . . .'—the other on 'English title to their settlements on the continent.'

al claims of France in North America. To refute them, the Lords Commissioners for Trade and Plantations had requested a map stating the British case (a document of cartographic propaganda), and Mitchell compiled it from 'draughts, charts, and actual surveys . . . lately taken by their Lordships' Orders.'<sup>17</sup> The engraver was a competitor of Jefferys, named Thomas Kitchin, who won occasional government contracts. But Jefferys became, in the judgment of an English scholar, the 'geographical mouthpiece for Pitt's imperial strategies, the cartographical champion of his country's claims.'<sup>18</sup> By the mid-fifties, renewal of intercolonial war and the initial defeat of the British were focussing public interest in that direction and, with a reputation for engraving of high quality, he became the leading maker of and dealer in maps and charts.<sup>19</sup>

The year 1755 is also notable cartographically for the publication of what may be called in some respects the American counterpart of the Mitchell Map, *viz.* Lewis Evans's *A General Map of the Middle British Colonies, in America*. Its importance historically as well as contemporaneously, can be fully appreciated only in relation to its antecedent. Evans, a Welshman by birth, migrated to Pennsylvania in his mid-thirties, and during the remaining twenty years of his life (ca. 1736-1756), having cast his lot with that Colony, he developed a pride in his adopted land that is reflected in his writing. His work as a surveyor and well informed cartographer made him appreciative of the potentiality of the American colonies for westward expansion of the Empire.<sup>20</sup>

<sup>17</sup>Quoting John Pownall, secretary. Plantation office, Feb. 13, 1755, in P. Lee Phillips, *A List of Maps of America in the Library of Congress* (Washington, 1901), p. 573.

<sup>18</sup>J. B. Harley, 'The Bankruptcy of Thomas Jefferys: an Episode in the Economic History of Eighteenth Century Map-Making,' *Imago Mundi*, XX (1966), 35-36 and n. 46, and p. 38.

<sup>19</sup>*Ibid.*, pp. 33, 35, 37.

<sup>20</sup>Lawrence H. Gipson, *Lewis Evans* (Philadelphia, 1939), pp. 2-14; Walter Klinefelter, 'Lewis Evans and His Maps,' *American Philosophical Society, Transactions*, new ser., LXI, pt. 7 (July 1971), 11-19.



In 1749 had appeared Evans's first work, *The Map of Pennsylvania, New Jersey and New-York Provinces*. A long time in the making because of his attention to detail and accuracy and his consultation with 'most of our Mathematicians,'<sup>21</sup> it is significant on several counts that anticipate his more famous *Map* of 1755. It was compiled and issued without government subsidy,<sup>22</sup> engraved 'under his Eye' by the reputable Lawrence Hebert of Philadelphia, and printed in that city. Evans recorded the longitude from Greenwich, 'not exact as could be wisht,' for its measurement still lacked adequate instruments; but at the top of the map he used the Philadelphia meridian. He defended this innovation by pointing out that Philadelphia is 'situated near the center of the British Dominions on this Continent'; whatever its shortcomings, this City 'far excels in the Progress of Letters, mechanic Arts, and the public Spirit of its Inhabitants.'<sup>23</sup> This was an early tribute to the second city of the Empire.

Two years later in 1751, surveyors Joshua Fry and Peter Jefferson compiled their remarkable *Map of The Most Inhabited Part of Virginia Containing the Whole Province of Maryland* (in four sheets). For eighty years, since Augustin Herrman's map of *Virginia and Maryland* of 1673, there had been none of the Old Dominion based chiefly on surveys.<sup>24</sup> Unlike Evans's *Map*, done at his own initiative and expense, Fry's and Jefferson's was commissioned by the Virginia House of Burgesses.<sup>25</sup>

<sup>21</sup>*Pennsylvania Gazette*, Oct. 13, 1748, quoted in Gipson, Evans, p. 17 n. The second edition appeared in July 1752.

<sup>22</sup>Gipson, *Evans*, p. 19.

<sup>23</sup>Lewis Evans, *Geographical, Historical, Political, Philosophical and Mechanical Essays. The First, Containing an Analysis of a General Map of the Middle British Colonies in America* (Philadelphia, 1755), p. 1; Klinefelter, 'Lewis Evans,' pp. 19-24.

<sup>24</sup>P. Lee Phillips, 'The Value of Maps in Boundary Disputes. . .,' *American Historical Association, Annual Report for 1896*, II, 457-458.

<sup>25</sup>No record of such an order appears in the *Journals* of the House of Burgesses, but the Council on Oct. 15, 1751, voted that Fry and Jefferson each be paid £150 sterling 'for their Trouble in drawing a Map of the Inhabited part of Virginia . . . employed in Pursuance of a direction from the Lords of Trade the 19th of July 1750.' *Executive Journals of the Council of Colonial Virginia*, ed. Wilmer L. Hall, V, 1739-1754 (Richmond, 1945), pp. 354, 370.

