

FROM MYTH TO REALITY: Mapping the Northwest 1790 to 1850

by

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A RESEARCH PAPER

submitted to

THE DEPARTMENT OF GEOGRAPHY

in partial fulfillment of the  
requirements for the  
degree of

MASTER OF SCIENCE

October 1989

Directed by  
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## FROM MYTH TO REALITY: Mapping the Northwest 1790 to 1850

ABSTRACT: The prevailing image of the Northwest at the beginning of the nineteenth century, as portrayed on maps published at the time, was based more on myth and wishful thinking than on geographic fact. During the next fifty years these myths were exploded as exploration of this previously unknown territory progressed, and knowledge about geographic features replaced imagination. The impetus behind much of the exploration in the early 1800's was politically motivated in order to lay claim to the territory, first for its access to easy trade with China, later for its material wealth in fur, and only towards the end of this period for settlement. From the early charts of Vancouver and the maps of MacKenzie came the idea of an easy cross-continental water passage which would facilitate commerce with the Far East. Lewis and Clark's expedition abolished this idea, and began an era of exploration that centered almost exclusively on the commercial hunting and trading of beaver. Later fur traders such as Jedediah Smith recognized the potential for agriculture and settlement, which led to a decade of exploration with the intent of ascertaining potential for emigration. Finally by the 1840's the federal government began the process of scientifically mapping the Northwest.

## GEOGRAPHIC KNOWLEDGE IN 1800

Prior to 1800, surveys of limited parts of the west had been attempted by Spanish, French, English, and Russian explorers and traders with the main intent of laying claim to sovereignty over the territory. The west coast in particular had been quite accurately charted by various nations, and the Puget Sound area was known to explorers, although not completely charted. The idea of an oceanic Northwest Passage had gradually been discarded, but rumor still persisted of a great river which connected to eastern flowing rivers, and which would allow commerce between coasts and to countries across the Pacific. In 1792 Captain Robert Gray sighted and entered the mouth of just such a great river, which he named for his ship the Columbia, and claimed for the United States. He did not explore any further upriver, but was proceeded shortly after by a survey ship led by Lieutenant Broughton under Captain George Vancouver, which explored upstream more than a hundred miles.

Vancouver's journal and charts, published in 1798, did much to increase knowledge of the Northwest coast. His charts acknowledge prior Spanish and Russian information, but are based mostly on his own surveys. The accuracy of his latitude and longitudinal measurements was very accurate for the time. Most of his latitude figures were within a few minutes of a degree of the locations known today using much more advanced equipment. His longitude figures are less reliable, most within ten to thirty-five minutes underestimated, but their consistency results in little map distortion (Cannon, 1969, p. 104). His

journals and charts remained standard sources of information about the Northwest coast for the next fifty years. It was not until Wilkes surveyed the area in 1840 that progress was seen beyond Vancouver's published charts.

Vancouver's charts show the Columbia (which he called the River Oregon rather than recognize Gray's American claim to the river) only as far as Point Vancouver, and show no inland features. Although his journals banish the concept of a Northwest Passage for good, his information pertaining to the Columbia was nevertheless merged in the public eye with the discoveries of Alexander MacKenzie to form one of the major geographic myths of the early 1800's, that of a cross-continent water connection.

In 1793 MacKenzie, a fur trader with the North West Company, followed the Peace River westward to its source in the Canadian Rockies. There, after a short, low elevation traverse, he found a river flowing to the south and west. He named it the "Tacoutche Tesse" after the Indian name for it (actually the Fraser River). Upon his return to London he learned of the discovery of the Columbia River, and although its location was farther south than the river he had reached, he believed that they were the same. Thus the concept of a feasible trans-continental river communication was given credence.

MacKenzie's journals were published and widely read in both England and America. His portage across the continental divide had been near the 55th parallel over a pass about 3000 feet high. It was generally believed, and MacKenzie wrote, that the

Rockies and passes through them were lower in elevation farther south. Geographical knowledge at the time commonly held that the Rockies were no more than 3000 feet high (Allen, 1975, p. 27). This information even appeared on cartographic products of the time - Aaron Arrowsmith's map of North America published in 1795 noted that the Rocky Mountains were only "3520 Feet High above the Level of their Base". Cartographic depiction of these mountains usually showed them to be a single, narrow chain which could be easily crossed by a short portage. Most early geographic sources felt that the mountains of the western territory would be similar to the well known Blue Ridge in Virginia, a single ridge or series of parallel ridges transected by rivers. Opinion varied as to the location of this range of mountains. Spanish officials in Louisiana Territory at the end of the 18th century believed the mountains were close to the Pacific, even as close as 100 miles, appearing similar to mountain ranges along the Atlantic. Thus the mountains visible from the Pacific coast were felt to be connected with the Rockies. This concept is visible on Antoine Souldard's maps of the west, which show the Rockies lying close to the Pacific with the Missouri heading close to the ocean (Figure 1).

The British seemed to believe the Rockies were somewhere between 112 and 115 degrees longitude, as indicated on Arrowsmith's early maps of North America. These show a single, narrow range of mountains and a double-branched Missouri river.

A third conception appeared on maps by Samuel Lewis which show the narrow, single-ridged chain of mountains in the

