A SURVEY OF BOUQUET’S ROAD, 1764: SAMUEL FINLEY’S FIELD NOTES

Edward G. Williams

Every man takes the limits of his own field for the limits of the world.—Arthur Schopenhauer

What follows is another of a series of primary historical documentary pieces transcribed from manuscripts never before printed. Many years ago, I became deeply interested in a phase of historical study that seems basic, and to which all other disciplines in the historical field contribute — military, social, economic, cultural — in ever-increasing amounts with the passing of time. That is the westward movement, the expansion and progress of European civilization from southeastern Europe across that continent, to be promulgated through the agency of the Roman Empire to Helvetia, Gaul, and Britain. For several centuries the seed of civilization germinated in the soil of feudal Europe to burgeon into full flower in chivalrous knighthood and Elizabethan pageantry.

Wafted across the Atlantic by the billowing sails of the colonists’ ships, the seed of European culture found fertile soil in the tidewater flats and piedmont plains of the New World, then surmounted the Appalachian highlands, which men then called “the backbone of America,” to slip down their western slopes that drain to the “Father of Waters” and then to the far southern Gulf.

For many years, I studied the historical records of settlements that advanced westward, then recoiled after meeting Indian resistance, only to rebound and to advance farther than before, very much stronger and at an accelerated pace. The forward press of the movement in America seemed as inexorable a fact as the great glacier millennia

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before. I studied the writings and journals of pioneers and explorers, traders among the Indian nations, travelers to the frontiers, the papers of military commanders and soldiers involved in dramatic actions and expeditions, all with an eye to evaluating the individuals' contributions toward clearing the way or giving impetus to the movement westward. From the amazing quantity of practically untapped source materials, largely manuscripts, it was necessary for me to narrow down the field of selection and interpretation. The converging lines of interest focused upon a few individuals whose contributions took the form of selecting, constructing, and defending the avenues by which they carried the movement forward.

From such subjective analysis, it seemed to me that the personality who emerged in first position was Colonel Henry Bouquet, of the Sixtieth Royal American Regiment of the British forces in America, who was second-in-command of Brigadier General John Forbes's 1758 expedition to wrest the upper Ohio Valley from French domination, and who later would command two expeditions of his own. During the Forbes expedition, Bouquet personally superintended all field operations, the route selections and road building, as well as the movement of troops over the road. In 1763, he defended the road by fighting a two-day battle and achieving victory at Bushy Run. The next year, a newly organized army under Bouquet marched over the road to Fort Pitt and extended it one hundred thirty miles farther west, into the Delaware and Shawnee country on the Tuscarawas and Muskingum rivers, in present east-central Ohio. That road carried the Revolutionary armies of General Lachlan McIntosh and Colonel Daniel Brodhead with numerous supply trains and reinforcements to Fort Laurens, and for another century more was the avenue of trade, immigration, and settlers, of stagecoach travel that supported a line of taverns — all in the service of the westward surge of population in quest for land.

In its advance to the west, in 1764, Bouquet's totally self-contained task force was in hostile Indian country from the moment it crossed the river at Fort Pitt. The chief engineer originally assigned to the expedition, Captain Lieutenant John Williams, rated in the British ordnance service "Engineer Extra-Ordinary," had suffered

1 A List of the Officers of the Army and the Royal Marine Corps, Published by the Great Britain War Office by permission of the Secretary at War (London, printed annually from 1754 to 1866). Under Royal Engineers, John Williams was listed from 1759 as "Engineer Extra-Ordinary," with rank in the army as captain-lieutenant from 1759 to 1766, when he was rated "Engineer in Ordinary," with rank as captain dating from August 14, 1766 (hereafter cited as British Army Lists).
a severe wound at the battle before Fort Niagara in 1759, having "had an eye shot out." After a long recuperation lasting more than three years and only partial recovery, he was performing his first field service since the tragedy and was still somewhat incapacitated. Although he crossed the Ohio to superintend the laying out of a few orderly camps, and to begin the location of the road, he suffered the additional handicap of a severe attack of gout and was forced to return to New York. Several days prior to the crossing, while the army lay at Fort Pitt (in the orders of Thursday, September 27, 1764), Bouquet appointed Captain Samuel Finley of the Second Battalion of Pennsylvanians and Ensign Thomas Hutchins of the Sixtieth Royal American Regiment to "Act as Assistants to the Chief Engineer During the Campaign." Because Hutchins bore a commission in a regular British regiment, he superseded Finley, who had only a provincial commission. Such were the army regulations of the time that Hutchins, although an ensign, would have outranked even a provincial lieutenant colonel. When he entered the regular British service, he dropped back a grade from his lieutenantcy in the provincial service. It was this same conflict of rank and seniority between the two services that had caused George Washington to relinquish his colonel's commission rather than to be ranked as a junior captain, below all the captains of the line on the English establishment.

For reasons hereafter explained, the unfuted fact persists that Hutchins's survey notes of the path, or road, tred by Bouquet's little army have been lost, apparently irretrievably. The one sheet of his platted map of surveyed courses proves their contemporary existence.
Hutchins's extensive surveying experience and cartographic accomplishments, both prior to and after 1764, will be sketched. Many times have I expressed, in written and published commentaries, hopes that, providing Finley possessed any genius for engineering, he would have taken field notes — and preserved them. I fervently wished that they would turn up, miraculously, after more than two hundred years.

In the early spring of (I believe) 1972, when preparation was in progress for publication of "Orderly Book I of Colonel Henry Bouquet's Expedition Against the Ohio Indians, 1764" in the Western Pennsylvania Historical Magazine, I was hiking through the woods on the side of Tuscarora Mountain seeking scars or other visual evidence of the Forbes Road of 1758. It had been a fine day for "historical research in the open air," as Francis Parkman called it, and many traces of the old road were in evidence beneath the moldering leaves of the previous fall. I enjoyed the congenial company of a like-minded gentleman, Mr. Harry E. Foreman, historian and author. As we climbed the mountain slope to Cowan's Gap, I voiced my feeling that one day Captain Finley's survey notes would somewhere be found; whereupon my companion remarked: "I wish that you were acquainted with a friend of mine who has a collection of the papers of his pre-Revolutionary ancestor." I answered, "One never knows..." To my inquiry as to where he could be found, I received the reply, "Way up on the mountain, beyond Chambersburg." My friend agreed to guide me up to the residence of Mr. and Mrs. Robert D. Crouse, for that was the name of the family I sought.

A most agreeable conversation soon established the fact that Robert Crouse is indeed a lineal descendant of Samuel Finley. Understandably somewhat reticent with respect to their manuscript papers, the Crousers were soon convinced that I had a legitimate cause by viewing examples of the manner in which the Western Pennsylvania Historical Magazine had conducted the publication of my former endeavors with two editions of Bouquet's orderly books. I eagerly accepted an offer of permission to examine the treasured papers. To my amazed and ecstatic delight, I opened a small, leather-bound book and read on its introductory page:

plotted every sighted course to a scale of one inch equals one mile. It is the only sheet of what must have been eight sheets that has survived, but it graphically demonstrated that others existed at the time. Manuscript map among the Hutchins Papers, Mss. collections of the Historical Society of Pennsylvania (cited hereafter as HSP).

The following Courses & Distances are the Roads that the Honourable Col. Henry Bouquet Marches the Army under His Honours, Command To wards the Lower Shannees Towns Down the Ohio River:

The collusion of fates and circumstances that led to my finding the Crouse family with such happy results was beyond imagination. I was permitted to have photocopies of the surveyor’s field notes and permission to publish them was granted. The national bicentennial year was nigh, however, and all of the state and local agencies that usually are eager to publish such literary efforts were involved with other projects. At home, I had still to finish the manuscript of Bouquet’s March to the Ohio: The Forbes Road for the Historical Society of Western Pennsylvania, and the society’s bicentennial contribution, Fort Pitt and the Revolution on the Western Frontier. All of this consumed about five years, in addition to much travel related to business engagements.

In 1979, a noble effort was made in Beaver County to publish a magazine of local history appropriately named Milestones. The editorial management of Milestones gladly accepted the offer of a transcription with historical introduction and annotation of the part of Finley’s notes pertaining to the sector of Bouquet’s march through Beaver County and across the Ohio line. It was well received by the reading public. A copy of the publication found its way into the hands of the director of the William L. Clements Library in Ann Arbor, Michigan, the repository of the great manuscript collections of American history. They, already having the Bouquet orderly books of the western campaign among the vast collections of British army headquarters papers, were immediately interested in the acquisition of this important find. The director of Clements, Dr. John Dann, traveled to Chambersburg and met the Crouses. These fine people were gratified at having the precious manuscript of their ancestor placed in the hands of those who would cherish it and preserve it along with the great collection of the papers of General Thomas Gage, British commander in chief in America (eighty-six feet of shelf space). Following the present publication, the field book will be made available to qualified researchers.

Samuel Finley

The early life of Samuel Finley and most of his lifetime records are obscured in a maze of documentary confusion. The separation of
Cumberland County and its subdivision into offshoot counties has meant that vital records are spread among second generation counties, as well as among those of the parent county. The time and place of his birth remain unknown. A great difficulty has been interjected by the fact that the family settled in old Cumberland County before it was broken up into the fourteen present counties, including the remainder of the original county. Seven brothers migrated from County Armagh, Northern Ireland, in 1734, and their progeny scattered over Cumberland and several successor counties, Franklin, Perry, Fulton, and Huntingdon. Like Christian names of people of the same generation were so numerous as to preclude distinction among individuals. An additional problem has been that members of the same family, even brothers, spelled their surname differently. I have before me a photocopy of a will which began, "Samuel Findley," but was signed "Samuel Findlay."

The renowned historian and genealogist Charles A. Hanna, while searching for John Finley (Findley, Findlay), who first guided Daniel Boone (both of them Pennsylvanians) from Boone's temporary home on the Yadkin River in North Carolina through the Owasio (Cumberland) Gap into the legendary El Dorado called "Kentucke," was greatly confused by finding sixteen of the name of John with assorted spellings of the surname. In my search for the right Samuel, I came across a Reverend Samuel, who became president of Princeton College (now University) and was the grandfather of Samuel Finley Breese Morse, inventor of the telegraph.¹

There was another group of the name who settled in Cumberland County, the part now Franklin County, who arrived in 1763,² and from whom sprang a governor of Pennsylvania, William Findlay, General James Findley of Cincinnati, and Thomas Finley, a postmaster of Baltimore, all brothers who spelled the name with variations.³ John Filson, in his The Discovery, Settlement and Present State of Kentucke, spells the name of that pioneer Finley, as does Daniel Boone, in his memoir printed as an appendix to that work,

² This was the second Finley family, most of whom spelled the name with a "D." They landed in America in 1763. See "William Findley of Westmoreland Pa.," Pennsylvania Magazine of History and Biography 5 (1881) : 440 (hereafter cited as PMHB).
³ Hanna, Wilderness Trail, 2: 213; Dr. Lyman C. Draper, of the Wisconsin Historical Society, used the spelling Findley when narrating the subject's part in pioneering the early venture into Kentucky. Hanna has followed John Filson in the use of the Finley spelling.
entitled, "The Adventures of Col. Daniel Boon." 4 As a consequence of all of this orthographic diversity of the name no satisfactory genealogy of the family has been produced.