It was accurate for the area east of the Alleghenies which they knew first hand, but less so on the west. Considering the commercial and cultural ties of Virginia with Britain, we may not be surprised to find that their map was engraved and printed in London (ca. 1754) and was one of the American titles on Jefferys's list. The second state, as early as 1755, contained revisions by Fry, who meanwhile had been exploring for the Ohio Company with Christopher Gist. Successive editions and reprints in England (it was pirated by Thomas Kitchin in 1761) and a French edition by LeRouge during the last quarter of the century bespeak its usefulness and enduring reputation.<sup>26</sup> One of the first to put it to good use was Lewis Evans, who, in expressing his indebtedness in 1755, nevertheless pointed out that from his examination of a Pennsylvania survey of 1739, covering the area between Philadelphia and the big bend of the Potomac River, he had corrected the longitude by ten to twelve miles.<sup>27</sup>

This criticism of Fry and Jefferson is a commentary on the meticulous care that Evans exercised in his research for the *General Map of the Middle British Colonies* of 1755. He engaged the services of the distinguished engraver, James Turner, and the map was printed on the press of Benjamin Franklin, thus confirming it as an American production. Evans's intellectual honesty moved him to give credit to surveyors and writers for their assistance and to indicate where he had to rely on other than primary sources.<sup>28</sup> In his *Analysis* of the map, composed as a complementary essay, Evans drew an oblique comparison of physical conditions of the countryside in the Old World and the New. Lacking a comprehension of the prevalence of forests in America, he wrote, the European would not realize that, without landmarks seen from afar, there was

<sup>26</sup>Phillips, *List of Maps of America*, pp. 981, 982; *The Fry & Jefferson Map of Virginia and Maryland* . . . 2nd ed. (Charlottesville, 1966), including Coolie Verner, 'Check-list of Eighteenth-Century Editions. . .,' pp. 19-21. The ms. map of 1751 is not extant. See also Dumas Malone's essay, *ibid.*, pp. 5-10.

<sup>27</sup>Evans, *Essays* . . . *Analysis*, p. 5.

<sup>28</sup>*Ibid.*, p. 10; Klinefelter, 'Lewis Evans,' pp. 42-47.

'no Means of obtaining the Bearings or Distances of Places, but by the Compass and actual Mensuration with the Chain. The Mountains are almost all so many Ridges with even Tops, and nearly of a Height. To look over these Hills into the lower Lands is but, as it were, into an Ocean of Woods.'<sup>29</sup> If any British officials, civil or military, read Evans's *Analysis* carefully, they might have pondered the 'Ocean of Woods,' for which they were so ill prepared when confronted with certain American problems.

The Evans *Map* and *Analysis* of 1755 were timely documents. The *Map* provided the best delineation (superior to the Mitchell Map) of the Ohio country, which had become the debatable land, belatedly recognized as such by the British. The *Analysis* emphasized that the control of this area was the supreme objective confronting them and the French. Very soon the British Army was consulting the map, in public and private transactions, according to Thomas Pownall, to whom it was dedicated, and its usefulness continued into the 1770s, as illustrated by Pownall's 'corrected and improved' edition accompanying his *Topographical Description* (1776).<sup>30</sup>

Evans's contributions to the British colonies and to the Empire, compiled and published in Philadelphia, have an American undertone that, it seems unlikely, he would have conceded. But Dr. Samuel Johnson caught something of it in his review of the *Analysis*. With characteristic condescension he found 'the treatise written with such elegance as the subject admits tho' not without some mixture of the American dialect, a tract of corruption to which every language widely diffused must always be exposed.'<sup>31</sup>

<sup>29</sup> Evans, *Essays . . . Analysis*, p. 5.

<sup>30</sup> Thomas Pownall, *A Topographic Description of Such Parts of North America as are Contained in the (Annexed) Map of the Middle British Colonies, &c. in North America* (London, 1776), pp. [iii]-v. The Map (frontispiece) of 1755 'since corrected and improved, as also extended, with the addition of New England, and bordering parts of Canada'; the text includes extensive quotations from Evans's *Analysis*. See Wroth, 'The Maps and Geographical Essays of Lewis Evans,' *American Bookshelf*, pp. 155-161.

<sup>31</sup> *Literary Magazine; or, Universal Review*, London, I, no. 6 (Sept. 15-Oct. 15, 1756), 294, quoted in Wroth, *American Bookshelf*, p. 165.

At the expense of breaking the chronology, it seems desirable to look briefly at other American cartographical achievements before the Revolution. Among the few private undertakings, three are worthy of mention. Joshua Fisher of Delaware, a hatter by trade and subsequently a merchant in Lewes until he moved to Philadelphia in 1746, became interested in problems of pilotage in the Delaware River and Bay. He acquired enough knowledge of mathematics and surveying to compile a chart of this estuary. Engraver James Turner thought it worthy of his craftsmanship, and the *Chart* was printed in Philadelphia (1756), addressed 'To the Merchants and Insurers of the City . . . .' Its practical information warranted a second edition of 1776, followed by its appearance in Faden's *North American Atlas* (1777).<sup>32</sup> In 1756 the Rev. Mr. Samuel Langdon, who had served in the Louisbourg Expedition and therefore had received a land grant in New Hampshire, drew a map of that colony for Governor Benning Wentworth. It became the basis for a larger map from surveys compiled in collaboration with Col. Joseph Blanchard, showing 'all the inhabited Parts,' and published in London in 1761.<sup>33</sup> In the South, Capt. John Collet, Governor of Fort Johnston at the mouth of the Cape Fear River, compiled 'from an actual survey' *A Com-pleat Map of North Carolina*, issued in two engraved sheets (London, 1770). This was a neglected colony cartographically, Collet's map being the only predecessor of Henry Mouzon's of the Carolinas (1775).<sup>34</sup>

There had been surveyors-general in the several colonies before 1700 and numerous manuscript maps were compiled. Especially worthy of note are those of Pennsylvania (e.g. Capt.

<sup>32</sup>Lawrence C. Wroth, 'Joshua Fisher's "Chart of Delaware Bay and River,"' *Pennsylvania Magazine of History and Biography*, LXXIV (1950), 93-94, 104-105. The chart was included also in Sayer and Bennett's *North American Pilot* (London, 1777).

<sup>33</sup>Langdon, a 'zealous Whig,' was president of Harvard College, 1774-1780. Lawrence S. Mayo's sketch in *Dictionary of American Biography*.