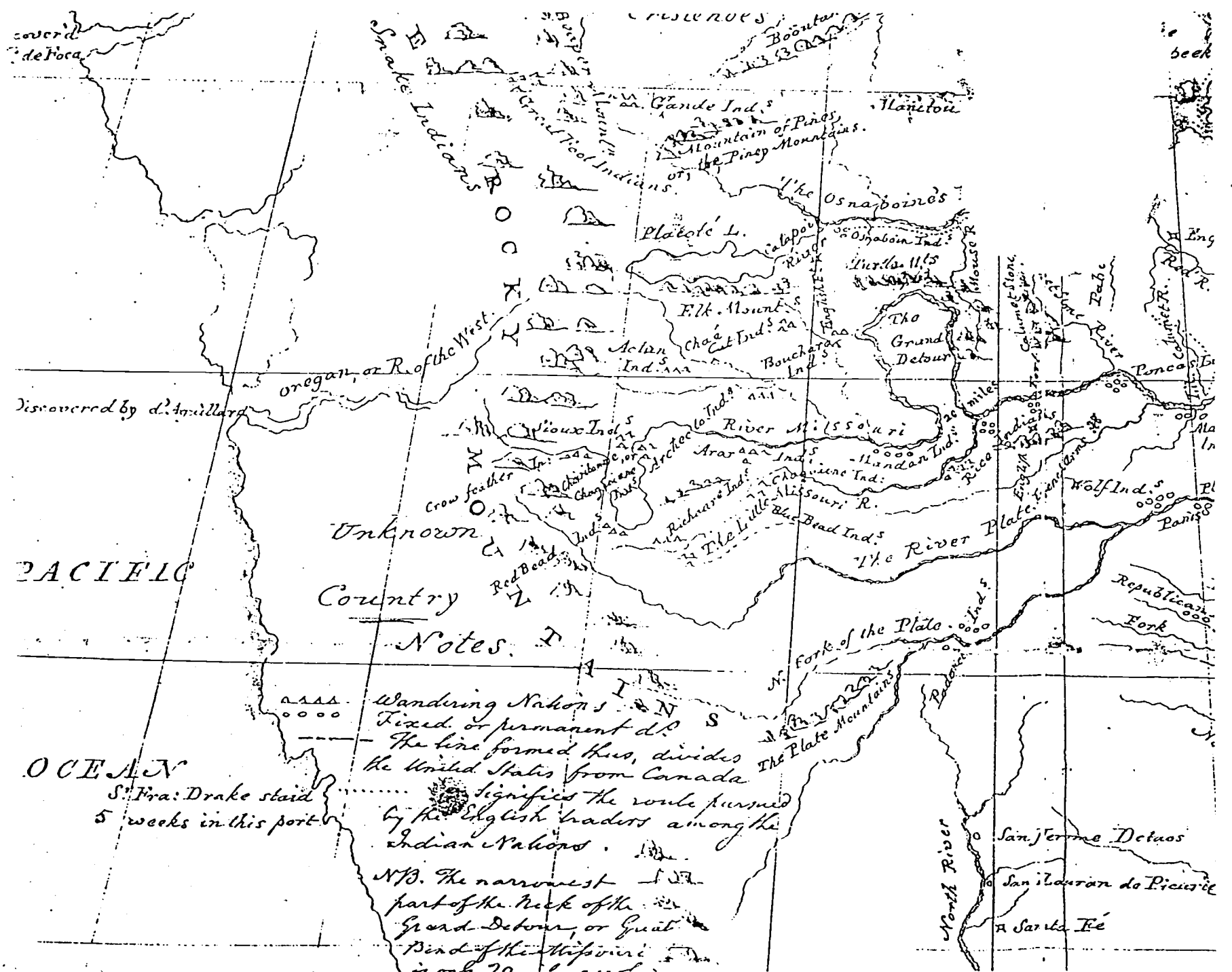


Figure 1. Antoine Souldard. "A topographical Sketch of the Missouri and Upper Mississippi Exhibiting the various Nations and Tribes of Indians who Inhabit the Country." 1795 (portion)



interior, with a short Missouri river on the east side and a lengthy "River of the West" or "Oregon River" stretching on the west from the mountains to the Pacific.

Another important concept prevalent at the turn of the 19th century was that the major rivers of the west all originated in a common area. Early written geographies state that the Missouri, Columbia, Mississippi, St. Lawrence, and the Nelson Rivers had a common headwater area in a height of land, "the highest lands in North America," where the rivers' headwaters were "within thirty miles of each other," and from which they ran courses of "above 2,000 miles" and were navigable throughout (Workman, 1803 p. 8; Pinkerton, 1804 p. 414; Morse, 1803, p. 750-59).

MacKenzie, whose map is the first to show the northern Rocky Mountains close to their actual position, was uncertain how far south the mountains extended. Even though his writings implanted the idea of an interior range of mountains in the public mind, the idea of an unbroken chain of mountains was only partially accepted. Just as believable was the idea of a broken chain, or even two separate ranges. The northern range which extended south of the Canadian Rockies was sometimes thought to end by 47 or 48 degrees, with a separate range in New Mexico. The theoretical height of land from which the major rivers flowed could be located at about 46 degrees, the approximate latitude of the mouth of the Columbia and the as yet known upper reaches of the Missouri. This area could then be visualized as

an upland plateau, and the traverse between head waters flowing east and west was considered simple.

The source of this imaginary geography of the northwest varies. Antoine Souldard was the Surveyor General of Spanish Louisiana so had access to information from French and Spanish explorers, although it is doubtful that they had reached the northwest.

Arrowsmith obtained much of the information for many of his maps from Hudsons Bay Company fur traders and trappers. Thus his maps generally portray more accurate information than other cartographers.

Lewis's map apparently is based on a map drawn by Souldard around 1795. It is probable that the Lewis map is more representative of the American concept of the west than the Arrowsmith map (Allen, 1971, p. 162).

These early maps illustrate the lack of knowledge about the territory west of the Rocky Mountains in 1804, and the imaginative landscape that filled in both maps and mental images.

It was generally accepted, and portrayed on published maps, that there was an interior range or ranges of mountains (usually called the Stoney or Shining Mountains). There was however general disagreement as to their height, location, or physical characteristics. The area where the mountains divided the continent and where the rivers came together in a height of land was believed to exist, but its characteristics were portrayed as anything from mountains to a flat plateau. This belief about a

central point where major rivers arose was significant in the early exploration of the west. For it was understood that if major navigable eastern and western flowing rivers were accessible to one another by a short portage, then the Pacific and Atlantic would be connected and trade goods from the Orient would be easily available to the new republic. It was this centuries old desire to find an easy route of trade to and from the Far East that was a major impetus to early exploration of western territory, and colored the cartographic and geographic descriptions of what in actuality was still unknown territory.

#### LEWIS AND CLARK

On July 4, 1803, the United States gained the territory comprising much of the western drainage of the Mississippi River, known as Louisiana. Very little was known of the area, as shown by the misconceptions inherent on the maps of Arrowsmith, Soulard, and Lewis.