By the earliest record of the Samuel Finley that fulfills all of the conditions and attributes of the officer of Bouquet's expedition to the Muskingum in 1764, he was already reported as having "by the Direction and as Assistant to Col'o [later General John] Armstrong survey'd a large Tract . . . amounting to 1100 A's [acres]." 5 That was in April 1761. Finley must have had considerable experience as a surveyor to have already been assistant to John Armstrong, who had been commissioned deputy surveyor general in 1750, the year that Cumberland County was formed, and who laid out the town of Carlisle two years later. 6

We know that Samuel Finley was active in the reorganization of the Pennsylvania Regiment, for he was commissioned lieutenant in Captain William Piper's company, in Lieutenant Colonel Asher Clayton's Second Battalion, on July 16, 1763; 7 and in the summer of 1764, he enlisted seventeen recruits for the company mustered at Carlisle on August 4, 1764. 8 Nineteen days later, he was mentioned as Captain Finley, a company commander. 9 Strangely, no mention was made in the orders of the promotion or when it took place, but at Fort Loudoun on August 17, the orders read: "A Party of an Officer and Twelve of Cap.* Pippers Troop of light Horse to be ready at Six to morrow morning — armed with their Battle Ax's only, to escort Col: Bouquet." 10 In that interval, August 4-17, Piper was given command of a troop of light horse (light cavalry), newly formed

4 John Filson, The Discovery, Settlement and Present State of Kentucke (Wilmington, Delaware, 1784), Appendix, p. 51. "The Adventures of Col. Daniel Boon; containing a Narrative of the Wars of Kentucke." This is a personal narrative by Boone.


7 Pa. Archives, 5th ser., 1: 337.

8 Williams, Bouquet's March to the Ohio, 51.

9 Ibid., 74. Orders, August 23, 1764.

10 Ibid., 70 n105. Bouquet has demonstrated his versatility in adapting to the tactical use of available arms and in emulating the Roman methods of attacking barbarians. His recommendations of these same attack tactics are set forth in his "Reflections on the War with the Savages in North America," in Dr. William Smith, An Historical Account of the Expedition Against the Ohio Indians in the Year MDCCLXIV — Under the Command of Henry Bouquet, Esq. (London, 1766), appendix, 49.
and equipped in a novel manner, and Finley was promoted to the command of Piper's old company.

Henceforth, Samuel Finley was an infantry officer on the march with Bouquet's highly trained little army to the final staging area at Fort Pitt, where the troops arrived in the mid-morning of September 18. The plight of John Williams, the chief engineer, has been described. He was recuperating from the effects of a severe wound and an additional affliction of an attack of gout, so that he was able to do little more than to lay out two or three camps. Colonel Bouquet's orders issued at Fort Pitt on the evening of September 27, while the bustling preparations for the army's crossing of the Allegheny River were in progress, were read: "Cap' Finley of the 2d Batt'n Pennsylv' and Ens' Hutchins of the 60th Regt are appointed to Act as Assistants to the Chief Engineer During the Campaign. They are therefore Excused from the Duty of the Line." The next day were issued special "Morning orders Sep' 28th . . . Major Commandant [John] Field w' two Companies of Virginia Voluntiers, And L. Frazer's Plattoon of Light Infantry of the 42d Regt will Immediately to the Parade in the Fortress. This Detatchment is to Escort the Chief Engineer to the other side the Allegany." Thus, the engineers of the expedition, on whom our interest will center, would form the van of the army.

The most authentic textbooks of field engineering place emphasis upon the rule that field notes should be written as a permanent record, containing all the information that would enable a plat map to be constructed from them at any future time by persons who were not present upon the survey. Finley surely emulated the spirit and discipline of a true engineer. His descriptive notes of topography, the rapidity of flow and direction of watercourses, character of the terrain and soil, mineralogy, timber, and undergrowth, were comprehensive. A remarkable incident occurred during the transcription of Finley's notes that came close to giving the writer a sensation of having com-

11 See Author's Preface, above, footnote 3.
12 Williams, Bouquet's March to the Ohio, 129-30, n177a, b.
13 Ibid., 131.
14 Charles B. Breed and George L. Hosmer, The Principles and Practice of Surveying, Mass. Institute of Technology (New Haven, 1921, 1930), 112. On note keeping: "As other persons who are not familiar with the locality . . . will use the notes and will depend entirely on what is recorded, it is very important that the notes should contain all necessary data." Finley's notes may appear today to be full, but anyone familiar with other army engineers' notes of the time will recognize that Finley's were particularly well executed. Working under Hutchins's instructions, he would have been directed to record all important data so that a map could be plotted from them. Hutchins's own road descriptions are representative of someone with a good knowledge of geography.
municated with the spirit world. There, upon two pages of Finley's notes, he had left distinct thumbprints in the ink of the freshly written pages (12 and 16), and written on the eighth and ninth of October, 1764. Those days must have been windy, and a fresh breeze probably ruffled the pages of the book as he dipped his quill in the ink bottle and wrote.

Twelve years later, Samuel Finley was again in military service, in the war of the Revolution, as quartermaster in Colonel Samuel Culbertson's battalion of militia that served Washington so well around Philadelphia, Trenton, and Princeton, during that trying autumn and winter of 1776-1777.

In the interval, he continued his surveying and land dealing. In 1766, he surveyed land for Dr. William Smith, provost of the College of Philadelphia (University of Pennsylvania), on the Juniata River opposite Huntingdon, in addition to land on Crooked Creek, earlier, that may have been surveyed for Bouquet, or more likely, that Dr. Smith bought from Bouquet's legatees. There were surveys of land upriver below Water Street and above that, near Alexandria and the forks of the river. Much of this Juniata land Finley warranted but apparently sold before patents were obtained, and he was working in this area in 1765-1766. He owned one hundred acres in Lack Township (then Cumberland, later Mifflin, and finally Juniata County), in 1785, which may have been near the one hundred acres he owned in partnership with James Brotherton in Fannett Township in 1779 (after 1784, Franklin County). Both of these tracts must have been near, or in, the narrows of Tuscarora Creek, locally called the Concord Narrows, in the early days a strategic pass through Tuscarora Mountain. Possibly Finley's best real estate investment was that (in 1785) in partnership with William McCracken, 160 acres, at the Big Spring, in Newton Township nine miles from Shippensburg, where a torrent of icy water 130 feet wide bursts from a huge rock face five hundred feet in length. There the owners built the largest gristmill in the area, and soon three taverns, three or four distilleries, two stores, and blacksmith and wagon repair shops all sprang up in the picturesque setting of three-mile long beds of watercress that luxuriated in the icy spring water. Finley laid out the town of Springfield in town lots before 1790. This was where the old Great

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15 See appropriate pages of the field notes which will follow.
16 Wing, History of Cumberland County, 87.
18 Ibid., 3rd ser., 20: 160.
Road to Virginia passed, in the early days before the modern turnpike bypassed Springfield.  

In 1786, Samuel Finley belonged to the Big Spring Presbyterian Congregation, at Newville. This was three miles from the spring, but the stream it created was called Big Spring for all its four-mile length before it joined Conodoguinet Creek. In 1790, he purchased a town lot, with no mention of there being at that time a Mrs. Finley.

Samuel Finley appears to have been the most active surveyor of the many others who operated under the deputy surveyors general commissioned to handle the New Purchase land rush after the Treaty of Fort Stanwix in 1768. He is mentioned in caveat proceedings of the Board of Property more often than all the others together. This demonstrates that he must have been the most active, for the reason that caveat was an action brought to warn a party presumed to be in trespass. It is surprising that there were not many more cases of overlapping or identical claims, or of encroachment, among the many thousands of surveys applied for, since nearly all the application descriptions were so vague that measuring and marking off a plot of land in the endless forests could be likened to the attempted staking off of a claim in the ocean. All surveyors were equally liable to the same chances of error, each in proportion to the number of returns made. Finley evidently was required to make rather frequent trips to Philadelphia, where the Board of Property met, presided over by the president of the Supreme Executive Council, the actual governor under the Confederation. He may have been called merely to testify in a suit, he might have defended his own work, or he might himself have been a party against whom the action was brought. In a surprising number of cases, the verdict of the board was, "Caveat dismissed."  

This sketch of Finley's active life has presented only a minority of the recorded notices of the wide range of his professional activities.

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19 Ibid., 3rd ser., 20:745. Warrant (1785), 160 acres in Newton Township, Cumberland County, to William McCracken and Samuel Finley. See The History of Cumberland and Adams Counties, Pennsylvania . . . (Chicago, 1887), 364, which also records the crossing of the old Great Road at the Big Spring. See also Paul A. W. Wallace, Indian Paths of Pennsylvania (Harrisburg, 1965), 177.

20 Wing, History of Cumberland County, 239; Gilbert E. Swope, History of the Big Spring Presbyterian Church, Newville, Pa., 1737-1898 (Newville, 1898), 20; also William McCracken subscribed to the Rev. Wilson's salary, both in 1786.

21 A brief, but hardly casual, review of volume one of the third series of the Pennsylvania Archives, Minutes of the Board of Property, pages 242-721, both pages inclusive, conveys some idea of the scope of Finley's widespread surveying operations, also of the span of time involved.
and renders presumptive evidence of his judicious choice in his land purchases. It also represents him as a man of ability and means.

*Thomas Hutchins*

Finley's senior during the 1764 Bouquet expedition was Thomas Hutchins, and a synopsis of his career will clarify the reasons for his selection to take the direction of the engineering duties vacated by the ailing Captain Lieutenant John Williams.

Hutchins was born in 1730 in Monmouth County, New Jersey. Both his parents having died when he was quite young, he removed in 1746 to Lancaster County, Pennsylvania (the part that became Dauphin in 1785), and then to Philadelphia. For the next ten years, he applied himself assiduously to learning the vocations of surveying, mathematics, drafting, and cartography, also of astronomy so far as it applied to surveying and geographical, or true, meridians.22 Where he learned these skills and arts has been a mystery to historical writers, causing some to suppose that he was apprenticed to work under the instructions of the only practitioner of all of those arts in the province of Pennsylvania, the surveyor general Nicholas Scull. There are no records to prove the conjecture, nor is there any evidence to disprove it.

Giving vent to a desire for military activity, he obtained an ensigncy in Captain Robert Callender's company at Fort Augusta (now Sunbury) at the forks of the two branches of the Susquehanna River, his commission dated November 1, 1756, and he remained at Fort Augusta with a commission as lieutenant dated December 18, 1757, under Lieutenant Colonel James Burd.23 On the Forbes expedition he was listed as quartermaster as of June 7, 1758.24 He stayed at the Forks of the Ohio with Colonel Hugh Mercer to build the temporary Fort Pitt, and he rendered Captain Harry Gordon valuable aid in laying out and beginning construction of the greater Fort Pitt in 1759.25 In the latter years, he also accompanied Captain William Patterson on a reconnaissance of the abandoned French forts up French Creek and at Presqu' Isle.26 The next year, he

24 *Bouquet Papers*, 2: 63, 90, 179.
26 *Bouquet Papers*, 4: 258-61.
marched with Bouquet's army to rebuild the forts. In his dispatch to General Robert Monckton, Bouquet wrote: "It was happy for us to have Hutchins, or we would have been in danger of losing our Way, with the drunken Guides. . . . permit me to recommend to you Hutchins and Patterson, who have been of very great service in this march, and deserve to be rewarded."  