<sup>34</sup>William P. Cumming, *The Southeast in Early Maps, with an Annotated Check List* (Chapel Hill, 1962), pp. 56-58. Collet had access to the ms. map by surveyor William Churton (d. 1767), which was never published.

Thomas Holme, 1682-1695) and of the colonies south of Virginia. Nicholas Scull, a native of Pennsylvania born about 1700, was surveyor-general from 1748 to 1761. Pro-proprietor in his leanings, in the perennial issues between the Penns and the Assembly, he had cultivated politics since his twenties, including the Province's negotiations with the Indians, and in 1757 he authenticated the 'Walking Purchase.' His *Map of the Improved Part of the Province of Pennsylvania* (1759) claimed great accuracy, with special reference to the roads, and provided valuable cultural detail in the eastern portion.<sup>35</sup> It was the base for his grandson's, William Scull's, *Map of the Province* (1770), which covered all of Pennsylvania in more detail and especially with information about the western frontier, 'never before laid down with any certainty or Resemblance to Truth.'<sup>36</sup>

In the southeastern colonies the outstanding cartographer was German-born William Gerard DeBrahm (1717-1799) who had sacrificed a career as military engineer under the Emperor Charles VII when he renounced Catholicism and led a group of German Protestants to Georgia in 1751 to found the settlement at Ebenezer. An eccentric genius, whose abilities as surveyor and cartographer were soon recognized, DeBrahm became surveyor-general of Georgia in 1754, jointly with Henry Yonge, and also held a brief interim appointment of the same kind in South Carolina. He was responsible for defense fortifications against the Cherokees as well as for surveys to encourage settlement. Within three years he produced his *Map of South Carolina and a Part of Georgia*, engraved by Jefferys

<sup>35</sup>'Most all the Roads that are laid down in it have been actually surveyed and measur'd lately with great exactness: so that the Distances of Places may safely be depended on.' Hazel S. Garrison, 'Cartography of Pennsylvania before 1800,' *Pa. Mag. Hist. and Biog.*, LIX (1935), 275-277; Love, *Colonial Surveyor in Pennsylvania*, pp. 172-173.

<sup>36</sup>William Scull's *Map* includes a statement concerning the Mason-Dixon Line that it should have extended only as far west as the western boundary of Maryland. Garrison, 'Cartography,' pp. 277-278; Love, *Colonial Surveyor in Pennsylvania*, pp. 174-175.

(London, 1757) which affords ample evidence of the superior quality of DeBrahm's work, artistic as well as scientific. His growing reputation in official channels resulted in appointment to the newly created position of surveyor-general of the Southern District by the Lords of Trade in 1764, in association with another able engineer and cartographer, the Dutchman Bernard Romans, surveyor of Florida.<sup>37</sup>

Exemplifying the kinship between the cartographer and the topographer, Romans is best known for his *Concise Natural History of East and West Florida* (1775). It was a by-product of his extensive surveying, derived from field notes that ranged beyond mathematical calculations to include botanical notations. The book was published in New York as 'Volume I' and sold well enough to warrant a second edition the following year; but the war and service in the American army put an end to any plans for a second volume.<sup>38</sup>

A fourth colonial cartographer of the Southeast, Henry Mouzon (1741-1807), a South Carolinian, performed more timely service than he anticipated. In 1771 Governor Charles Grenville, Lord Montague, appointed him and Ephraim Mitchell to prepare a comprehensive map of the Province. The 'actual surveys' were not entirely their own; and the recent publication of Capt. Collet's *Compleat Map of North Carolina* may have induced them to expand their project into *An Accurate Map of North and South Carolina* in four sheets. It was engraved and printed in London, 1775, so that copies were avail-

<sup>37</sup>Louis De Vorsey, Jr., 'William Gerard De Brahm: Eccentric Genius of Southeastern Geography,' *Southeastern Geographer*, X (1970), 23-26; De Vorsey, ed., *De Brahm's Report of the General Survey in the Southern District of North America* (Columbia, S.C., 1971), pp. 5-33. 'With De Brahm,' declared Professor Cumming, 'we turn from the amateur to the professional, from the general outlines of the region to topographical accuracy,' *Southeast in Early Maps*, p. 54.

Professor De Vorsey's edition of De Brahm's *Report*, the first printing of the mss, maps, and charts in the Public Record Office, British Museum, and Staffordshire County Record Office, is a significant contribution to scholarship.

<sup>38</sup>The appendix to his *History* contains directions for navigation in Florida waters. Romans' 'General Map of the Southern British Colonies in America' appeared in *The American Military Pocket Atlas* (London, 1776). Wilbur H. Siebert's sketch of Romans in *D.A.B.*

able on both sides of the Atlantic when the Revolutionary War began. Because of its detailed and accurate information both the British and the American Army found the Mouzon Map very useful for military purposes (Mouzon himself was a patriot), and it maintained its reputation as the standard map of the Carolinas for several decades into the nineteenth century.<sup>39</sup>

From the foregoing survey it is clear that American colonists contributed notably in both public and private capacities to geographical knowledge of the Empire in North America. If this land was becoming their 'country' subconsciously, we may aver that this mapping increased their attachment, while the visual impression of the map confirmed the feeling of those Americans-in-the-making who found occasion to contemplate. Now let us backtrack and consider what the Government in Whitehall contributed to the Empire in this respect.