Thomas Jefferson had been interested in the west even before final purchase of the territory and had commissioned Merriwether Lewis and William Clark to explore and survey the country to the west of the Missouri River. Purchase of the territory gave the expedition legal status and increased its importance in discovering the extent and nature of the new lands. The central objective of the expedition, it is important to note, was to find "the most direct and practicable water communication across this continent for the purposes of commerce" (Allen, 1975, p. 324). Clark in particular, but also Lewis, undertook serious scientific training in order to learn

the use of surveying and other scientific instruments. Although Jefferson's communications to the pair do not specifically mention drawing maps, his instructions concerning the taking of latitude and longitude observations presuppose a mapping intent (Moulton, 1983, p. 3).

Clark made route maps of each days or several days journey, noting camping places and including comments on Indians and the physical aspects of the country. It is uncertain what methods Clark used in drafting his maps. They basically show the direction and distance travelled between points, and daily mileage. Compass readings were relied on for direction travelled, and compass traverse notes are placed on almost every journal entry. Although the expedition carried various surveying instruments, these would likely have been little help in measuring short point to point distances. Instead it is likely that dead reckoning was used to compute distances (Moulton, 1983 p. 4). Various expedition journals give different mileage figures for the same segments travelled, and mileage figures are often too short where river travel took place, and too long over more difficult terrain. In fact Molton says that "the mileage estimates are of little help in determining specific geographic points or expeditionary campsites. Journal entries and geographic landmarks on the maps are more reliable guides." (Moulton 1983, p. 4)

Although Clark's route maps were not included in the original publication of his journals, they were undoubtedly used in the compilation of the manuscript maps he made after

completion of the expedition. Clark also obtained as much information as he could from Indians along the way, and his journal includes many sketch maps based entirely on these data. At least 30 direct references to maps made by Indians and 90 references to statements made by Indians relating to geographical features are found in the published journals of Lewis and Clark (De Vorse, 1978 p. 71).

While wintering at Fort Mandan on the Missouri River in 1805, Clark drew a sketch map of the Missouri and surrounding area based on information he received from various trappers and Indians. Nicholas King later made four copies of this map, but the information available was not significantly different than any previous map. It shows less accuracy and detail than the 1804 Arrowsmith map which had used Vancouver's information, and the interior is still based mostly on imagination.

In journal entries for February 14, 1806, while wintering at Fort Clatsop, both Lewis and Clark note that Clark had completed a map of the westward leg of their journey. This original has not been found, but is believed to have been used by King to make a map in 1806-7. The King post-expeditionary map shows Lewis and Clark's route quite well, but was not found until 1866. Some controversy remains as to whether it was based on Clark's Fort Clatsop map, but due to its lack of publication it played no role in increasing geographic knowledge about the Northwest.

Clark completed a manuscript map in 1810 which contained all the information from his route maps and composite sketches,

together with Indian maps with information on areas the expedition did not actually explore. In addition, he added information from other explorers, including Pike's discoveries and Colter and Drouillard's descriptions of the Big Horn and Yellowstone Rivers. In these areas that Clark had not seen or explored, his map still retains many misconceptions. But in respect to areas where the expedition had been, the map is remarkably accurate.

It took until 1814 for Clark's journals and maps to reach publication, but the impact they caused in changing ideas about western territory was immense.

The map published with Nicholas Biddle's book of the Lewis and Clark journals is an abbreviated version of Clark's 1810 manuscript map (Figure 2). The original covered the territory from 34 to 52 degrees. Biddle shortened this to from 38 to 48 degrees in order to focus on the expedition's route.

Clark's map changed the idea of a single, narrow ridge of mountains to the multi-ridged Rockies and ranges beyond. The Missouri and its tributaries were more accurately mapped. Knowledge about the Columbia River system was greatly expanded, although not always accurately. Rather than the one major southern tributary shown on earlier maps, "Clark's River" is accurately added. "Lewis's River" is added and shown as a tributary of the Snake, which is mistakenly seen as a tributary to the Salmon. A third tributary to the Columbia, called the "Multnomah" (probably the Willamette) is greatly exaggerated and shown extending up into the Rockies. Although the explorers'