Hutchins resigned his provincial lieutenant's commission at the beginning of March 1760, and became assistant Indian agent under George Croghan, the agent at Fort Pitt under Sir William Johnson's Indian department. The state of affairs had drastically changed now that the French had been driven from Canada and withdrawn from Montreal. The Indian department needed much help with the overburden of Indian conferences and missions to the Indian nations imbued with French influence for generations. For nearly two years Hutchins conducted negotiations, helped to enforce Colonel Bouquet's Indian trade regulations and Croghan's price schedule, and acted as Croghan's deputy-in-charge during that dignitary's absences from Fort Pitt.

The role performed by Hutchins in a perilous exploit in 1762 was remarkable for its bearing upon the conduct of Bouquet's expedition, two years later. It happened this way: Sir William Johnson, anxious to forecast the temper of mind and attitude of the western Indians relative to the transfer of authority from French to British dominion and protectorate, ordered George Croghan to obtain such information. It would have been a perilous mission at best for him, for the reason that he had always plied the savages with lavish presents as the French had done. But in this case, General Jeffery Amherst had forbidden presents to the "insatiable and revolting race of beggars," especially gifts of ammunition. Croghan sent Hutchins upon the errand.

Setting out from Fort Pitt on April 4, 1762, Hutchins traveled the Great Trail path to the crossing place of the Muskingum Branch of the Tuscarawas River, thence by the Wyandot Town (Upper Sandusky) to the old French Fort Sandusky on the southern shore of

\[27\] Ibid., 640-48.
\[28\] Ibid., 44-45.
\[29\] Ibid., 482; Nicholas B. Wainwright, George Croghan, Wilderness Diplomat (Chapel Hill, N.C., 1959), 176.
\[30\] B.M., Add. Mss. 21655, f. 170 (163-66), trade regulations and instructions from Croghan to Hutchins regarding transacting business as assistant to the Indian agent.
\[31\] B.M., Add. Mss. 21655, f. 174 (181), Sir William Johnson's order to Croghan; f. 179 (185-86), Croghan's order to Hutchins to proceed on extended trip to Indian towns; Wainwright, Croghan, 180.
Sandusky Bay. There he took bateaus across the western end of Lake Erie, by the Detroit River to Lake St. Clair, and through the St. Clair River into Lake Huron. Skirting the eastern shoreline of the Michigan peninsula (the Lower Peninsula), he sailed into Saginaw Bay, short-cutting across its twenty-mile expanse midway in that estuary. He continued north and westward to pass through Mackinac Strait to Fort Michilimackinac. There he held meetings with the Ottawa and Chippewa nations, then set sail for the fort at Green Bay. This was a round trip from the Michilimackinac of about five hundred miles, coasting the Upper Peninsula to the mouth of the Fox River where there was the former French fort called by them Fort St. Xavier. There he met the Sauk, Reynard, and Menominee nations in conference and delivered his message from Sir William Johnson. Returning to Fort Michilimackinac, Hutchins delivered his message to an assembly of the Potawatomi nation. He then set sail southward in the waters of Lake Michigan, pausing to circle the entire coastline of the Grand Traverse Bay, in all four hundred miles of lakeshore to the mouth of the St. Joseph River (modern Benton Harbor), thence up that river thirty miles to Fort St. Joseph (Niles, Michigan), formerly French now in British hands, where he left his bateau, having navigated about fourteen hundred miles of never-before charted coastal waters and mapped the shorelines of the great Lower Peninsula of Michigan, nearly half the coastline of the Upper Peninsula, and deeply into Wisconsin.

Thenceforward, Hutchins traveled by land and pursued the itinerary prescribed by his orders and directions given by Johnson and spelled out by his deputy and agent, Croghan. At Fort St. Joseph, he held a conference with the Potawatomi tribe, then took the trail to the Miami town at the junction of the second St. Joseph and St. Mary rivers forming the Miami of the Lakes River (modern Maumee), one hundred miles. Next he traveled westward 110 miles to the Ouiatanon town of Miamis (four miles from Lafayette, Indiana, on the Wabash River), where he met Ouiatanons, Mascoutins, and Piankashaws, branches of the Miami nation, and the Kickapoos. Back to the Miami town, or fort (Fort Wayne), on the Maumee, 110 miles,
he trekked. Detained at Fort Miami for a few days by bad weather, he set out for the Lower Shawnee town, two hundred miles, then located on the Scioto River about four to six miles south of present day Circleville, Pickaway County, Ohio, where the Shawnees had settled after their removal from the Ohio at the mouth of the Scioto River. Hutchins did not relate in his journal the cause of the many deaths among the Shawnees which delayed any conferences for several days. He was then ready to return to Fort Pitt. High water in streams, marshy areas, and small lakes caused him to deviate from the direct route and to spend eleven days in covering what should have been 220 miles, but it is apparent that the very rainy season added distance. He would have traveled the trail to the Lower Towns noted as parting from the Fort Pitt-Tuscarawas-Sandusky path, where he described “several trees painted by the Indians in a hieroglyphic manner.”

This should have been accomplished in 160 miles but may have been nearly 180 miles. From that point, the distance was sixty miles to Fort Pitt, where Hutchins arrived on September 24, 1762, having covered at least 2,392 miles, of which about fourteen hundred miles were by water and 942 miles by land.

The preceding episode, although only sketched in its general features, is necessarily an essential part of this narrative as contributing to the conduct and strategic plan of Bouquet’s expedition, which historians of those events have never appreciated. The biographer of Hutchins, who republished his A Topographical Description of Virginia, Pennsylvania, Maryland, and North Carolina and contributed his biographical notice in the Dictionary of American Biography, totally ignored this important six months in his subject’s life. The only serious effort at a full biography of the man (though it went unpublished) skims over the whole action-filled scene as inconsequential. Certainly, it offers a background for the official situations of the two assistant engineers on the expedition.

Particularly noteworthy is that an engineer trained by hard study of mathematics and astronomy in America, probably with the help of

35 Smith, An Historical Account, 11. Hutchins, in his description entitled “The Route from Fort Pitt to Sandusky, and thence to Detroit,” wrote that this was “the Parting of the Road, where the path divides into two branches, that to the south west leading to the lower towns on the Muskingum.”

36 Rand McNally Atlas, Ohio and Michigan, were scaled.

technical methods by Nicholas Scull and, admittedly, some geographical information from Lewis Evans, was able to surpass in accuracy the British engineers trained at Woolwich military academy. Not a map of the Northwest drawn before the early nineteenth century approached this 1762 map by Hutchins for accuracy. The British engineers were still using field sketches from which to draft maps—which, however, they beautified with tempera color washes and beautifully hand-drawn floral decorative work. One writer has suggested that Hutchins used a sextant, a new instrument just being introduced as a navigational instrument, although it was not altogether reliable; it is unlikely, however, that Hutchins would have carried one into the wilderness. The statement remains, however, that Hutchins's representation of the Michigan peninsula compares favorably with a modern map of the same geographical area and in especially accurate scale.

Practically all maps incorporating the midsection of the North American continent, in the eighteenth century, followed the French cartographer Guillaume de l'Isle (Delisle, 1675-1726) in cutting away the entire northern part of Michigan peninsula. Hutchins's realistically accurate map of his survey received inexplicably little notice. Even Mitchell's map, which was dignified by its use as the basis of the deliberations of the British-American peace commission after the American Revolution, aped the clumsy Delisle map. Hutchins's method of executing his survey could only have been achieved by continual observations of Polaris (the pole star), then employing the surveyors' method of offsets to plot the shoreline—one of the earliest applications of this procedure known. He wrote a detailed description of the route, which, two years prior to Bouquet's march over the road, was used by Dr. William Smith (as previously noticed) as the framework of the journal of the expedition, with the insertion of the daily marches and some descriptions of the terrain and road conditions. Two truths emerge from the veil of facts: (1) Hutchins was familiar, two years in advance, with the very road marched by Bouquet's army; (2) he was forehanded in the methods of marine mapping, perhaps a step ahead of Joseph Frederick Wallet de Barres, British engineer, surveyor, and cartographer of The Atlantic Neptune, a compilation of maps of the Atlantic coast and coastal waters from Labrador to Florida.

Hutchins spent the succeeding months drafting from his field notes and his plat map sheets his map of the whole march from Fort

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Pitt to the Forks of the Muskingum (at present Coshocton, Ohio). He mapped the *Courses of the Ohio River* and later the lower Mississippi. His greatest work was *A Topographical Description of Virginia, Pennsylvania, Maryland, and North Carolina*, noticed in note 22. While in London superintending the engraving of his 42 x 40-inch map accompanying the latter, he was ordered to return to active duty in the army, but he refused to fight against his native country, whereupon he was arrested and thrown into prison. All his papers were confiscated, among them his notes of Bouquet's expedition. Being finally released, he went to Benjamin Franklin, in France, who sent him to America. Congress sent him to be geographer to General Nathanael Greene's southern army, and after the war appointed him geographer of the United States. His greatest service was his initiation of the great public land survey system of the United States.

This brief sketch epitomizes the extremely active career of the man with whom Samuel Finley was paired during this campaign and with his background of experience prior to the event. The notice of his later work is a bare mention of his accomplishments until his untimely death, in Pittsburgh, in 1789. The biographical material is all found in the sources mentioned in footnote 22, except for the important episode of Hutchins's extensive trip to the Indian towns in 1762.

*Land "Grants" and the Officers' Association, 1764*

An episode charged with potentially dire effects upon the morale of Bouquet's entire army, especially of the Pennsylvania troops, and particularly affecting Samuel Finley's attitude and relationships with the army, needs elucidation. At the outset of the campaign toward the Muskingum, in Ohio, against the Delaware and Shawnee towns, contingents of the Sixtieth Royal Americans and Forty-second Royal Scottish Highlanders (the Black Watch) and two battalions of the Pennsylvania Regiment marched off from Carlisle on August 10, 1764. The regulars and provincials, their battalions lately filled out with recruits, spent eighteen days at Fort Loudoun drilling the new men and training the provincials to maneuver and "form the oblong square" together with the regulars. A new *Manual Exercise as Ordered by His Majesty* had just been introduced into the army that very year of 1764 which somewhat abridged and clarified the old one; both the regulars and the new soldiers were being instructed in the "firings" in close ranks and in "displayed" (deployed) line of battle. Arriving
NOW at the Instarce and Request of the said Turbutt Francis, his Heirs and Assigns, by their Precedents and of the yearly Royalty herein after mentioned and reserved, WE HAVE given, granted, released and confirmed, and by these presents, for us, our Heirs and Successors, Do give, grant, release and confirm, unto the said Turbutt Francis, his Heirs and Assigns, the said Tract of Land, as the same now is, or hath been, and is hereby reserved, with all Mines, Minerals, Quarries, Meadows, Marshes, Swamps, Cripples, Woods, Underwoods, Timber and Trees, Way, Waters, Water-Courses, Librities, Profits, Commodities, Advantages, Heridiments, and Apparances whatsoever belonging, or in any way appertaining and lying within the Bounds and Limits aforesaid [Three full and clear fifth Parts of all Royal Mines, fne from all Deductions and Requisitions for digging and refining the same; and also one fifth Part of the Ore of all the other Mines, delivered at the Pit's Mouth only excepted, and hereby reserved] and also free leaves, Right and Liberty, to all and every Part thereof: To HAVE and to Hold the said above mentioned Tract of Land aforesaid, with their Appurtenances unto the said Turbutt Francis, his Heirs and Assigns, ever: To be helden of us, our Heirs and Successors, Proprietaries of Pennsylvania, as of our Manor of Pennsylvania, in the County of Northumberland, aforesaid, in fee and for ever, by right, and in the name of all other Services, Yielding and Paying therefore yearly and every year, at or upon the first Day of March in every year, from the first day of March, Instant One Penny, Sterling for every Acre of the said Land, or value thereof in Coin-Current, according as the Exchange shall then be between our said Province and the City of London, to each person or persons as shall, from time to time, be appointed to receive the same. AND in case of non-payment thereof, within ninety days next after the same shall become due, then shall and may be lawful for us, our Heirs and Successors, and their Receiver, or Receivers, into and upon the said Land reserved and premises to enter, and the same to hold and possess, and all the Arrears thereof, together with the Charges accruing by reason of such Non-payment and Re-entry, be fully paid and discharged, WITNESS our Seals hereunto annexed, the first Day of March, in the Year of our Lord One thousand seven hundred and 20th Year of the Reign of King George the Third, and by virtue of Great Britain, &c.