As the British muddled into the Seven Years' War, poorly prepared cartographically, so the maps compiled during the conflict were chiefly products of military exigency and only of temporary value except for historical purposes. However, as history has often recorded, the exigencies of war provide a training ground for men whose talents are discovered and whose immediate experience comes to fruition in later years. Three notable examples in the conflict of 1756-1763 illustrate the point. The first two were Dutchmen, Samuel Holland and Joseph Frederick Wallet Des Barres, both engineer officers under General Wolfe. By order of the commander-in-chief, John Campbell, Lord Loudoun, Holland was given the opportunity to demonstrate his ability in surveying the settled parts of Quebec Province and in compiling 'from several authentic surveys' *A Map of the Province of New York . . . with Part of Lake Ontario*, an assignment which implies the perennial British concern with the Iroquois Confederation. Jefferys deemed this map important enough to include in his *General Topography of North America and the West Indies* (1768). Holland's

<sup>39</sup> Cumming, *Southeast in Early Maps*, pp. 59-61.

work opened the way for his appointment by the Lords of Trade to the responsible position of surveyor-general for the Northern District of the American colonies in 1764. Des Barres seems to have had less opportunity to prove his cartographic skill, but he was in charge of engineering operations after the capture of Quebec and quartermaster-general of the expedition to recapture New Foundland in 1761 where contacts with the Admiralty may have put him in line after the war for directing the survey of the Atlantic coast that resulted in *The Atlantic Neptune*.<sup>40</sup>

The third soldier, by the way of illustration, was Assistant Engineer Thomas Hutchins, a member of Col. Henry Bouquet's army in the Ohio Country where Indian hostility persisted after the War with France had ended. Hutchins surveyed and mapped the area of the Muskingum and upper Ohio rivers in 1764, locating the Indian towns. Three of his maps achieved recognition in Jefferys's Atlas (*i.e.* his *General Topography*).<sup>41</sup> During his tours of duty in the army until the Revolution he gained first-hand knowledge of the West<sup>42</sup> that qualified him especially well for the position of first (and only) Geographer of the United States in 1781.

The 'new colonial policy' of Great Britain after 1763, implemented by the Stamp Act, the Townshend Acts, the revamped structure of Admiralty Courts, and other measures, found expression also in a widespread program of cartographical activity that has received little attention from historians. In contrast to the Johnny (Bull)-come-lately situation during

<sup>40</sup> Willis Chipman, 'The Life and Times of Major Samuel Holland, Surveyor-General, 1764-1801,' Ontario Historical Society, *Papers and Records*, XXI (1924), pp. 18-19, 22-24; Evans, *Des Barres*, pp. 11-12, 15.

<sup>41</sup> *A Map of the Country on the Ohio and Muskingum Rivers Showing the Situation of the Indian Towns with Respect to the Army under the Command of Col. Bouquet* [n.d.]; *A Survey of That Part of the Indian Country through which Colonel Bouquet Marched in 1764* [on same sheet]; *Plan of the Battle near Bushy Run Gained by Col. Bouquet over [the Indians] . . . 5 & 6 Aug. 1763*.

<sup>42</sup> Thomas Hutchins, *A Topographical Description of Virginia, Pennsylvania, Maryland, and North Carolina* (London, 1778), preface, p. [1]; *A Topographical Description . . .*, ed. Frederick C. Hicks (Cleveland, 1904), pp. 12-19 (biographical sketch).



the Seven Years' War, the Government embarked on a fact-finding survey, impelled in part by the need for basic information concerning their recently acquired colonies, Canada and the Floridas. To that extent it was a practical matter of correlating cartography with new administrative problems. As for the older colonies, south of Massachusetts and north of South Carolina, they were not adequately reached in this program before the Revolution, nor was the Mississippi Valley better known through official cartographic efforts. British ignorance of their colonies contributed in numerous ways to both the Revolution and the outcome of the war. It is a commentary on prevailing geographical knowledge that the new *Encyclopaedia Britannica* (1771), undertaken by a 'Society of Gentlemen in Scotland,' listed Baltimore as the capital of Maryland and Jamestown as still the capital of Virginia!<sup>43</sup>

In line with the policy of centralized administration, the Government set up a Northern and a Southern District in 1764, with the Potomac River as the dividing line, for mapping the Atlantic coast, each with a surveyor-general in charge. Although officials with the same title were already serving in the several colonies, their accomplishments, as we have seen,<sup>44</sup> had been limited and were without coordination. Now Des Barres was appointed surveyor-general of the Northern District, responsible to the Admiralty for a hydrographic survey of coastal waters. His fellow officer during the French War, Captain Holland, was under orders of the Lords of Trade to survey the eastern parts of North America, New England, and Nova Scotia. Their arduous labors of ten years, though not joint surveys, yielded significant results in the five 'books' of *The Atlantic Neptune* (1777).<sup>45</sup>

Holland began his surveying on St. John's (*i.e.* Prince Edward) Island, then proceeded to Cape Breton Island, during

<sup>43</sup> In the article on 'Geography,' undistinguished in content.

<sup>44</sup> See above, pp. 254-255.

<sup>45</sup> Evans, *Des Barres*, p. 12.

1764-1766; and during the next four years he worked along the St. Lawrence River and the upper New England coast.<sup>46</sup> Des Barres' hydrographic survey concentrated initially on Nova Scotia, the most difficult area with respect to shoals and rocks, narrow channels, and variations in the tides. It was slow and hazardous work, without benefit of manuals for the chart-maker, and it was difficult to achieve the accuracy that Des Barres insisted upon. The Canadian and northern Massachusetts coasts were covered in great detail, the coast of Southern New England, New Jersey, and Maryland less so. In 1774 Des Barres returned to England, soon to become involved in the demands of the Admiralty for printed charts for the British fleet in American waters.<sup>47</sup> The culmination of his work, artistic as well as scientific, as surveyor-general was *The Atlantic Neptune*, the fourth edition appearing in 1784. Not only did its charts meet the immediate needs of the Navy but they became the standard guides for navigation, continuing unrivaled until the second quarter of the nineteenth century. They represented, in part, Holland's work too, to whom Des Barres gave due credit on the charts as well as on the title-pages<sup>48</sup>.