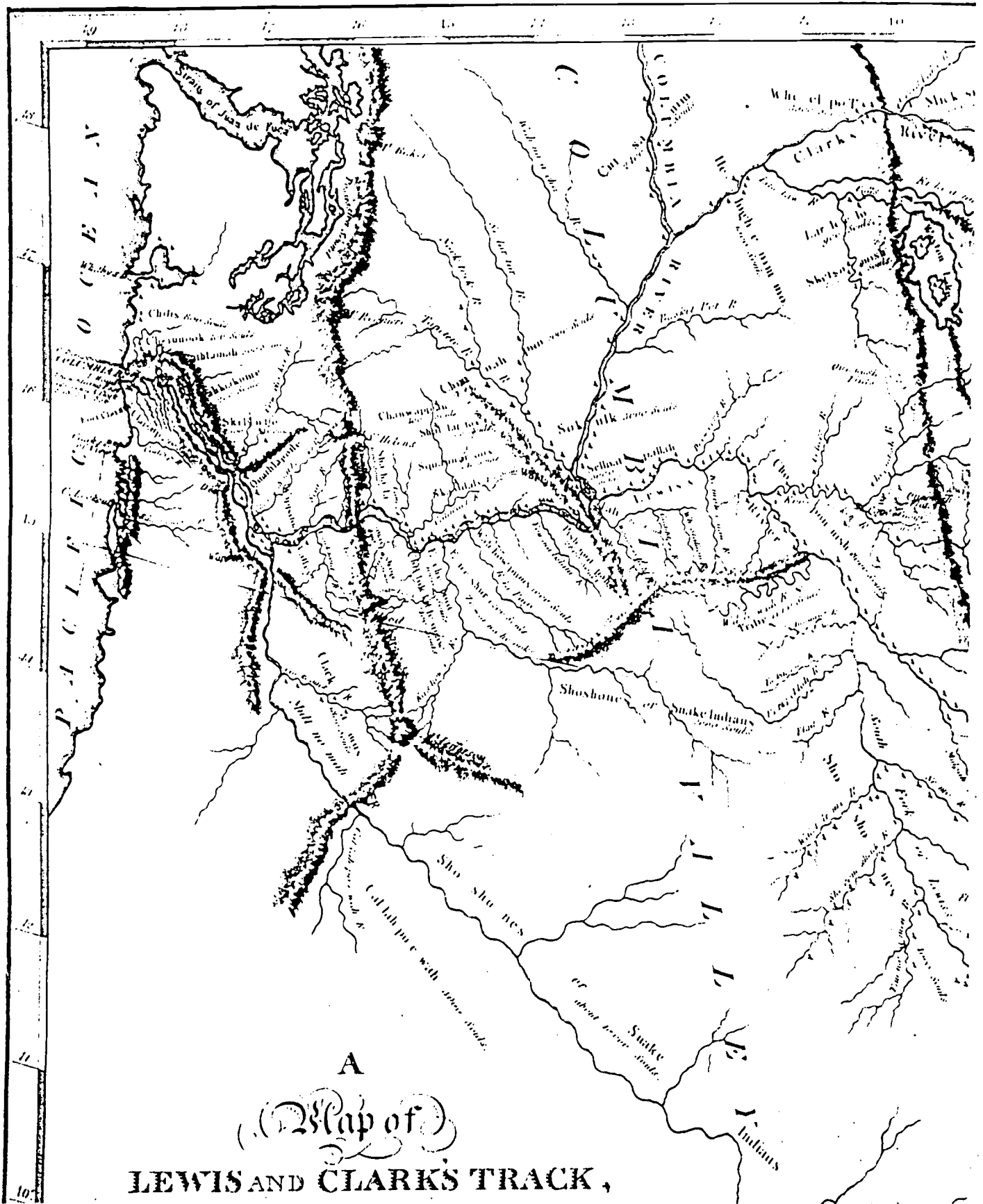


Figure 2. "A Map of Lewis and Clark's Track Across the Western Portion of North America from the Mississippi to the Pacific Ocean by Order of the Executive of the United States in 1804, 5, and 6." Copied by Samuel Lewis from the original drawing of William Clark. 1814 (portion)

conceptions of the Missouri-Columbia connection had been corrected, the concept of a plateau from which other major rivers flowed still persisted. Thus the Yellowstone, Snake, Colorado, Rio Grande, and mythical Multnomah were still over-extended and met in a general locale.

Clark relied on information from many other explorers while composing his 1810 manuscript map, and this mythical source area for these major rivers was based on Zebulon Pike's expeditions from 1805-07. This false conception would persist on maps of the west for another 30 years.

Perhaps the most important feature of Clark's map is that the nature of the terrain between the Missouri and the Columbia was accurately presented for the first time. From their own exploration and the geographical knowledge obtained from Indians of several tribes, Lewis and Clark realized that there was no easy water passage through the Rocky Mountains. Although the pyramidal height of land concept still persisted, with major rivers flowing east and west, Lewis and Clark were coming to an understanding that the portage between rivers would be difficult, and that many of the rivers of the west were not navigable. Thus even if a cross-continental route were moved south to where the height of land might exist, it would only "lengthen the distance greatly and incounter the same difficulties in passing the Rocky Mountains" (Clark, 1914, p. 72) as Lewis and Clark had met. They ultimately reached the conclusion that they had crossed by the most feasible route, and its difficulty precluded the idea of an easy cross-continent



commercial route, destroying the idea of a Northwest Passage for good.

The geographic information acquired by Lewis and Clark was quickly incorporated into maps by other cartographers. Samuel Lewis's map of "Missouri Territory formerly Louisiana," which appeared in the 1814 edition of Mathew Carey's "General Atlas," utilized the explorers' data, as did John Melish's 1816 "Map of the United States with the contiguous British and Spanish Possessions Compiled from the latest and best Authorities." This was the first American produced wall map showing America coast to coast and it "distinguished Melish as the leading map publisher of the second decade and placed American maps on equal footing with those produced by the prestigious firms in London and Paris" (Schwartz, 1980 p. 238). Melish printed only 100 copies of the map at a time, so that new data could be added or corrections made as information became available.

#### THE FUR TRADER AS EXPLORER

Although the Lewis and Clark expedition provided a great deal of geographic information about the newly acquired Louisiana Territory, it would be almost 40 years before the United States government again officially explored the Northwest (Wheat, 1858, p. 118). Surveying and topographical mapping were flourishing in the populous East, but the Northwest territory remained isolated by the difficult terrain. Most new information about western topography came from private exploration associated with the fur trade. Both the British Hudsons Bay Company and the Canadian Northwest Company did a

great deal of exploring in the Northwest, with the intent of claiming domain over the territory. A dozen trading posts were established in the Northwest by the British and Canadians by the 1840's, on land disputed by the United States. A group of Americans headed by John Astor travelled over land and by sea to the mouth of the Columbia where they built Fort Astoria in 1811, but they soon sold out to the British during the war of 1812-15.

This expedition was the first to explore the Snake River country, and may have crossed the South Pass, which would later become the main route for emigrants to cross the Rocky Mountains. But the geographic knowledge gained by the Astorians remained the private property of John Astor, and was not made available to the public until Washington Irving's publication of Astoria in 1836.

The role the fur trader played in the exploration of the Northwest was not always straightforward. Fur trading was first and foremost a business concern. Any exploration was primarily centered on finding beaver and easier portage routes, rather than on gaining geographic knowledge. Also of importance was the desire to lay claim to the area, specifically because it was valuable for the fur trade. This fueled a great deal of exploration by British and Canadian employees of the Hudsons Bay Company and Northwest Company.

David Thompson of the Northwest Company spent 1806-11 on the Columbia River and surrounding basin. During this time he established trading posts throughout the Northwest, and claimed the Columbia Basin for Great Britain. Thompson was an explorer,

surveyor, and astronomer. He brought greater mapping skills to the exploration of the Northwest than any previous explorers, including Lewis and Clark (Ristow, 1985, p. 100). His surveys were not mere sketches, but were careful traverses. Short courses were taken using a magnetic compass, distances were estimated by the time taken to travel them, and the results were checked using astronomical observations to obtain latitude and longitude.

He was the first to reasonably depict the Columbia Basin in his "Map of the Northwest Territory of the Province of Canada from actual survey during the years 1792-1812," completed in 1814. The map covers from 45 to 60 degrees North latitude. Puget Sound is shown, copied from Vancouver but omitting some of the detail. The Frazer River is shown distinct from the Columbia, correcting MacKenzie's impression that they were the same. And the Columbia River and surrounding mountains and rivers are well detailed.