John Penn, L.P. Recorded 18th June 1774.

A portion of a 1774 land patent to Lt. Col. Turbutt Francis, commander of the First Battalion, Pennsylvania Regiment, showing the amount that he paid — £138 15s
necessary in prosecuting the above scheme to go to further expense than the first sum by us paid into their hands will extend, that then upon our declining to advance such further sum as shall be by the majority of the subscribers judged reasonable, we do forever quit claim to any share of the mentioned land, and do effectually forfeit all right to the first sum paid, or any advantage or profit arising therefrom.

**Article 3.** Upon obtaining a grant for said land, and upon being informed of the proprietary terms, we shall and will comply therewith; and if the positive resolves of a majority of the Society do require that each subscriber shall build a house in the town, or improve a tract of the land within a certain time by them limited, we will comply therewith, and perform accordingly, either in our own persons or by some other by us appointed, otherwise forfeit for ever all right to the premises to those of the Society who do comply with the above Articles.

**Article 4.** We, the Commissioners, by the rest of our associates above appointed, do bind ourselves, our heirs, executors and administrators, under the forfeiture of double the whole sum below subscribed, that we will apply the money so paid into our hands, only to the purposes abovementioned. And further, that if, after our purpose is obtained, or we think prudent to stop the prosecution of the scheme, then the overplus money remaining in our hands shall be by us refunded to the subscribers in proportion to their original subscriptions.

**Article 5.** And finally, we do conclude and agree to and with each other, that we will punctually and faithfully perform each for himself, all the Articles, Clauses and Covenants hereinbefore mentioned, and intended to be mentioned, according to the true intent and meaning hereof, and that we will at any time hereafter, if thereto required by the Commissioners aforesaid, sign, seal, perfect and publish any Article, Deed or Instrument of writing whatsoever, tending to the above purpose as by them or their attorney learned in the law, shall be judged necessary. In witness whereof we have each for himself interchangeably set our hands and the sums by us subscribed. Dated this eighth day of September, one thousand seven hundred and sixty-four.

(Signed)

Turbutt Francis, Lieut. Col. £24 0 0Nicholas Houssegger, Capt. £10 0 0
Asher Clayton, Lieut. Col. 24 0 John Lyean, Lieut. 5 10 0
John Philip de Haas, Major 15 0 James Hays, do. 5 10 0
Jacob Kern, Captain 10 0 George Thompson, do. 5 10 0
John Proctor, do. 10 0 Charles Stewart, do. 5 10 0
James Hendricks, do. 10 0 Jeremiah Lohery, do. 5 10 0
John Ritzhaupt do. 10 0 William Plunkett, Captain 10 0 0
John Brady, do. 10 0 James Irvine, do. 10 0 0
William Piper, do. 10 0 William M'Meen, Ensign 4 0 0
Timothy Green, do. 10 0 Alexander Boyd, do. 4 0 0
Samuel Hunter, do. 10 0 Daniel Hunsicker, Lieut. 5 10 0
Henry Watson, Adj. 1st B. 6 0 Joseph Erwin, Ensign 4 0 0
Conrad Bucher, Adjutant and John Webb, Captain 10 0 0
Ensign 2d B. 10 0 A. Steine, Ensign 4 0 0
Samuel Lindsey, Captain 10 0 John Folmer, do. 4 0 0
Robert Hunter, Lieut. 5 10 0 George Nagle, do. 4 0 0
John Nice, do. 5 10 0 William Piper, do. 4 0 0
Samuel Finley, Captain 10 0 0

Signatories to the officers' petition, Fort Bedford, September 8, 1764, from *Collections of the Historical Society of Pennsylvania* (Philadelphia, 1843), 1: 95.
After a great deal more was said, one of them proposed to withdraw their respective claims on the following conditions, viz: That the officers engage to furnish each of them with a location; if near the river they will accept of 500 acres each; if at a distance from the river, they will expect 1000 acres each.

The officers took the above reports into consideration, and agreed to leave all the matters in dispute to the decision of the Board of Property.

Adjourned till to-morrow 10 o'clock A.M.

Saturday, Nov. 14, 10 o'clock, A. M.—At a meeting held pursuant to adjournment, at Mr. John Little's: present, the same gentlemen as yesterday; Capt. John Hunter reported, that he had paid to Mr. John Lukens, Surveyor-General, sixty-three pounds eleven shillings, for the use of his son, Charles Lukens, being the balance in full for the officers' survey on Bald Eagle Creek; Ensign William Piper's lot only excepted, for which he, the said Piper, is to pay the sum of four pounds.

The accounts being finally settled, and the respective balances paid off, the gentlemen agreed to separate, having first requested that Col. Francis and Capt. Irvine should bring the affair to a hearing before the Board of Property, as soon as possible.

A List of the Persons to be applied to for the Patent Money, when the disputes are settled by the Board of Property, viz:

For the Money due from

To Lieut. Col. T. Francis . Lieut. Col. T. Francis, Capt. Lems, Capt. Hendricks (these two shares sold to Col. Francis.)

" Harman & Neave . Major de Haas, Capt. Bucher, sold both tracts to the Major; Capt. W. Piper, sold Bald Eagle tract to the Major; Ensign Foster, sold both tracts to the Major.


" David Kennedy . Lieut. Askey, part sold to John Clarke.

" Reuben Haines . Lieut. M'Callister, both shares sold to Samuel M'Clay; Ensign Stiene, both shares sold to R. Haines.


This 1796 example of a brass surveyor's compass, or circumferentor, with Jacob's staff, is in the collection of the Historical Society of Western Pennsylvania. Sight vanes missing.
A Young transit from the Historical Society collections dating to the 1830s.
at Fort Bedford on September 1, at "1/2 after 7 in ye Evening," \textsuperscript{39} the army tarried eight days, employing the time in collecting cattle that had strayed on the march from Fort Loudoun, sending off detachments to convoy pack trains with provisions for Fort Cumberland, Fort Ligonier, and Fort Pitt, and in directing returned detachments to their rightful encamping places with their regiments. All arms had to be cleaned, charges drawn from loaded muskets, or the arms fired to clear them. The troops had to be furnished with proper amounts of provisions and ammunition,\textsuperscript{40} all in preparation for climbing the fearsome Allegheny Mountain, the highest and the most challenging of the whole tortuous march to what — nobody knew — probably a desperate battle with savage foes that gave no quarter.

On the last full day at Fort Bedford, September 8, the commissioned officers of the Pennsylvania units, led by Lieutenant Colonel Turbutt Francis, commander of the First Battalion, convened to form an association with the purpose of petitioning the proprietary of Pennsylvania (the deputy governor, John Penn, his father Richard, and uncle Thomas) for some further reward for their services to the province other than their pay as officers of the Pennsylvania Regiment. Specifically they asked for a grant of land that would offer them some means of security of living in later years. It is evident that they cast their eyes toward their counterparts in the regular British service and in the provincial service of neighboring colonies, all of whom had received lavish promises of bounty lands for their estates.\textsuperscript{41}

Inevitably, there would have been rumors and campfire talk astir in the sultry August atmosphere that enveloped the little army when it decamped from Fort Loudoun and began the long trek over Sideling Hill Mountain. Provincial soldiers intermingled with the Black Watch regulars, veterans of Flanders and West Indian campaigns, and Bouquet's Royal Americans, who had fought at the bloody Ticonderoga and the Plains of Abraham stormings. Both regiments were stalwarts who stood with Bouquet at Bushy Run. Only ten months previously, the young King George III had issued his famous Proclamation of October 7, 1763, declaring that "We do command and empower our governors . . . of the several provinces of North America, to grant without fee or reward, to such reduced

\textsuperscript{39} The orders for August 10 to September 1 are detailed in Williams, \textit{Bouquet's March}, 56-82.

\textsuperscript{40} Ibid., 100-8.

officers and soldiers as have served in North America during the late war and are actually residing there and shall personally apply for the same . . . land, subject at the expiration of ten years to the same quit rents as other lands are subject to in the same province within which they are granted. . . ." 42

<table>
<thead>
<tr>
<th>Rank</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>To every person having the rank of Field Officer</td>
<td>5,000</td>
</tr>
<tr>
<td>To every Captain</td>
<td>3,000</td>
</tr>
<tr>
<td>To every subaltern or Staff Officer</td>
<td>2,000</td>
</tr>
<tr>
<td>To every non-commissioned Officer</td>
<td>200</td>
</tr>
<tr>
<td>To every private man</td>
<td>50</td>
</tr>
</tbody>
</table>

Pursuant to the above proclamation, all crown colonies were enjoined to reward officers and soldiers of the regular army who had served in America. Pennsylvania, however, as a proprietary colony was, consequently, not included in the benefits of the proclamation. The Highlanders and the Royal Americans were certainly eligible for grants. The very officer who issued the daily orders from headquarters, Captain John Small, would receive a grant of a field officer, as major of brigade, and would settle in Canada where he would organize a battalion of the Eighty-fourth Loyal Highland Emigrants to fight for the king in the American Revolution. 43 The Scotsmen exulted in their fair prospects of large farms and woodlands to develop in America. Some Royal American officers did profit from proclamation grants in other provinces.

Two Virginia contingents, numbering 254 men, joined the expedition 44 at Pittsburgh, just in time to be ordered out as the vanguard of the army when it invaded the Indians’ domain. 45 Governor Robert Dinwiddie had proclaimed that Washington’s veterans of the Fort Necessity campaign and later French and Indian War services should have allotted to them 200,000 acres apportioned according to rank. Subsequent governors and sessions of the House of Burgesses had promised to implement the allotments and surveys, all of which

42 W. W. Henning, ed., The Statutes at Large of Virginia: Being a Collection of All the Laws of Virginia From the First Session of the Legislature in the Year 1619, 13 vols. (Richmond, 1809-1823), 7: 666, Land Bounties to Officers and Soldiers.
43 Williams, Bouquet’s March to the Ohio, 33, biog. sketch of John Small; E. B. O’Callaghan, Documents Relative to the Colonial History of the State of New York, 15 vols. (Albany, 1853-1857), 8: 588; Horatio Rogers, Lieut. James Haddon’s Journal (Albany, 1884), 549; Small later became a lieutenant general in the British service, see Archibald Forbes, The Black Watch, the Record of an Historic Regiment (New York, 1897), 88.
45 Williams, Bouquet’s March to the Ohio, 137.
had received much publicity. The veterans' grants were free and also did not stipulate payment of quitrents for fifteen years. These were discontinued very early in the Revolution, except in the Culpeper (Fairfax) proprietary domain of the Northern Neck.\(^46\) Apportionment was made as follows:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Officers</td>
<td>15,000</td>
</tr>
<tr>
<td>Captains</td>
<td>9,000</td>
</tr>
<tr>
<td>Lieutenants</td>
<td>6,000</td>
</tr>
<tr>
<td>Cadets</td>
<td>2,500</td>
</tr>
<tr>
<td>Sergeants</td>
<td>600</td>
</tr>
<tr>
<td>Corporals</td>
<td>500</td>
</tr>
<tr>
<td>Privates</td>
<td>400</td>
</tr>
</tbody>
</table>

With Washington as guardian of the Virginia veterans' interests — they experienced long delays also — the surveys were put into execution, at a cost of £2,500 to the colonial treasury and much personal expense on the part of Washington. They were in progress at the very time of this pooling of land surveys for veterans — and, like them, litigation carried on until 1774.