Des Barres' opposite number in the Southern District was William Gerard De Brahm, who until the year 1770 also held the position with identical title for Florida. With headquarters in St. Augustine he concentrated on the interior as well as the coast of that colony, because the British lacked detailed information on this recent acquisition from Spain and because

<sup>46</sup>Chipman, 'Holland,' pp. 24-37.

<sup>47</sup>Evans, *Des Barres*, pp. 15, 19, 23. Complementary to Holland's and Des Barres' work were *The Marine Surveys of James Cook in North America 1758-1768 Particularly the Survey of Newfoundland*. . . , by R. A. Skelton and R. V. Tooley, *Map Collectors' Circle*, No. 37 (London, 1967), pp. 5-11.

<sup>48</sup>No two sets of *The Atlantic Neptune* are identical. They were gathered for individual captains, each asking for particular charts to meet his needs. The great demand for sets is indicated by the dates of successive editions: 1777, 1780, 1781, and 1784. A Frenchman in 1784 evaluated the *Neptune* as 'one of the most remarkable products of human industry that has ever been given to the world through the arts of printing and engraving.' Evans, *Des Barres*, p. 20, quoting a translation from *L'Esprit des Journaux* (1784) in I.N.P. Stokes, *Iconography of Manhattan Island, 1498-1909* (New York, 1915-28), I, 249.

De Brahm had already carried on intensive surveying of the South Carolina coastal region and the contiguous area of Georgia near the Savannah River, with an impressive map to substantiate it.<sup>49</sup> In Florida, swamps, hurricanes, and menace of Indian attack confronted the surveyors with almost insurmountable difficulties that retarded field work but did not overwhelm the surveyor-general. The interference he suffered came from another quarter. By 1770 serious friction had developed between the eccentric De Brahm and the imperious Governor James Glen of Florida, who not only discharged his surveyor-general but also sought to undermine De Brahm's relations with higher British officials who might have been influential enough to terminate his position in the Southern District. De Brahm went to England in 1770 to defend his case, taking his survey notes along and converting them into reports and maps for the Government. After four years of spasmodic hearings and argument he was vindicated, only to find on his return to America in 1775 that the revolutionary ferment was making his job untenable.<sup>50</sup>

Meanwhile Governor Glen had engaged Bernard Romans, mentioned above,<sup>51</sup> to survey West Florida and prepare maps. He traveled as far west as New Orleans and provided the first detailed information on the region for British records. Some of his surveys became available to John Stuart, Superintendent of Indian Affairs for the Southern District, who, with the aid of his talented cartographer, Joseph Purcell, compiled a large detailed manuscript map of the Indian country south of the Ohio and Potomac rivers, completed in 1775.<sup>52</sup> This map and other documents of Stuart and Romans were forwarded to the

<sup>49</sup>See above, p. 255.

<sup>50</sup>De Vorsey, ed., *De Brahm's Report*, pp. 33-52.

<sup>51</sup>See above, p. 256 and n. 38.

<sup>52</sup>Louis De Vorsey, Jr., *The Indian Boundary in the Southern Colonies, 1763-1775* (Chapel Hill, 1966), pp. 229-233. On earlier maps of the Southern Indian District see *ibid.*, pp. 69, 72, 80, 104, 131, 142, 147, 158, 176, 177, 183, 231. Cumming, *Southeast in Early Maps*, pp. 50-51.

Lords of Trade in London, thus complementing the surveys of De Brahm of the Atlantic coast. As for De Brahm, disheartened he returned to England in 1776.<sup>53</sup> Unlike Des Barres, De Brahm never found means for converting his manuscript records into a viable publication—what might have been a southern *Atlantic Neptune*. This failure to publish explains in part why he has remained little known and little appreciated.

It is clearly evident that surveying and map-making in North America by Great Britain and her colonies constituted a phenomenal development during the decade prior to the American Revolution. In terms of objectives of the British Government, its cartographical program became one of the few successful implementations of the 'new colonial policy.' Thomas Pownall, as noted above, although no longer a public official, endeavored to improve his countrymen's geographical knowledge of North America, along with his advocacy of a more enlightened administration of the colonies. In this far-flung activity the engraver-publisher, whether a geographer or not, played a crucial role. As maps are a medium of communication, so we evaluate their contemporary use and influence first as *printed* documents. Map engravers and printers in the colonies were few, their incentive dampened by competition from London, where as we have indicated,<sup>54</sup> the firm of Thomas Jefferys held the dominant position.

A recent scholarly study of Jefferys names him 'one of the principal architects in the rise of London at this time as the universal centre of cartographic progress.'<sup>55</sup> His increasing concentration on maps and charts after 1750 and his interest in North America proved advantageous to the Empire. This is exemplified by his 'Atlas' of North America and the West

<sup>53</sup>De Vorse, ed., *De Brahm's Report*, pp. 52-55; Walter W. Ristow, 'Maps of the American Revolution: a Preliminary Survey,' *Quarterly Journal of the Library of Congress*, XXVIII (1971), 198.

<sup>54</sup>Pownall's *Topographic Description of . . . North America . . .* appeared in 1776, the last two editions of his *The Administration of the Colonies* in 1774 and 1777. See above, p. 247.

<sup>55</sup>Harley, 'The Bankruptcy of Thomas Jefferys,' p. 27.