Thompson drew another map of "The Oregon Territory from Actual Survey: corrected by Many Astronomical Observations," which shows Astoria inside the bay of the Columbia, the "Willarmette" River entering, and the Cascade Range to the east. Mounts Baker, Hood, and Rainer (sic) are shown, although Mount Hood is misplaced near the head of the "Youmatollah" River. A more detailed map of Oregon Territory, in Thompson's style but untitled, extends farther to the south than the previous maps. On it the "Wilarmet" valley is shown, and Mount Hood is properly placed. These last two maps, however, remained unknown for some

time, so their accurate rendering of the Columbia Basin was unavailable to most commercial cartographers.

Another fur trader, Alexander Ross, also made a map of the Columbia, probably in 1821 (Wheat, p. 108) but it was not published until 1849. It also shows Fort Astoria at the mouth of the Columbia, Island Moltnomah, and the Willamette coming in from the south. The John Day River is shown as a small creek, and the Malheur, Owyhee, and Bruneau's Rivers are shown.

Although these and other maps were not published for some time, their informational content was available to certain mapmakers. The Arrowsmith Company in particular was favored by the Hudsons Bay Company, and relied a great deal on information from explorers. For instance, John Arrowsmith's 1834 map of "British North America" utilized the geographic information obtained by Peter Skene Ogden, a Canadian with the Hudsons Bay Company. Ogden made six expeditions in the Northwest, including exploration in southern Oregon during December 1826 to April 1827. He was the first recorded non-native to have seen Klamath Lake, the Klamath and Rogue Rivers and the Medford Valley. He crossed Mount Ashland pass, discovering what would become the main transportation route between the Willamette and Sacramento Valleys, as well as the route used by I-5 today between Roseburg and the Klamath River (Majors, 1980, p. 276). It was Ogden's information which allowed Arrowsmith to portray for the first time the relative positions of the Columbia and Snake Rivers and their tributaries.

One error on Arrowsmith's 1834 map is the depiction of two source streams of Klamath Lake, named the Nasty and Shasty. These were named, along with Mount Shasty, by Ogden. This 1834 Arrowsmith map was considered one of the most important and accurate to date, relying as it did on the most recent information from fur trappers and traders. Consequently it was copied by many later map makers, and this error of the Nasty and Shasty Rivers persisted.

#### JEDEDIAH SMITH

One explorer stands out above all others except perhaps Lewis and Clark in acquiring knowledge about the west, and that was Jedediah Smith. Smith spent nine years travelling in the west and gathering information from other fur trappers. He travelled from California to the Klamath in Oregon, to the Oregon coast, and up the Willamette Valley to Fort Vancouver. Smith was primarily a fur trapper. Exploration was not his main purpose, and he carried no scientific surveying instruments. Thus he did not place any latitude or longitudinal positions on geographic features. But his lengthy travels covered a great deal of new territory that had not been previously explored or mapped.

It is fairly certain that Smith drew a manuscript map in the winter of 1830-31, with the help of surveyor Samuel Parkman. He may have drawn a second map, or the 1831 map may have been copied, because references have been found regarding a Smith map remaining in Oregon as late as 1851, while David Burr probably had access to a Smith map in the 1830's in Washington, D.C.

(Wheat, 1954, Ristow, 1985). No map or journals of Smith have been found subsequent to his death in 1831, but enough references to his information are apparent on other maps published in the next 20 years that much of his original map is reflected.

Smith's contributions to accurate geography of the Northwest include the correct positioning of the Smith (Klamath) River, and just to the north an un-named stream (now named for Smith). North through Oregon many rivers are named and shown including the Clamouth (Rogue), the Kakaoosh (Coos), the Umpqua and its northern branch now named Smith River, the Siousla (Siuslaw), Ulcea (Alsea), Yacoonah (Yaquina) and Killamook (Tillamook or Trask). The Willamette River is shown in correct relationship to its adjacent mountains and the Columbia, and Clark's erroneous Multnomah has been erased.

Smith's map also presented an ethnographic survey of Western Indians. He named and located on his map many tribes, as well as a realistic estimate of the number of warriors. This was the first known census of many tribes.

The earliest map discovered so far which shows Smith's influence was published in Paris in 1833 by A.H. Brue. Information on it was apparently gained from printed accounts of Smith's travels. The names that Smith gave to several rivers and to Mount Joseph lead to the conclusion that Brue had read published accounts by Smith.

Albert Gallatin's map titled "Synopsis of the Indian Tribes of North America," published in 1836, has legends which probably

came from Smith's manuscript map, and which occur with almost identical wording on later maps using Smith data. Much of Smith's ethnographic information was utilized by Gallatin.

David Burr, the official geographer of the House of Representatives, published a map of the United States in 1839 (Figure 3), which undoubtedly used a Smith map for some of his information about the west (Morgan, 1954 p. 17). Smith's legends and place names are used, and his travel routes are developed in detail. Smith's business partner while a fur trader, William H. Ashley, served in the House of Representatives from 1831-37, where he could have provided Burr with an earlier map or copy of Smith's 1831 map.

Charles Wilkes' "Map of Oregon Territory" published in 1841 drew on a Smith map. It is believed that Smith's manuscript map was either left at Fort Vancouver or taken there after his death. Wilkes explored the Columbia River, and could have had access to Smith's map while visiting the fort. George Gibbs also mentioned seeing the Smith map in Oregon sometime between 1849 and 51. Some time around then, Gibbs sketched the information from Smith's map, including notes made by Smith, onto an 1845 Fremont map (to be discussed later). Statements and legends directly attributed to Smith on the Gibb's map are almost identically worded on some of the previously mentioned maps, which didn't always give Smith recognition. The Fremont-Gibbs-Smith map remained in manuscript form until discovered and published in 1954. Although it had no direct influence on furthering geographic knowledge in the 1800's, it