The exact number of Pennsylvanians in Bouquet's army cannot accurately be determined, because many were detached during the campaign, even when the force reached the Tuscarawas. They were sent back with horses (unloaded) and convoys of liberated prisoners. We know of ten discharges as unfit, eight sick in hospitals, while the remainder are unaccounted for. Many of these individuals had been in the service of the province since the days immediately following Major General Edward Braddock's defeat in that dreadful summer of 1755. Others came into the armed forces in 1756 to head the detachments of militia defending the chain of small forts and posts spread across Pennsylvania from the Delaware to the Susquehanna River, where Fort Augusta was located. West of the river, the line ran up the Juniata and southwest to Fort Loudoun, to Fort Lyttelton and Philip Davis's fort on the Maryland line at the eastern base of the North Mountain.\(^48\) These troops were no longer raw militia, but were sea-


\(^{48}\) A perusal of *Pa. Archives*, 5th ser., 1: 88-91, will reveal the names of many officers in the service of the province as early as 1756 and 1757, who are familiar figures with the Forbes campaign of 1758 and again with Bouquet's army in 1764. In this same volume, from pp. 88 through 109, are preserved the
soned regulars with eight years of training and much fighting the *petite guerre*. Their officers were keenly aware that they performed the same duties, regulation routines, and functions as their counterparts in the British regular service, who anticipated the royal promise of reward by half pay for life, or who might sell their commissions for a liberal sum — £1,400 sterling for a captaincy and £500 for a lieutenancy. At the going price of land in America, a captain's commission would buy 28,000 acres of choice land. The Pennsylvanians could receive no reward in retirement but their pay on active duty.

Under these circumstances the officers of the Pennsylvania battalions convened at Fort Bedford for the purpose of petitioning the proprietary government of the Penns to concert some sort of a compensatory plan, such as a land allocation, that would offer them a means of supporting their families, after having devoted several of their best years to the service of the province.

It is not beyond the scope of this study to follow the affair to its conclusion, because of its subsequent implications and deep-seated effects upon some personalities involved, particularly Captain Samuel Finley. Furthermore, it provides a vehicle for presenting some new perspectives upon an epoch in our history that transcends even state boundaries.

rolls of battalions "where posted." Philip Davis's stockaded house, often called Fort Davis, was near Walsh Run at the foot of a high mountain locally called Davis Peak. A small detachment of provincial troops were stationed at Davis's, at the end of Pennsylvania's line of forts and posts. It was so near the Maryland line that Mason and Dixon knew Philip Davis and mentioned his house in their journal. Hubertis M. Cummings, *The Mason and Dixon Line, Story for a Bicentenary, 1763-1963* (Harrisburg, 1962), 50; William A. Hunter, *Forts on the Pennsylvania Frontier, 1753-1758* (Harrisburg, 1960), 558-600.

49 Williams, *Bouquet's March to the Ohio*, is throughout convincing evidence that the officers of the two Pennsylvania battalions were assigned and performed duties indiscriminately and equally with the regular British regiments on the expedition.

50 *Ibid.*, 22, General Orders issued from Head Quarters at New York, April 4, 1764, specify the fixed prices of "Exchanges from Half Pay to Full Pay" for the several grades. The annual *British Army Lists* appended half pay rolls of "disbanded officers" whose regiments had been disbanded, leaving the officer without a command. They could exchange with an officer on active service by paying the difference specified, thus becoming officers on active duty with the same rank at which they retired. The *Lists* also published the names of officers, most of whom were half pay recipients, who received regular promotions. Many general officers had retired as captains or colonels, yet had risen, at an advanced age, to rank with generals in the army. This is the meaning of the repeated reference of the Pennsylvania officers to their inability to qualify for half pay.

The Pennsylvanians reasoned that a total of 40,000 acres would accommodate the needs and purposes of apportioning a sufficient amount of land for a large farm for each officer to support a family. They also envisioned a frontier community that would serve as a defensive buffer for the interior settlements. A synopsis of succeeding events will render a view of how this project worked out.

At the outset, they acknowledged that so large an acreage could not be found within the existing bounds of the province; hence they suggested that a new purchase should be made from the Indians. Realizing that a treaty was necessary, they prefaced their request and "they humbly prayed" that the proprietary should grant them easy terms that they could afford. They further requested that "when your Honors reflect that the provincial officers are not entitled to half pay, and supposed not to be included in the provision made by his majesty for reduced officers in America, though they may have gone through the same duty, we flatter ourselves it may be an additional inducement to your Honors to make this grant on favorable terms." 52

Of the sixty-four officers of the two Pennsylvania battalions eligible, thirty-four signed their names to the agreement of association binding themselves to pay sums graduated according to rank: £4 for an ensign; £5 10 shillings for a lieutenant; £10 for a captain; £15 for a major; and £24 for a lieutenant colonel, the money for expenditures for initiating the surveys. The obligation entered into by the signing of their names read as follows: "We [the officers' names and ranks] being desirous of forming a settlement within the province of Pennsylvania, do voluntarily engage and subject ourselves, our heirs, administrators, and executors, upon the nonperformance of the undersigned articles, to forfeit and pay double the sums to each of our names respectively by our own hands affixed, it being the present lawful money of the aforesaid province; to be sued for and recovered in any Court of Record within the kingdom of Great Britain, or any part of His Majesty's dominions in America." 53 Further, the obligation declared: "We do agree that provided the commissioners [appoint-
ed by the first article] think necessary in prosecuting the above scheme to go to further expense than the first sum by us paid . . . that then upon our declining to advance such further sum as shall by the majority of subscribers judged reasonable, we do forever quit claim to any share of the mentioned land, and do effectually forfeit all right to the first sum paid, or any advantage or profit arising therefrom." 54

With this formidable and threatening — disquieting, to say the least — prelude to the presentation of the scheme, the only inducement that must have been offered would have been: "Only the venturesome among you will enter into this association and surely will profit from the land grant we expect!" It does not seem surprising that nearly half the officers did not subscribe to the obviously contrived proceedings; and it seems that nearly a third of the original signers had "second thoughts," for they did not participate further. These were men marching into the jaws of a formidable enemy, expecting to fight a desperate battle (or battles). In the event that they might be casualties, what then would confront their families, heirs, and executors when sued in "any Court of Record within the kingdom of Great Britain"? The timing for the introduction of the scheme was certainly wrong. Among those having serious reservations was Captain Samuel Finley, and certainly that constituted no reflection upon his courage.

Many meetings were held during 1765 at Philadelphia, Fort Augusta (Sunbury), and Harris's Ferry (Harrisburg), with reports of those who had paid more money and those who had not. Two officers were excluded from having any shares, one being Lieutenant Colonel Clayton, the commander of the Second Battalion, because of the prejudices of the governor. There were no meetings between August 18, 1765, and January 21, 1769. 55 In the fall of 1768, there had been a great treaty held with the Iroquois at Fort Stanwix (present Rome), New York, at which a great belt of territory was purchased, of varying width, stretching from the northeast corner of the present state of Pennsylvania to the present southwest corner of

54 The officers who were signatory to the articles of association are listed in ibid., 95, Pa. Archives, 5th ser., 1: 334-37, lists sixty-four holding commissions in the First and Second battalions printed under a resume of the articles of agreement, under date of the April 30, 1765, formal petition written by Edward Shippen (see note 52 above). The orderly book accounts for sixty officers, although several more were admitted to membership, having been absent on detached duty at the time of the September 8 signing. The obligation subscribed to is printed on page 94 of the Colls. Hist. Soc. Pa.

55 The several meetings held during 1765 were productive mainly of reporting and warnings of the penalties agreed to regarding delinquency of payments and of nonattendance at meetings.
the state. There was much more than one hundred times the land necessary to satisfy the original desires of the veterans, but Governor John Penn resolved to allocate only 24,000 acres to officers.\textsuperscript{56} Then the surveyor general found that only 6,096 acres could be allotted on the east side of the Susquehanna River, West Branch, and in the fine valley of Buffalo Creek, in present Union County, he could only find 8,000 acres. Next was selected the Bald Eagle Valley west from present Lock Haven, in present Clinton and extending into present Centre County, where 9,904 acres were surveyed. These surveys totalled 24,000 acres. The commissioners of the officers decided that the warrantees must take their allotments in two tracts, one on the Susquehanna or in Buffalo Valley and one in Bald Eagle Valley,\textsuperscript{57} except that Lieutenant Colonel Francis might have his 2,775 acres in one tract on the eastern side of Susquehanna, in then Berks County, and soon to be Northumberland. This gesture was a special privilege to the promoter of the scheme and association.\textsuperscript{58} Only seven others received one of their plots in the Susquehanna River survey, because there were several previous occupants, by preemption, of the land extending down to the Forks of the branches of the river, which tracts, incidentally, Colonel Francis soon purchased. Two lotteries were held in order to distribute the individual tracts equitably. Sixteen tracts were in Buffalo Valley and twenty-three in Bald Eagle Valley.\textsuperscript{59}

This arrangement immediately led to a great flurry of trading and dealing in real estate between officers who wished to bring their tracts together, wished to have them nearer to the settlements, or wished to sell one tract to pay for the other. Then land speculators came into the picture, hoping to obtain as much of this good bottom land as possible. Some speculators entered through lending money, as bankers. Having a vested interest, they even sat in the meetings of the commissioners and members of the association.

\textsuperscript{56} No meetings were held between August 18, 1765, and January 21, 1769, \textit{Colls. Hist. Soc. Pa.}, 1: 96-101. The Treaty at Fort Stanwix, New York, resulted in the Iroquois council selling a great tract of territory extending from the Delaware River, in the northeast corner of present Pennsylvania to the southwest corner of the present state, and down the Ohio River to the Tennessee River (later changed to the Kentucky River). See Thomas P. Abernethy, \textit{Western Lands and the American Revolution} (1937; reprint ed., New York, 1959), 34-38.

\textsuperscript{57} The process of arriving at a decision to survey the three great tracts is found in the \textit{Colls. Hist. Soc. Pa.}, 1: 103-4, 106.

\textsuperscript{58} \textit{Ibid.}, 107-8.