Indies (1768),<sup>56</sup> an excellent selection of about 100 maps and obviously a comprehensive timely publication, focussed on Britain's recently augmented possessions.<sup>57</sup> The atlas idea caught the fancy of the literate public; the Revolutionary War quickened the demand among the military. Although Jefferys died in 1771, the idea and its application did not expire with him. His younger associates, notably William Faden and Robert Sayer, carried on the firm, giving continuity to the founder's high standards. In 1776 Sayer and Bennett demonstrated their business acumen by publishing *The American Military Pocket Atlas* 'of the British colonies, especially those which are now, or probably may be the theatre of war.' More significant for the conduct of the war were *The American Atlas* (1776), which went through numerous editions, *The North American Atlas* (1777) by Faden, by then in business on his own, and *The West India Atlas* (1777) by Sayer and Bennett. Faden, like his old mentor, became Geographer to the King, who was a map collector himself.<sup>58</sup>

Reviewing the cartographical situation of 1776, one must conclude that it was more advantageous to the British than to the Americans. Although circulation of numerous printed maps issued during the previous quarter-century had not been restricted by any official action, copies were most readily available in London, and an 'atlas' could be gathered on special order from the bookseller's stock of separate maps on hand. The colonists were far removed from the chief source of supply and, after the outbreak of the war, that supply became quite inaccessible except by devious means. As for that most

<sup>56</sup>Jefferys, *A General Topography of North America and the West Indies. Being a Collection of All the Maps, Charts, Plans, and Particular Surveys, that have been Published in that Part of the World, either in Europe or America* (London, 1768). 'Jefferys' American cartography may have been the most successful and remunerative aspect of his business,' writes Harley, 'Bankruptcy,' p. 38.

<sup>57</sup>Of the total, forty-nine were on the West Indies.

<sup>58</sup>Harley, 'Bankruptcy,' pp. 46-47. 'Jefferys' bankruptcy confirms the idea that profit-margins of map-making were small,' *ibid.*, p. 47. Ristow, 'Maps of the American Revolution,' p. 205.

important corpus of new maps representing the arduous labor of the two surveyors-general, Des Barres and De Brahm, they were accessible only through Government channels and those published in *The Atlantic Neptune* did not begin to appear until 1777. Obviously the British armed forces got first and most immediate use of them. Hydrographically they were most valuable to the British Navy, which had previously depended upon meagerly corrected editions of *The English Pilot* (1689).<sup>59</sup> In fact, Des Barres was under urgency in 1775 to put certain charts in final form for use by Vice Admiral Richard Howe in the first invasion of the colonies.<sup>60</sup> Thus strategically, though inadvertently, the *Neptune's* initial use was by the Royal Navy in wartime; only much later, if at all, by the infant American Navy. For purposes of the army, the surveys under the surveyors-general did not reach far inland; while on most of the maps compiled under American colonial auspices local detail was very much a relative matter. This shortcoming worked to the disadvantage of both contestants, although local maps and plats in manuscript would presumably be more readily accessible to the defender than to the invader.

When Washington took command of the Continental Army on July 2, 1775, cartographic tools for prosecuting an impending war were conspicuously lacking. The colony-wide and regional maps, which we have reviewed, may have proved useful in providing generalized information for problems of strategy, but they were far less serviceable for troop movements, encampments, and tactical purposes. On a local scale the colonies had produced nothing comparable to the maps of English counties prepared from actual surveys during this same

<sup>59</sup>*The English Pilot. The First Book, Issued by John Seller* (London, 1671); . . . *The Fourth Book . . . from the River Amazons to New-found-Land; With all the West-India Navigation . . . with a New Description of New-found-Land, New England, Virginia, Mary-Land, &c.* (London, Fisher and Thornton, 1689). See Coolie Verner, *A Carto-Bibliographical Study of The English Pilot. The Fourth Book, with Special Reference to the Charts of Virginia* (Charlottesville, [1960]).

<sup>60</sup>Evans, *Des Barres*, p. 23.

period.<sup>61</sup> Furthermore, the most highly trained engineers and surveyors were serving in the British Army, a number of them natives of Continental countries where such training was closely integrated with the military.<sup>62</sup> Under the circumstances confronting Washington, his procedure was perforce empirical, his first efforts discouraging. During the first phase of the War, in New York and New Jersey, he had tried in vain to procure accurate maps, but, he informed the President of the Continental Congress, '[I] have been obliged to make shift, with such Sketches, as I could trace from my own Observations, and that of Gentlemen around me.'<sup>63</sup>

Fortunately a few months later Washington met a Scottish civil engineer and inventor, Robert Erskine, who had migrated to New Jersey in 1771 to manage an iron works financed by British capital, but had turned American patriot and become a militia captain. Washington offered him the position of Geographer and Surveyor-General to the Continental Army and he was commissioned in July 1777.<sup>64</sup> Erskine's immediate need was for 'Young gentlemen of Mathematical genius, who are acquainted with the principles of Geometry, and who have a taste for drawing.'<sup>65</sup> His first assistant was the Pennsylvania cartographer, William Scull, during the year 1777-1778;<sup>66</sup> then in June 1778 Erskine appointed as Assistant Geographer Simeon DeWitt, a recent graduate of Queen's College, who be-

<sup>61</sup>On the scale of one inch to one mile or larger. In 1759 the Society of Arts offered a premium of £100 as 'a Gratuity to any Person . . . who shall make an accurate Survey of any county.' Harley, 'Bankruptcy,' p. 42.

<sup>62</sup>Peter J. Guthorn, *American Maps and Map Makers of the Revolution* (Monmouth Beach, N.J., 1966), pp. 4-5; Ristow, 'Maps of the American Revolution,' p. 209.

<sup>63</sup>Letter dated Jan. 26, 1777, *The Writings of George Washington*, ed. John C. Fitzpatrick (Washington, 1931-44), VII, 65.

<sup>64</sup>Albert H. Heusser, *The Forgotten General, Robert Erskine, F.R.S. (1735-1780)* (Paterson, N.J. [1928]), chs. 6, 7, 9, 10; Guy H. Burnham's sketch of Erskine in *D.A.B.*

<sup>65</sup>Erskine to Washington, Aug. 1, 1777, cited as 1771 and quoted in Walter W. Ristow, 'Simeon De Witt, Pioneer American Cartographer,' *Kartengeschichte und Kartengearbeitung. Festschrift zum 80. Geburtstag von Wilhelm Bonacker*, ed. Karl-Heinz Meine (Bad Godesberg [1968]), p. 104.