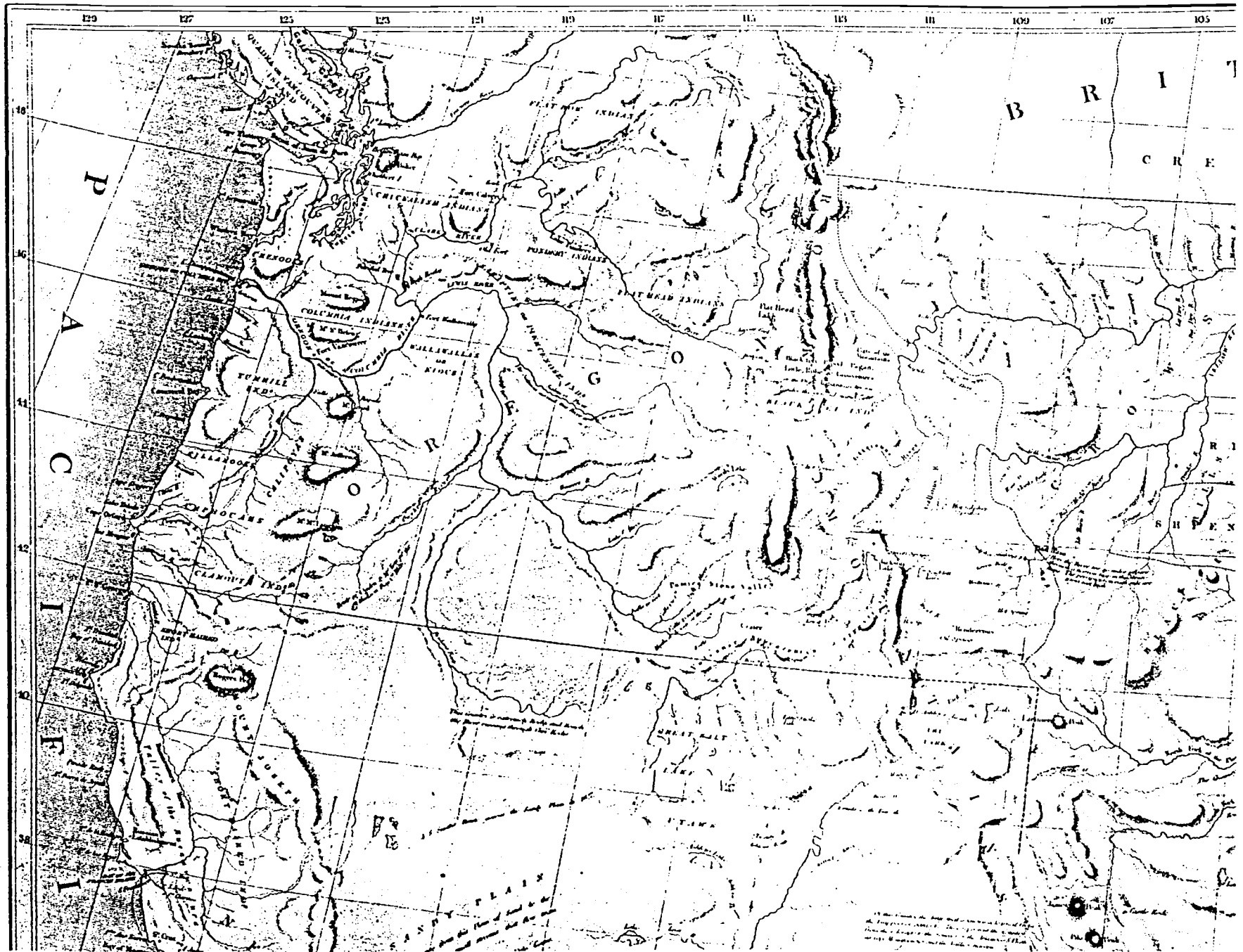


Figure 3. David H. Burr's "Map of the United States of North America with Parts of the Adjacent Countries," 1839 (portion)



clarifies the role Smith played and his contributions to mapping from the 1830's on. As Dale Morgan states: ..."had his map of the west been published shortly after it was drawn, it would have advanced public understanding and appreciation of this vast and complex area by at least 15 years and in some portions by even more" (Morgan, 1954, p. 17).

#### INTEREST IN SETTLEMENT

Smith was instrumental in changing the American concept of the Northwest in a different manner than merely increasing knowledge about the physical topography. He also worked to promote the idea that the land was ideal for settlement. In 1830 Smith sent a letter, cosigned by his partners David Jackson and William Sublette, to John H. Eaton, the American Secretary of War. In it he described in glowing terms the agricultural potential of Oregon, and the ease of travel in reaching there, stating that not only wagons but cattle and horses could be driven there easily. The letter also called upon the federal government to both encourage and provide protection to settlements in the northwest. This letter gained national prominence, and perhaps was the beginning of American thought about expansion to the Northwest for the purpose of settlement (Goetzmann, 1966, p. 103).

During the 1830's, the Canadian and British explorers had pushed as far south even as the Gulf of California. But they continued to be interested primarily in the profit to be made from beaver, and discouraged settlement because it could destroy the beaver habitat. The British had control over all Canadian

exploration in the Northwest, and established a dozen trading posts there. McLoughlin, who was in charge of the area for the British, encouraged all settlers to move south of the Columbia, while the area to the north was reserved for trapping (Hine, 1984, p. 98).

By the time the Bay Company realized the value of economic diversification and founded the Puget Sound Agricultural Company in 1839, it was too late. The beaver had become scarce, and there was no longer an economic incentive to stay in the Northwest. So by the late 1830's fur traders were no longer playing an important role in bringing geographic knowledge about the Northwest to the public. The focus became one of finding, guiding, and opening trails for emigration.

Four maps of significance to the growing idea of settling the Northwest were published in the late 1830's. The first was the work of Major Benjamin L.E. Bonneville, who explored much of the same country as had Jedediah Smith. Bonneville actually drew two maps, the first a reasonably accurate depiction of the sources of the Colorado, Missouri, and Snake Rivers, and the second the territory west of the Rockies. This map shows the courses of the Snake, Salmon, and Columbia Rivers, Astoria and Vancouvre (sic) just east of the mouth of the Wallamunt or Multnomah. These were published in Washington Irving's book The Rocky Mountains in 1837, which was based on Bonneville's journals. They were important in imparting to a wide audience the idea of the Great Basin (Goetzmann, 1959, p. vii). Although Bonneville essentially explored and mapped the same areas as had

Smith, Smith's information, as incorporated by Gallatin, was not well known or publicized. Bonneville's was due to Irving's popularity.