\textsuperscript{59} See \textit{ibid.}, 107-8, 109, for the two lotteries to make equitable apportionment.
The proportionate shares of the officers according to rank were:

1 lieutenant Colonel . . 2,775 acres
1 Major . . . . 1,734 "
11 Captains . . . . 12,722 " — 1,156 6/11 each
7 Lieutenants . . . . 4,453 " — 636 2/7 each
5 Ensigns . . . . 2,313 " — 462 3/5 each
Lost in not minding fractions 3 "

24,000 acres

The treaty with the Iroquois at Fort Stanwix on November 5, 1768, and the treaties of Hard Labor, October 15, 1768, followed by Lochabor in 1770 with the Cherokees, "wiped out the Proclamation of 1763." Once again, land speculation and surveys were legally possible beyond previous limits. 61

All the foregoing trading, haggling, and rearranging occurred over a period of years. The spirit of the 1764 expedition was, as it resulted, not affected or harmed. The expectations at that juncture were high, everyone hoping for the largesse of their government that would in some measure elevate them to the status of fellow officers, whether in neighboring colonies or in Britain. A little more than four years passed before the purchase of land; then, on February 3, 1769, Governor John Penn, having received the resolution of the proprietary owners, along with his father Richard and his uncle Thomas Penn, in England, announced the terms on which he would "grant" that the officers "would be allowed to take up twenty-four thousand acres . . . to be seated with a family to each three hundred acres within two years from time of survey, paying five pounds sterling per hundred and one penny [yearly quitrent] per acre." 62 The very term, grant, repeated many times in the proceedings, connotes a gratuitous action, and had been so used in practice by the king's proclamation of 1763, as well as in the case of the Virginia veterans' grants. It was so intended and so operated in the instance of the grants by North Carolina to her Revolutionary veterans which became Tennessee, or Pennsylvania's Revolutionary veterans' Donation Lands. Yet in this case, the terms quoted were the very top price charged the public for the most excellent land in the colony. The requirement of £5

60 Ibid., 107.
per hundred acres and one penny per acre yearly quitrent payable only in sterling was a real hardship, in that only the paper money of the province was available, except among the wealthy or to the large trading establishments. The exchange rate for sterling was set by law at 16 d (pence) for a 12 d silver shilling, plus a 2 d surcharge to cover transmittal of bills of exchange to London.\textsuperscript{63} This accounting procedure made the cost of a captain's share of the land (1,156 6/11 acres, which was Samuel Finley's portion), at the price of £5 per hundred acres (11.565 hundreds), £86 14 s (shillings) 9 d Pennsylvania currency. The annual quitrent alone would amount to £4 16 s 4 1/2 d Pennsylvania currency. (The difference in exchange of 16 s for a 12 d shilling plus the 2 d transmittal charge amounted to a 50 percent markup.) Many of the officers could not afford to pay the price or were disillusioned and disappointed, and consequently never bought the land. The fiction persisted — and persists to this day among the descendants of the men who did proceed with the transaction — that their worthy ancestors received their land as reward for their services. It seems only truthful to say that to receive something that one pays a premium price for cannot be denominated a gift. The price of the quitrent was increased from the customary shilling per hundred acres to one penny an acre, a multifold jump. A shilling, being 12 d, would amount to 12 d per hundred, while 1 d per acre would amount to 100 d per hundred, 8 1/2 times more, or an 833.3 percent increase, yet this is usually mentioned as a small increase. The deal cannot be called fraud, but it certainly constituted deception. All of this worked and was manipulated to certain persons' advantage, as later related.

Evidence the following: “Applications for land in the new purchase were first received at the provincial land office on the 3d of April, 1769, agreeably to the following advertisement: — The land office will be opened on the 3d day of April next at ten o'clock in the morning to receive applications from all persons inclinable to take up lands in the new purchase, upon the terms of five pounds Sterling per hundred acres and one penny per acre per annum quit-rent. . . .”\textsuperscript{64}

For many years, I was uncertain as to the source of inaccurate impressions regarding the motives behind the organization of the association of officers and mistaken views of the final results. The impression prevalent among the general public of the community where

\textsuperscript{63} Bond, \textit{Quit-Rent System}, 142-43.

\textsuperscript{64} Herbert C. Bell, ed., \textit{History of Northumberland County, Pennsylvania} (Chicago, 1891), 83, quoting the \textit{Pennsylvania Gazette}. 
I was born and grew to college age. I have been that the officers received no monetary payments for their services but were granted land in lieu of money. Many times have I witnessed speakers who were descendants of the officers assert that their ancestors had received payment in land for their services to the colony.

One of the most persistent sources of these impressions has been an otherwise fine article by John H. Carter in the *Northumberland County Historical Society Proceedings* in 1944. The piece is interesting, and was the result of much research among the deed and will records of the four counties in which the surveys of officers' tracts were carried out, leading to tracing out the conveyances of the land to modern ownership (1940). Much has occurred and many changes have been effected since that time. (For example, the great federal penitentiary at Lewisburg has been built covering all of Captain James Hendrick's original warranted and surveyed tract, which he had immediately sold to Colonel Francis.)

It is difficult to account for the statement that "the officers of the First and Second Battalion, not having been paid for their services, made an agreement in writing at Fort Bedford . . ." or for the many times the statement, "grant for services," is repeated. The only explanation possible, it seems, is that the author misunderstood the averment made in the officers' petition, that they "did not receive half pay," which he misinterpreted to mean that they were entitled to receive only half pay during their service, wherefore they "humbly prayed" that they might receive a tract of land that they might support their families after they no longer received pay. The difficulty is that the writer did not understand the operation of the British army's purchase system regulating commissions and half pay. Every officer, having purchased his commission, might purchase a higher one when a vacancy occurred, or he might exchange with a half pay officer who wished to return to the active rolls (after paying the scheduled price); but he always looked forward expectantly to receiving half pay for the rest of his life, after he retired, or was forced from active duty by wounds or sickness. If he maintained his commission and did not sell it, and his regiment was deactivated, he was included in the published

65 John H. Carter, "Land Grants in Northumberland County to the Pennsylvania Officers of the Pontiac War," *Northumberland County Historical Society Proceedings* 14 (1944): 77-97. The article is informative as to the modern ownership of much of the officers' land, but entirely ignores (and misstates) the fact that nearly all the grantees immediately transferred title to others, so that the original patentee ownership was only transitory and merely interesting historically. Carter grossly misinterprets the significance of the element of "half pay" introduced into the officers' petition.
half pay lists, and he also received periodic promotions until he became a general on half pay.\(^{\text{66}}\) This was the situation from which the Pennsylvania officers complained that they were being excluded. They asked for a land grant, such as the Virginians had received gratuitously, and were granted the privilege of purchasing in designated places land at the same recently inflated prices that were advertised to the general public. May it be remembered that they were required to sign articles containing dire threats to their posterity if they defaulted. One asks what kind of bargain, or reward for suffering hardships, did this sham grant turn out to be? The drop-outs from the transaction tell the story. Three men gathered all the advantages, for they alone had capital and hoped to sell to advantage, as rapid settlement of the country was expected.

Incidentally, Turbutt Francis's estate was bankrupt and was sold at sheriff's sale, with not enough recouped to satisfy his debts.\(^{\text{67}}\) Also, the Carter article relates that Captain William Piper lived and died upon his Delaware Run tract and was there during the Revolution. The facts are that the Piper family took flight with the rest of the settlers of both branches of the Susquehanna valleys in the time of the Great Runaway in 1778. They removed to the protection of Fort Piper, Colonel John Piper's stockaded stone house (still to be seen) on Piper Run, in Bedford County. Captain Piper later became one of the collectors of the excise tax, so odious to the people of the Whiskey Rebellion. He died in Mercersburg, Franklin County, in 1798.\(^{\text{68}}\)

To recapitulate the roster of membership in the association, there were sixty-four officers of the two battalions who were eligible to participate,\(^{\text{69}}\) of whom only thirty-four signed the articles.\(^{\text{70}}\) Five

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\(^{\text{66}}\) Refer to note 50 above.

\(^{\text{67}}\) Bell, *Northumberland County*, 547. “A body of land aggregating nearly three thousand acres . . . was secured by Turbutt Francis. . . . that part embracing the site of Milton, which remained in his possession at the time of his death, was purchased by Andrew Straub and Christian Yentzer at sheriff's sale . . . confirmed to them by deed of June 10, 1790. . . . judgment was given . . . against Sarah Francis, executrix . . . in the sum of eleven hundred pounds. Of this sum two hundred fifteen pounds were derived from the sale of [two hundred acres] property . . . for five hundred fifty pounds.”

\(^{\text{68}}\) Bouquet's *March to the Ohio*, 50 note f, Piper's granddaughter, daughter of Piper's only child and General James Irvine, is the authority for the facts of his later life. William H. Egle, ed., *Notes and Queries, Historical and Genealogical*, 12 vols. (Harrisburg, 1893-1901), 2nd ser., 1: 37.

\(^{\text{69}}\) Calculation of the number of eligible officers to participate in the allotment of land has been complicated. Seeming discrepancies exist between the roster at the beginning of 1764, presented in *Pa. Archives*, 5th ser., 1: 34-36, 36-37, and the muster rolls of the two battalions as of July 23 and 30. One company, Captain Caleb Graydon's, was left to garrison Fort Augusta and does
officers asked to be admitted,71 but two of them were not active at
the time of the lottery drawings. Two, as has been stated, were dis-
qualified by the governor,72 leaving the number constant; but ten of
the number did not participate further so that there were only twenty-
four still subject to demands for further contributions to expenses. In
the trading and dealing of shares, ten sold both of their tracts, either
to two or three senior officers who were gathering in a majority of the
shares for their own use, or to a few outsiders, as before mentioned.
Lieutenant Colonel Francis, who spearheaded the project from origin
to settlement, bought shares from several who wished to sell out, ac-
cumulating 5,087 acres: Major John de Haas purchased many shares
in both Bald Eagle and Buffalo valleys, so that the two emerged with
12,805 acres, more than half the 24,000-acre total allotment.73 Cap-
tain James Irvine was surety for the patent money of six others besides
his own two shares, and there is no note as to how much equity he
had in these other properties. The point is inescapable that, with all
the land that originally had been intended for the experienced soldiers
"to protect the interior of the country against future depredations," at
least three-fifths of it was owned by three men. More acreage came
into the hands of seven outside speculators — only a small handful,
probably five, were left out of the large number of hopeful officers.
Of course, most of the real estate vending and trading took place
in the interval between the surveys, in 1769, and the final settlement
of accounts, in 1774.74 Bouquet never knew of these events, for he
died in September 1765.

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70 Collins Hist. Soc. Pa., 1: 95.
71 The five officers requesting admission were: Captain Caleb Graydon,
Lieutenant Christopher Seely (Seal), Lieutenant Thomas Wiggins, surgeon,
Ensign James Foster, and Ensign W. Cooper, ibid., 98, 99.
72 Governor John Penn had formed a prejudice against Lieutenant Colonel
Asher Clayton (ibid., 103, 106) because that officer had not prevented the
massacre of Moravian Indians at Lancaster, in 1763. He likewise interfered
Ensign James Morrow (ibid., 108, 111) for having participated in the jail
delivery of Stump and Ironcutter, perpetrators of the brutal murders of
innocent Indians on Penn's Creek.
73 The calculation of acreages acquired by individuals, taken from analysis
of the report printed at the bottom of ibid., 116.
74 The final transaction of the commissioners of the officers' association
Through all the minutes and transactions of the officers' association recounted above, no reference to Samuel Finley appears since the initial Bedford meeting, and he kept a strict, and aloof, silence. Not until the meeting held at Harris's Ferry on May 16, 1769, was any official notice taken of him, although he had been an initial signatory of the articles. The minutes of that meeting read: "Col. Francis informed the company that Mr. Finley had never advanced any sum whatever, toward defraying the expenses attending the prosecution of the application, notwithstanding he had timely and repeated notice . . . he would for such neglect have his name struck off the list of officers, and be excluded from having any share of the lands . . . Agreed that Capt. Samuel Finley is not entitled to any share of the lands that might be granted. . . ."