<sup>66</sup>Garrison, 'Cartography of Pennsylvania,' p. 279.

came head of the office on Erskine's untimely death in 1780.<sup>67</sup> The following May, Congress appointed a Geographer to the Southern Army, Capt. Thomas Hutchins, ex-British officer, who would soon enter upon a noteworthy civilian career.<sup>68</sup>

The office of Erskine and DeWitt employed some fifty men as surveyors for various periods during the war, most of them with little or no previous experience, laying out practical routes for troop movements as the fighting shifted from New Jersey and Pennsylvania to Virginia. Among this miscellaneous lot of employees, most of them veiled in the obscurity of the common man, one finds Bernard Romans, Pierre Du Simitière, and John Trumbull, son of the governor of Connecticut.<sup>69</sup> DeWitt's office accumulated a valuable set of detailed maps which he deemed worthy of publication, but despite Washington's approval, the Confederation Congress regarded economic conditions too precarious to warrant such an expenditure in 1783. None were published; and none were transferred to the custody of the Secretary of War. Instead, they were dispersed, the largest segment being retained by DeWitt when he resigned in 1784 to begin his 50-year service as surveyor-general of New York State. Thus no cartographic military records accrued to the archives of the Confederation; but almost immediately, at least, DeWitt made his papers accessible to Christopher Colles, who used them to advantage in his *Survey of the Roads of the United States of America* (1789).<sup>70</sup> Both the British and the French armies, with their superior engineering corps, had able cartographic support—the names of Sauthier and Montresor come to mind—and some of the maps saw pub-

<sup>67</sup> Ristow, 'Simeon De Witt,' pp. 103-104.

<sup>68</sup> Hutchins, *Topographical Description*, ed. Hicks, pp. 26-27.

<sup>69</sup> Guthorn, *American Maps and Map-makers*, *passim*. The inefficient labor with which Erskine had to contend is indicated in his comment on the survey map of Elizabeth Town Point to Newark, prepared by Lt. Benjamin Lodge of the Sixth Pennsylvania: 'A most abominably Lazy slovenly performance not to survey such a small piece over again or lay it down properly.' *Ibid.*, p. 26.

<sup>70</sup> Ristow, 'Simeon De Witt,' pp. 104-105, 106. After De Witt's death in 1834 the New-York Historical Society acquired the Erskine-De Witt maps from his son Richard Varick De Witt.



lication after the war in historical works and in controversies over military reputations.<sup>71</sup> Some French and British officers, like DeWitt and Washington, retained their military papers which lent prestige to their private libraries and, in numerous instances, were eventually sent back to the United States for the scholar's use in the William L. Clements Library and others.

In the civil affairs of the United States it was the West that posed immediate spatial problems and required cartographic expertise. Now a new map and the man who made it became available by a curious succession of events. Capt. Thomas Hutchins, whose career in the British Army west of the Alleghenies I have noted briefly,<sup>72</sup> was in London when the Revolution reached the breaking-point. Pro-American in sympathy, he desired to sell his captaincy, but the Army would not discharge him; indeed he was accused of communicating secret information to friends of the United States in France, charged with high treason, and imprisoned in 1779. Meanwhile he had used his time to good advantage by writing *A Topographical Description of Virginia, Pennsylvania, Maryland, and North Carolina* to elucidate *A New Map* of the western parts of these states, issued separately, both with the imprint, London, 1778. The mapping of the Mississippi and Ohio rivers and of the Great Lakes, he wrote, was 'done from my own Surveys and corrected by my own Observations of latitudes' during the years 1764-1775.<sup>73</sup> And, as a loyal American, Hutchins emulated Lewis Evans in measuring longitude from Philadelphia.<sup>74</sup>

Fortunately Hutchins was released from prison and the Army in February 1780. He proceeded to France, got a letter of

<sup>71</sup>Charles Stedman, *The History of the Origin, Progress, and Termination of the American War* (London, 1794); Sir Banastre Tarleton, *A History of the Campaigns of 1780 and 1781, in the Southern Provinces of North America* (London, 1787); David Ramsay, *The History of the Revolution of South Carolina, from a British Province to an Independent State* (Trenton, 1785), II.

<sup>72</sup>See above, p. 258.

<sup>73</sup>Hutchins, *Topographical Description*, ed. Hicks, pp. 21-26; *Topographical Description* (1778), preface, p. [1].

<sup>74</sup>See above, p. 251.

recommendation to Congress from Franklin, and took passage to Charleston. He was designated Geographer to the Southern Army, and two months later, on July 11, 1781, Congress appointed him Geographer to the United States. His military experience in surveying and cartography, reinforced by his recent essay and map, made him eminently qualified.<sup>75</sup> When Hutchins began his survey of the public lands under the Ordinance of 1785, John Filson had already published his *Map of Kentucke* (1784),<sup>76</sup> another inducement to settlement of the western lands; and John Fitch, the inventor, had printed *A Map of the North West Parts of the United States of America* (1785), dedicated to Hutchins. The following year Jefferson prepared a draft map for his *Notes on the State of Virginia*, based upon the Fry and Jefferson map, Hutchins' map of the western country, and William Scull's of Pennsylvania. It was engraved in London, corrected by Jefferson, and included in both the Paris and the London editions of the *Notes* (1787).<sup>77</sup>

Surveys of the first 'Seven Ranges' west of the upper Ohio River involving expeditions into Indian country, began in the spring of 1786, four of the ranges being run under Hutchins's personal direction. When the old Congress of the Confederation expired uneventfully in 1789, it left a cartographic legacy, modest but of far-reaching significance to the new Government under the Constitution. But the man who organized and carried out the work became ill and died that same year, and with him terminated the office of 'geographer to the United States.'<sup>78</sup>

On the threshold of the new Republic in 1789 the Americans were better equipped geographically than cartographically.