Bonneville's maps are not drawn scientifically, using astronomical observations for latitude and longitude. But mapping was not the major intent of his expedition. Bonneville took a two year leave from the Army in order to see the west under the auspices of the fur trade. There has been much speculation that his real purpose was to ascertain the geography, climate, Indian populations and their attitudes towards whites, and other factors pertaining to the favorability of settlement. But the federal government as yet was not willing to openly display its interest in the territory. Nevertheless, his accounts and maps brought public interest to the idea of settling the Oregon territory.

In 1838, Captain Washington Hood of the United States Topographical Engineers drew a map of the "Territory of Oregon" to accompany Senator Lewis Linn's bill authorizing the President to occupy the Oregon Territory. The only thing original on the map, however, was the delineation of the 49th parallel as the northern boundary of the United States. Other than that, the map was a direct copy of Arrowsmith's 1834 map, even including the erroneous Nasty and Shasty Rivers (Goetzmann, 1959, p. 59).

Also in 1838, Samuel Parker published a map in his "Journal of an Exploring Tour beyond the Rocky Mountains." This was a new representation of the Northwest, and was widely circulated

just prior to the great movement of immigrants to Oregon Territory in the early 1840's.

The last significant map of the 1830's was David Burr's 1839 map of the United States, which has been mentioned previously.

During the 1830's, limited settlement had been occurring in the Oregon Territory. The Hudsons Bay Company had moved many of its retired French-Canadian servants to the Willamette Valley and had established sawmills and attempted to control trade. As early as 1841, American settlers first met in an attempt to form a government. Missionaries were moving into the territory, and over-land emigration was beginning. Although knowledge about the west was accumulating, it still far exceeded the cartographic depiction of it. The maps of Arrowsmith (1834) and Brue (1833), based on Lewis and Clark, Thompson, and Ogden information, were still the major sources of knowledge about the West. Bonneville's map (1837) provided additional information, as did Gallatin's (1836). But in general, "all other maps of the period -- which were to have such a profound impact on the american mind -- stemmed from this handful of early maps" (Goetzmann, 1966, p. 158).

Few maps prior to 1840 showed South Pass, the easiest route to cross the Rockies, and therefore were of little value to emmigrants. Nevertheless, enough knowledge about Northwest conditions was available to produce an agreeable image in the minds of the common American. By 1840, the west had become a place to move to rather than a mystery (Goetzmann, 1966, p. 158).

## GOVERNMENT SURVEYS

Due to increased interest in settlement and the continued desire to claim the Northwest Territory for America, denying British claims, the United States government finally became involved again in mapping the Northwest nearly 40 years after the Lewis and Clark expedition.

In 1838-42, the United States Navy surveyed the Pacific Northwest coast with the United States Exploring Expedition, led by Lieutenant Charles Wilkes. They not only surveyed Puget Sound and the lower Columbia River, but sent out two overland expeditions, one of which explored east of the Cascades, the other heading south through the Willamette Valley to San Francisco. The resulting "Map of the Oregon Territory," 1841, was the first official chart of the west coast from the Queen Charlotte Islands to Cape Mendocino, and included an inset map of the Columbia River. The map drew on Smith information (Wilkes could have had access to a Smith map at Fort Vancouver) and oral information from other trappers. It was the most accurate and detailed map of the coastal area yet published.

The leading figure in government sponsored exploration of the Northwest was John C. Fremont. He "contributed more than any other explorer of the American west in the 1840's to the accurate description and cartographic delineation of the primary physiographic features," according to Herman Friis (Friis, 1967, p. 50).

Fremont was a member of the Corps of Topographical Engineers. He was selected to lead two expeditions to Oregon in

1842 and 1843-44. These expeditions were designed to complete the survey of the Oregon emigrant route from Independence, Missouri to Fort Walla Walla, where Wilkes' survey had ended.

The second expedition is considered to be the most important, because it produced the first scientifically accurate map of the west, as well as completely describing the Great Basin. Fremont was a naturalist and scientist, and brought back extensive data on astronomical observations for latitude and longitude readings, barometric readings of elevations, descriptions of geographic features, climatic information, and many other scientific observations. His information was compiled into several important maps by the cartographer Charles Preuss, who accompanied him on the expeditions. These maps were the first to be based on the modern principles of cartography and geodesy (Gudde, 1958).

The "Map of an Exploring Expedition to the Rocky Mountains in the Year 1842 and to Oregon and Northern California in the Years 1843-44," published in 1845, was based solely on personal observation with other areas left blank. It covered the area of the Snake River and down the Columbia to the Dalles, the Deschutes River to Klamath Lake and the Great Basin south to California. The map presented the first correct latitudinal and longitudinal positions for many geographic features and began an era of much more exact representation of western geography.

Shortly after the appearance of this map, the Senate ordered 10,000 copies of a map of the Oregon trail. Preuss prepared a large-scale topographical road map in seven sections

to meet this request, titled a "Topographical Map of the Road from Missouri to Oregon," published in 1846. The map gave precise distances, and detailed information on landmarks, river crossings, climate, Indians, and buffalo, and was used extensively by emigrants.

Preuss drew a "Map of Oregon and Upper California," published in 1848, based on Fremont's third expedition of 1845-6 (Figure 4). This map differs from the previous two in that it synthesized the work of other sources and aimed for completeness rather than covering only the areas directly observed. The Senate ordered 50,000 copies of this map to be printed, and it was widely distributed.

Fremont was not an explorer charting new lands. He used guides extensively (National Park Service, 1982, p. 26) and covered territory which had been previously explored by Smith, Bonneville, and others. He had even been preceded on the Oregon trail by the emigrants of 1842 and 1843. Fremont's contribution lay in the comprehensiveness and scientific basis used in his observations. He was a scientific and political explorer, seeking possibilities for American settlement. His two published narratives, along with Preuss's 1846 map, provided emigrants with an excellent and readily available guidebook to the Oregon trail.