These facts speak clearly regarding the motives of the man, of whom there has been no recorded character description. He was an engineer, and civil engineers have notoriously been men who kept their own counsels, often to the point of being considered non-gregarious. He must have had a deep-seated sensitivity to the political implications of the officers' association, and he probably reflected upon the more profound meaning expressed in the preamble of the articles he had signed in 1764. There were others who must have shared his sentiments and were equally put off.

The presentation of an elaborately engrossed legal document, ready to be signed, must have seemed like a contrived entrapment. It certainly must have been a preconceived scheme, drawn by a professional hand, and brought along for just such an opportune time to

was concluded on January 6, 1774.

Advertisement agreed on by Col. Francis, Capt. Hunter, and Capt. Irvine, in consequence of the (above) resolution:

This is to give notice to those officers who served in the Pennsylvania Regiment in the year 1764, who are entitled to any share of the land granted to them by the Honorable Proprietors in 1769, and to all those who derive any right or title under any of the said officers, that they or their attorneys are to attend on Monday, the 28th day of February next, at the house of John Little in Fourth Street [Philadelphia], at ten o'clock in the forenoon, in order to pay for their several allotments, as the Board of Property have come to a resolution to grant patents upon payment of the whole sum, and upon no other terms; therefore all those who have any claims to the above lands, under the Proprietors' grant to the said officers, are to take notice that the shares of those who do not attend and pay, will be forfeited, and patents for the same will be granted to those who advance the whole money, according to the original agreement made with the proprietors.

January 6, 1774.

[Signed] Turbutt Francis
James Irvine

Commissioners.

The foregoing advertisement published in the Gazette and Journal.
present. Confirmation of such suspicions came with the overt entry of politics into the affairs of the association in the matter of the special preferment of Francis to have all his land surveyed to him in one tract in the most advantageous location on the Susquehanna River shore, when all the others were consigned to tracts drawn by lot in two locations with limited waterfront land. Added evidence of imputed preconcerted plans surfaced when two officers ended with more than half of all the land, and a third with several tracts and liens on several others.

The foregoing citations of Finley's widespread surveys and his many real estate acquisitions bespeak a man of substance and judgment, who certainly did not refuse to participate in the officers' dealings for financial reasons. A man of his demonstrated abilities and temperament would have been what we today would describe as a "no nonsense," or "down to earth" realist. Having spent the greater part of his life, for long intervals at a time, in the deep recesses of the primeval forests intent upon sighting and measuring his courses, he communicated with God and nature, yet kept a "weather eye" trained for ever-present rattlesnakes, prowling bobcats, and the most lethal enemy of all, the stealthy Indian. He seldom spoke, except to "line in" his head chainman. Engineers were, and are, men of few words.

Finley's having completely ignored all communications from the officers' association would have stemmed from a realistic appraisal of the situation in 1764 and succeeding years. He could buy all the land he wanted in better locations and not exposed to enemy attack upon the far frontiers; he could also buy upon better terms land tracts of his own selection. He could acquire the property without threats hanging over his head if he did not pay for a patent within a specified number of months under pain of losing all of his investment. Being upon the ground himself, he could choose tracts of ground for advantageous locations for mills, commercial uses, for packers' "sleeping places," where there was fresh, clear water, luxuriant grass, and pine, spruce, or hemlock for constructing temporary shelters. For these spots there were plenty of buyers who would pay the original warrantee a good profit, without his having to pay for a patent, and the survey fee was, shall we say, nominal, since he was his own surveyor. Consequently, Samuel Finley's land deals are hard to find, because many of them never were recorded under his name as patentee or as grantee. The evidence is clear that he was shrewd in his real estate selections.
Frontier Defense

The Penns' 1769 allotment of land to the officers of the Bouquet expedition carries with it the implication that the proprietors were unwilling to make the direct financial commitments necessary for the adequate defense of the province. When coupled with what we know about the Quaker assembly's attitudes towards defense during the early years of the war with France, lingering doubts arise about the willingness of the governor and assembly to pay for the military protection of the frontier. A few brief facts should suffice to dispel any such uncertainty about the situation in 1764.

In November 1763, soon after his return to America, Governor John Penn set in motion action in the assembly to punish the western Indians for their savage attacks. General Thomas Gage, the British commander in chief in America, offered the aid of some Royal Highlanders and Royal Americans remaining in the country, to be joined with provincial troops from Virginia, Maryland, and Pennsylvania. Pennsylvania's quota was 1,000, while Virginia's provincials were already occupied with building frontier forts, and Maryland, by their laws could not send militia beyond their boundaries.75

The Pennsylvania assembly immediately passed a bill appropriating £50,000 to pay and supply their troops, to be funded by a tax upon all land in the province. The proprietaries (John Penn's father and uncle), long resisting taxation of proprietary manors, reneged on the proposition to tax their proprietary manor lands at the same rate as the commonalty of landowners. Months of heated wrangling continued,76 while Indian atrocities were perpetrated seemingly without cessation. Finally, on May 30, 1764, the bill for raising troops and supplying them received the governor's reluctant sanction.77 The method of raising the money was to be a general land tax, but the proprietary manors (many thousands of acres) were to be taxed at the rate of the lowest classification of unimproved, uncleared, unculti-

75 Governor Horatio Sharpe to Colonel Bouquet, Apr. 21, 1764, B.M., Add. Mss. 21650, Pt. 1, f. 154 (108-9). In answer to Bouquet's letter requesting aid, the governor of Maryland stated at length the impossibility of legally sending troops beyond the bounds of his province, but suggested several active militia officers who commanded companies who might be willing to volunteer aid. The company of fifty volunteers commanded by Captain William McLellen "Set off this last week to join you by way of Fort Cumberland ... all his people are Extraordinary Good Woodsmen." Ibid., Pt. 2, f. 502 (136-37).

76 See Thomas F. Gordon, The History of Pennsylvania from Its Discovery by Europeans to the Declaration of Independence (Philadelphia, 1829), 413-35, for a review of the contentions between the governor and the assembly from November 1763 to the end of May 1764.

77 Ibid., 435.
vated, and marsh lands.\textsuperscript{78} The number of troops seems to have been reduced to 950, since Bouquet wrote that that number promised was hardly sufficient and that 200 desertions had immediately occurred. A month later, he wrote to the governor that a contingent of Virginia volunteers had made up for his losses.\textsuperscript{79}

Without going into great details, in the settlement of accounts Bouquet spent several months between Bedford and Philadelphia, paying army suppliers, special service men as his four guides and an interpreter, messenger service, and amounts to officers for incidentals for which they were responsible. The money derived from a military contingency account which he carried with John Nelson, a merchant of Philadelphia and one of the financial backers of the armies in America, amounting to £3,214 5 shillings 8½ pence.\textsuperscript{80} He also offered to pay the Virginia volunteers, but this was referred to the Virginia assembly who refused to pay it because they had not authorized the volunteer action.

An interesting and pertinent letter of General Gage to Lord Halifax, now the secretary of state for the southern department, in London, dated April 27, 1765, illustrates the problem and its solution. After reference to Bouquet's having been promoted to a general officer and that he was still settling his affairs “relative to his late Command in Pennsylvania . . .” (four months after his return from Ohio) and “will soon set out for Florida. . . .” he went on: “The Assembly of Virginia, has refused paying that part of their Militia who went as Volunteers with the King's Forces the last Campain. . . . This is a Surprizing Refusal, considering the Service they did their Country by such a Spirited Behavior. But the Commissioners of Pensylvania have removed our Difficultys on this Account, and have consented to pay the Virginians out of the Fund arising from the Non-Effective Pay of their own Troops.”\textsuperscript{81} In other words, Pennsylvania paid its troops and had money left. The province did not have to

\textsuperscript{78} Ibid., 415-16, includes an explanation of the formula agreed upon for determining the classification of land, especially relating to the proprietary lands.


\textsuperscript{80} B.M., Add. Mss. 21650, Pt. 1, fs. 287, 291, 293, 294 (196-99). Several hundreds of vouchers for pay issued by Bouquet and signed by recipients of the money, drawn upon John Nelson of Philadelphia and a few other money suppliers, are in the Clements Library.

\textsuperscript{81} General Gage's letter of Apr. 27, 1765, to Lord Halifax is in the Gage Manuscripts, under that date. It has been printed in Clarence Edwin Carter, ed., \textit{The Correspondence of General Thomas Gage with the Secretaries of State, 1763-1775}, 2 vols. (New Haven, 1931, 1933), 1: 56-57.
resort to donating land in lieu of payment, as has so often been published.

Instruments and Methods

A mental picture of the conditions under which an army engineer of more than two centuries ago existed, worked, and progressed, and the environment in which he moved, may be envisioned by viewing the implements or instruments with which he worked and achieved results. In the mid-eighteenth century, the instrument in use was commonly denominated a surveyor's compass but was in reality a circumferentor. It was a contrivance having a circular brass compass box, usually six inches in diameter, with a pivot rising in its center upon which was balanced a magnetized, free-swinging needle. The compass box was mounted horizontally, centered upon a twelve-inch, flat brass bar with two vertical sight vanes at the ends of the bar, or frame, equidistant from the pivot point. These vanes each had a vertical slit for sighting; so that the vertical plane of these sights passed through the pivot point, also through a vertical spindle in perfect alignment with the pivot point of the needle and attached to the underside of the frame. The spindle was connected to a ball-and-socket joint which, in turn, was clamped to the base upon which the instrument rested. The compass head revolved freely in a horizontal plane upon the spindle, but could be clamped in any position for reading the angle between the compass needle, always pointing to magnetic north (the magnetic meridian), and the line sighted through the sight vanes.82

The compass circle was divided into quadrants and graduated in degrees and half degrees, numbered from 0° at N (north) 90° to E (east) and W (west). At 180° from N was another 0° at S (south) also graduated to 90° at E and W, so that the four quadrants were NE, SE, SW, and NW. The sight vanes, being at 180° opposed, were located at N and S. A magnetic bearing of 36° in the northwest quadrant would be written N 36° W.83

As for the firm base required for a rest for the instrument, the surviving tripods of the time seem to have been rather flimsy in

82 See Webster's unabridged dictionary, Circumferentor. The description herewith is somewhat more prolix than the description given in Breed and Hosmer, Principles and Practice of Surveying, 16, for clarity. The textbook takes for granted that the student has the instrument set before him as an object lesson. We are informed by instrument manufacturers that surveyors' compasses with sight vanes can still be used in stations where primitive conditions prevail and pinpoint accuracy is not a necessary objective.