<sup>75</sup> Hutchins, *Topographical Description*, ed. Hicks, pp. 26-28.

<sup>76</sup> Filson's map, printed in Philadelphia, was issued with his *The Discovery, Settlement, and Present State of Kentucky* (Wilmington, Del., 1784).

<sup>77</sup> Coolie Verner, "The Maps and Plates Appearing with the Several Editions of Mr. Jefferson's "Notes on the State of Virginia", ' *Virginia Magazine of History and Biography*, LIX (1951), 22-26.

<sup>78</sup> Payson J. Treat, *The National Land System, 1785-1820* (New York, 1910), pp. 41-44; Hutchins, *Topographical Description*, ed. Hicks, pp. 39-48.

From their experience as British colonists they possessed a legacy of territorial expansion that had stimulated travel and exploration, broadening their horizons and increasing their knowledge of distant regions. They had participated in this manifestation of imperialism wholeheartedly on their own frontiers and had made some important cartographic contributions based upon first-hand observation and survey. This was highly individualistic performance, not concerted effort that might have established the rudiments of a continuing organization; but the spirit of geographical inquiry was fostered by the very nature of events interwoven in some of the Revolutionary issues. The war itself was fought in widely separated areas and many an American soldier must have acquired a new comprehension of the geographical expanse of his country. As the Treaty of 1783 confirmed territorially what many Americans had taken for granted, so the new nation proceeded toward the solution of western problems involving a large factor of geography. This is well exemplified in the Ordinances of 1785 and 1787.

If this spirit of inquiry needed to be honed, the man and the time coincided in a member of the rising generation, the Rev. Mr. Jedidiah Morse. In a very real sense Morse became the 'father of American geography,' even as he emulated his British predecessors; and he soon found that it was a profitable venture, even as they had found theirs to be. It seems almost symbolic that his brain-child at age twenty-eight, *The American Geography*, first appeared in 1789.<sup>79</sup> We should not overlook the fact, however, that he had tested the idea five years earlier in *Geography Made Easy*, which offered 'a short but comprehensive system of that very useful and agreeable science.' This little book enjoyed a continuous market throughout the author's lifetime. In *The American Geography* and its successor, *The American Universal Geography*, Morse 'aimed at

<sup>79</sup> *The American Geography; or A View of the Present Situation of the United States of America* (Elizabeth Town, N.J., 1789).

utility rather than originality' and stated frankly that he had often copied from other writers, while he sought to improve on them. As the capstone he desired to 'impress the minds of American Youth with an idea of the superior importance of their own country.'<sup>80</sup> But his works represented no advancement in the 'science' of geography, still essentially descriptive rather than analytical, and devoid of the critical in any interpretive sense.

The rupture of the British Empire had entailed for Americans a distinct loss of cartographic talent, no longer readily available to them. The years of the war brought destruction or, at best, diversion of talent, and recovery was a slow process. As we have seen, the engraver's art, when closely allied with the cartographer's, produced superior maps, but such collaboration was as yet infrequent.<sup>81</sup> It would be 20 years before the appearance of John Melish's attractive maps (and he was a Scot and latecomer to America); it would be 25 before Benjamin and Henry Schenck Tanner in Philadelphia began to establish their reputation for fine cartographic engraving.

Finally, a few words on the role of government. After the long interlude of revolution and war, state maps began to appear in the 1790s, some financed by public funds, but the Government of the United States confined its attention to surveys of public lands. This had become the chief duty of Hutchins as Geographer to the United States, although he was allowed to do work for the individual states to supplement his income. We must reckon his death in 1789, at age fifty-nine,

<sup>80</sup>*Ibid.*, pp. vi, vii.

<sup>81</sup>Although Mathew Carey of Philadelphia made widely available some maps by American cartographers and engravers, his role was that of publisher, *e.g.* in connection with the first American edition of William Guthrie's *A New System of Modern Geography* (1794-95). Years later, Carey recalled that 'I printed a large edition of *Guthrie's Geography* in 4-to, two thousand five hundred copies, at twelve dollars each, with a folio atlas, containing forty or fifty maps, which, though at present of an ordinary character, was regarded as respectable at that early stage of the arts in this country.' 'Autobiography of Mathew Carey,' Letter X, Philadelphia, Jan. 31, 1834, in *New England Magazine*, VI (Jan.-June 1834), 229. On Morse's map problem see Ralph H. Brown, 'The American Geographies of Jedidiah Morse,' *Association of American Geographers, Annals*, XXXI (1941), 187-188.

a serious loss to cartography as we reflect on his achievements and speculate on the continuation of his office under the Constitution, had he lived through the period of the First Congress. Might the office of geographer have provided an *ad hoc* means for the promotion of scientific activity as a function of government? Although the Constitution in granting Congress the power 'to promote the Progress of Science and useful Arts' had limited it to copyright and patents,<sup>82</sup> the office of geographer to the United States with its scientific implications but utilitarian program could have been the agency for cartographic work that became widely dispersed eventually throughout the Government. If this opportunity was a 'near miss' of history, what actually happened followed British precedent. The geocartographical balance sheet of 1789 presented assets and liabilities that can be at least partially illuminated by their historical antecedents.

<sup>82</sup>Art. I, Sec. 8, par. 8. See A. Hunter Dupree, *Science in the Federal Government; a History of Policies and Activities to 1940* (Cambridge, Mass., 1957), pp. 5-6.

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