83 Breed and Hosmer, Principles and Practice of Surveying, 17.
comparison with modern tripods that support transit instrument heads. In the rough country of the American backwoods, another type of support was more practical, namely the Jacob's staff. It was a sparlike shaft with a circular section, or at least with rounded corners; a few seem to have been hexagonal or octagonal, from the examples that have survived. They were approximately one and a half to two inches in diameter at the top, with an iron or brass ferrule circling the top of the staff, of varying length to suit the height of the eye level of the surveyor intending to use the instrument, adding a foot for the staff to be driven into the ground. The lower end of the staff tapered sharply, and the pointed end was shod with iron. The instrument could be leveled by wedging the staff with small stakes or stones driven at one side or another at its base to conform to a plumb line. Spirit levels were just becoming available at the time.84

During the early summer months of 1764 when Bouquet was concentrating his forces at Carlisle and Fort Loudoun, a world-renowned project was under way only eighty miles distant. The already famous English astronomers Charles Mason and Jeremiah Dixon were performing preliminary work for the survey of the celebrated boundary line between Maryland and Pennsylvania that ultimately would carry their names. Mason and Dixon measured the distance upon the ground with a Gunter's half-chain and employed the sight vanes of a surveyor's compass instrument (circumferentor), just as Samuel Finley plied his art in the same manner, except that they used star sightings. In their journals and field notes, they mentioned

84 Observation of antique examples of the Jacob's staff (now museum pieces) has resulted in this composite description. Washington used the staff in his earlier days as surveyor of the Fairfax lands over the Blue Ridge and in the Shenandoah Valley. From the "Inventory of the Contents of Mount Vernon" (reprinted from the W. K. Bixby edition of the same) in Eugene E. Prussing, The Estate of George Washington, Decased (Boston, 1927), 41, 417-38: "In the Study, 1 Compass — Staff & 2 Chairs. . . . In the Iron Chest, 1 Compass in a brass Case. . . . In the Store house, 1 surveyors Staff." Paul Wilstach, Mount Vernon, Washington's Home and the Nation's Shrine (Indianapolis, 1915) notes, 31, "His surveyor's tripod may be seen in the library of Mount Vernon." This Washington would have used in his later life. According to Prussing, Estate, 228, Washington was surveying his Four Mile Run Farm during the last year of his life (1799). The Historical Society of Western Pennsylvania has a circumferentor and Jacob's staff dating to 1796.

Horizontal levels employing the principle of a bubble in fluid were known, but water was used until Fontana introduced spirits (alcohol) in 1775. Certainly water would have frozen and that type of level rendered useless during the late fall of 1764, when Bouquet's expedition was delayed because of snow from starting from camp until late in the day of October 15. A common method of leveling was the use of a wooden 90° triangle, with a plumb bob suspended from the apex of the right angle, laid across the compass box. See W. H. Rayner, "From Columbus' Compass to the First Transit," Civil Engineering 9 (Nov. 1939) : 663. This was practically the same as a gunner's level.
many times their use of a "transit instrument." Actually, their
"transit" was simply a telescope mounted upon a pair of standards
which supported a horizontal axis high enough to allow the telescope
to swing upward upon the horizontal axis and to rotate in order to
take a backsight.\(^8^5\) The axis also allowed the telescope to be elevated
vertically to study the transit of celestial bodies in the constellations
of Cassiopeia and Ursa Major for the purpose of lining up Polaris (the
pole star), and especially to observe the transit of Venus across the disc
of the sun. Originally styled the transit instrument from its primary
raison d'être, the designation became shortened (even by Mason and
Dixon) to simply "transit." The direction of the line having been
sighted by the circumferentor, the surveyors brought the transit
instrument to the top of high elevations to guide the crew of workmen
cutting the vista ahead through the forest.\(^8^6\)

It seems incredible that it did not occur to the ingenious practi-
tioners of the surveying art to combine the telescope with the com-
pass for determining the direction of a line with reference to the
direction of the magnetic needle (magnetic north meridian), thereby
imparting greater facility, accuracy, and distance. It is worthy of
remark that the instrument known today as a transit did not come into
general use in America until the 1830s.\(^8^7\) The biographer of Andrew
Ellicott, the surveyor of more state and international lines during the
Confederation and early National eras than any other, who laid out
the Federal city of Washington, and who became professor of mathe-
matics and astronomy at the United States Military Academy, has
found that there were in the United States, in 1795, only two transit
instruments. Citing a letter in the New York State Library, Manu-
script Department, written by Simeon De Witt, formerly geographer to

\(^8^5\) Cummings, *Mason and Dixon Line*, 78. This is a fine photo of the
transit instrument sent from England by Thomas Penn for use in the
state house yard for the observation of the transit of Venus in 1769. The
instrument is an example of the telescope mounted on elevated standards so
that it could be swung to a high angle or even reversed. *Ibid.*, 10, 27, 36, 37, 58.

\(^8^6\) At the top of the western sheet of Mason's and Dixon's map of the
survey of the line, reproduced by Cummings, *Mason and Dixon Line*, 68,
appears an artistically rendered cartouche in which are clearly depicted the
surveyors' circumferentor and the transit instrument. The circumferentor is
of the type described above, and the transit instrument as stated, merely a
large (refractor-type) telescope with no indication of a compass beneath it.
Both instruments are mounted on tripods.

\(^8^7\) Rayner, "Columbus' Compass to First Transit," 663, mentions Young
and Draper, who before 1831 were makers of transits that resembled modern
designs of the instruments, minus most of the refinements. Rayner certainly
must mean first commercial manufacturers of transits. An 1830s transit instru-
ment attributed to Young is in the Historical Society's collections.
Washington’s army, the author further informs that one of the instruments was fashioned by Ellicott himself, the other by Dr. David Rittenhouse, an astronomer and professor at the University of Pennsylvania. Rittenhouse was an associate of Ellicott in the completion of the Mason and Dixon Line by astronomical means entirely, also in surveying and marking the western line of Pennsylvania, in 1785 and part of 1786.

“The compass is not an instrument of precision. Moreover, the earth’s magnetism on which the needle depends for its directive property is constantly changing.” A respected authority on the earth’s magnetism, Daniel Hasard, writing in a special publication for the United States Coast and Geodetic Survey, opened his discourse with that note of sound wisdom. He added that “different compasses give different readings of the bearing of the same line at the same time. . . . The best method is to determine the true bearing of one of the lines of the survey by observations on Polaris or the sun.”

Another noted civil engineer and author, C. E. Sherman, wrote:

“No system planned on paper can be exactly applied to the ground, for no theoretical quantity can be measured exactly in the field or elsewhere. Thus, provision has been made for errors in field measurement, constant improvement has been made in the instruments with resulting decrease in allowable field errors.”

After reading the above comments, we learn from two Massachusetts Institute of Technology professors of civil engineering, Charles B. Breed and George L. Hosmer: “The angle which the needle makes with the true meridian is called the declination of the needle. When the north end of the needle points east of the true, or geographical,

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90 Daniel Hasard, *The Distribution of Magnetic Declination for the United States*, for January 1, 1925 (a Special Publication of the U.S. Coast and Geodetic Survey), 3.
91 C. E. Sherman, *Original Ohio Land Subdivisions*, Volume 3 of *Final Report of Ohio Cooperative Topographical Survey* (Columbus, 1925), 208. A monumental work technically and historically. Accompanying the book is a forty-two-inch-square map of Ohio that shows every township, range, section, and quarter section in the state in the original subdivision of land. It includes treaties, laws, and instructions to the government surveyors, and one of the clearest exposes concerning the origin of the rectangular system and of the public land surveys.
north the declination is called east; when the north end of the needle points west of true north, it has a west declination." 92 The magnetic declination changes as one moves from place to place, so that it reaches 20° west in Maine to 24° east in the state of Washington. 93 The change is not uniform and progresses over a long period of years until it reaches a turning point or reversal. It is fairly well established that there have been two turning points during the past two centuries,94 and the declination at any point at any given time can only be guessed. According to a table furnished with Hasard's book, from recorded observations for twenty years (1910-1930) at Cheltenham, Maryland, the average annual change is 3.75 minutes.95

The above comments and observations set the stage for contemplation of Samuel Finley's field notes. We can only conjecture that the declination in Western Pennsylvania and eastern (present) Ohio in 1764 may have been near 2° to 3° west. We know from Alexander McClean's plat map of his 1785 survey of the Reserve Tract at the mouth of the Big Beaver River, whereon he recorded the "variation [declination] as 2° 39' West," 96 that after twenty-one years the difference — on the basis of the change at Cheltenham, Maryland, observation station — may have been on the order of 1° 15' or less. In the early days there were no recorded observations of magnetic declination, there being no established stations, except as a traveler happened to record the phenomenon in his journal or correspondence. Finley ignored any consideration of secular change because he was an experienced surveyor of area of land tracts, in which he ran theoretically closed traverses enclosing farms. Small variations in bearings had little or no effect where corners were marked upon the

92 Breed and Hosmer, Principles and Practice of Surveying, 19-20.
93 Hasard, Distribution of Magnetic Declination, 4.
94 Ibid., 4. "The secular change of declination appears to be periodic; at least it does not go on indefinitely in one direction. Eventually a turning point is reached and a change in the opposite direction sets in. In the United States we have record of one well established turning point, and at some stations for which there is a long series of observations, there are indications of a second. . . . from easterly motion to westerly motion occurred about 1770, in the Mississippi Valley about 1830, and on the Pacific coast about 1920 . . . in the United States there are very few stations for which we have accurate results as early as 1850."
95 The table of "Change of Declination at Observatories" is printed in ibid., 5. Hasard wrote, "a better result may be obtained by interpolating between adjoining tables."
96 This fine plat map by Alexander McClean, "Surveyed at the Mouth of Great Beaver . . . in the Month of May 1785," is printed in Edward G. Williams, Fort Pitt and the Revolution on the Western Frontier (Pittsburgh, 1978), following p. 166.
ground by a post, a blazed tree, or a rock. He sighted his courses, chained his distances, and jotted his descriptive notes in his field notebook, never imagining that two centuries hence a group of outdoor historians would attempt to reconcile his magnetic bearings with maps corrected to geographical meridians and, more important, to landmarks upon the timeless soil.

The question may be asked: Why be concerned about the declination angle if it is negligible in the former case? For an answer, consider that the survey of a plot of ground is not affected by regard for geographic orientation. On the other hand, running a straight line is much concerned with magnetic declination, which must be employed to correct the line to the true meridian, particularly when the line is to be rerun or followed upon a modern map. Suppose the declination to be $2^\circ$ west. Sighting from a fixed point location A, the very first course will be $2^\circ$ in error. From location B, the second course will be in error $2^\circ$ more, and course C will start from $4^\circ$ off true direction and will result in a $6^\circ$ error. By repetition, the error is found to be in arithmetical progression.

I gave a fair trial to the procedure of plotting magnetic bearings of a section of Bouquet’s road. Starting at a known point on the road and plotting each sighted course and scaling the distance for about seven miles (fifteen courses), I arrived at a point more than a quarter mile to the left of the expected location on the road. Covering this very situation, the Manual of Instructions for the Survey of the Public Lands asserts: “A transit line running westerly will curve to the left in bearing angle, thus increasing a northwesterly bearing, or decreasing a southwesterly bearing.” At the base of the problem is the plain fact that the survey of an extended line was (and is) dealing with principles of spherical geometry, which Finley, and few surveyors of his time, had to cope with — except for Hutchins, who, as previously mentioned, may have employed astronomical observations. A half century later the government surveyors would be furnished with tables for correction of these errors by offsets. Modern topographical and road maps are oriented to true (geographical) meridians and parallels of latitude. All parallels of latitude are small circles of the globe, while a sighted line, whether by a transit line or by a surveyor's compass, is upon an arc of a great circle. Tables of offsets are furnished for correction to geographic parallels. In the Manual of Instructions, the forthright statement is made: “The great circle tangent to parallel at any . . . point along the parallel is known

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as 'the tangent to the parallel,' and it is coincident with the true latitude curve only at the point of origin."  98

It is obvious that a map of the route can only be constructed with great effort and labor. The value of Finley's notes lies in the historical value of their comments and minute descriptions of physical features of the landscape and areas contiguous to the path, all of which can be recognized, compared, or interpreted with the aid of a modern topographical map.

98 Ibid., 152.