The Treaty of 1846 gave the disputed Oregon territory to the United States rather than the British, and by that year over 10,000 emigrants had taken the Oregon trail (Hine, 1984, p. 96). The Preuss map was the first to describe the entire route to the

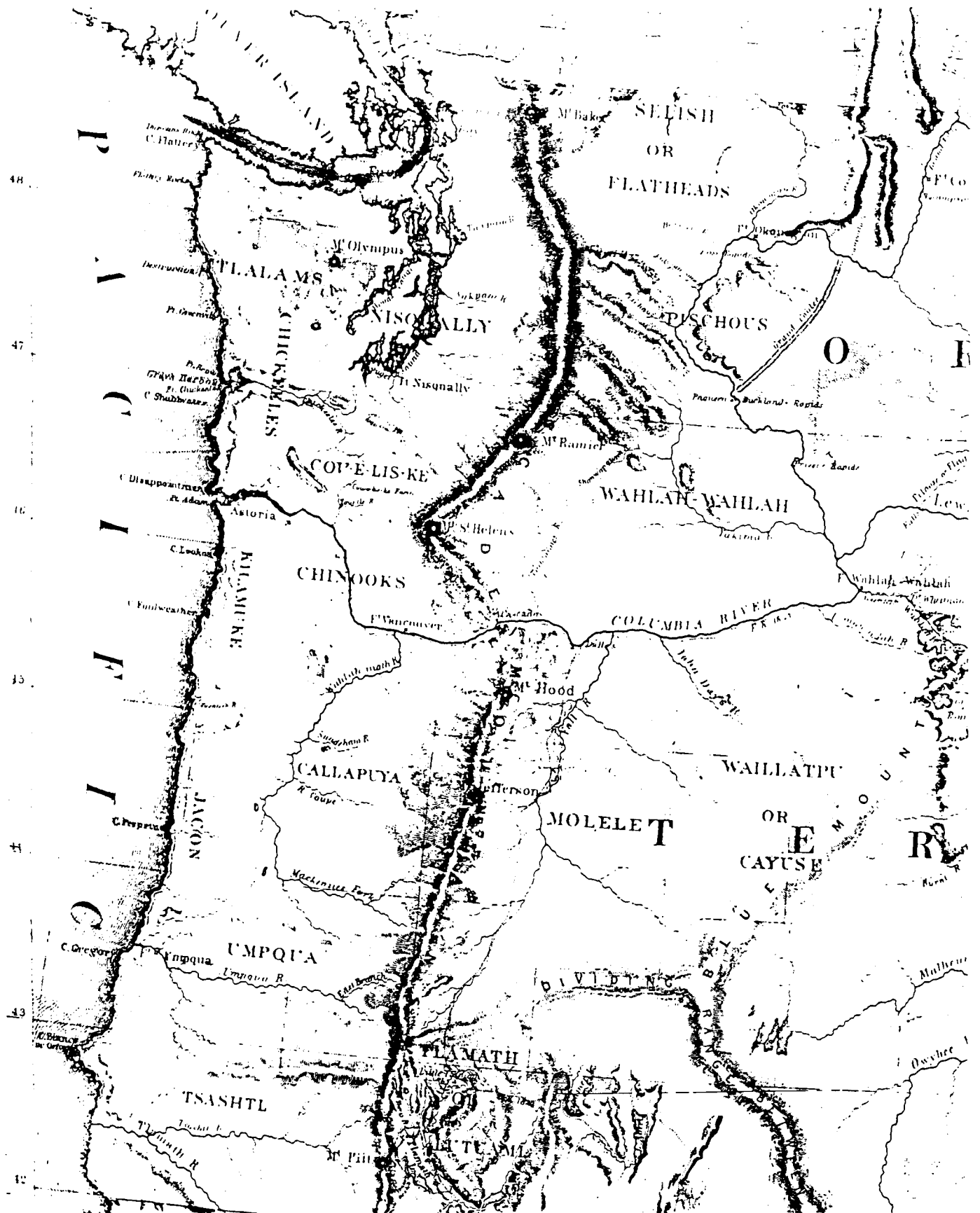


Figure 4. Charles Preuss: "Map of Oregon, and Upper California from the Surveys of John Charles Fremont and Other Authorities," 1848 (portion)



Pacific, so was of major importance. The Oregon trail "...became a highway of unparalleled importance to the development of the new image and to the settlement of the West" (Majors, 1982, p. 169).

Fremont's explorations and Preuss's maps represent a turning point in the mapping of the Northwest. Prior to 1850, the geography of the Northwest had been gradually revealed by a series of explorers, beginning with Vancouver and MacKenzie. With Fremont began the era of the topographical engineer in the Northwest, with its systematic exploration and mapping by the federal government.

At the turn of the 19th century, exploration had been with the desire to find an easy trade route across the continent, utilizing the supposedly easily navigable rivers which stretched across the west. When Lewis and Clark's expedition realized the fallacy of this conception, government interest in further exploration occurred primarily as an off-shoot of the commercial fur trade. But by the 1830's certain fur traders, especially Jedediah Smith and Major Benjamin Bonneville, recognized the potential for settlement and expansion of the United States. They also realized the importance of occupying the Northwest in order to circumvent British claims in the territory. In the 1840's, the federal government, in response to the public impetus which was already moving west, began its first official surveys of the Northwest, which continued throughout the remainder of the century.

The work of the 19th century explorers in the West, as John Noble Wilford points out, "encompassed the broad range of exploratory mapping -- from discovery and pathfinding to the charting of rivers and railroad routes, the filling in of spaces on the map that had been blank, and searching for resources. Their maps projected a hitherto unknown world on the minds of the known world. Their best maps replaced geographical lore with geographical reality."

By comparing the maps of Antoine Souldard (1795) and Charles Preuss (1848), it becomes obvious how great the expansion of knowledge had been. Souldard's conception of the Northwest as it appears on his map is almost wholly imagined. By the time Pruess drew his map of the United States in 1848, all the major rivers, lakes, and mountains had been accurately and scientifically surveyed. Myth had been replaced by reality.

## REFERENCES

- Allen, John L. 1971. Geographical Knowledge and American Images of the Louisiana Territory. Western Historical Quarterly 2:151-170.
- \_\_\_\_\_. 1975. Passage Through the Garden: Lewis and Clark and the Image of the American Northwest. Chicago: University of Illinois Press.
- Cannon, Christine J. 1969. Mapping Western North American and Puget Sound Masters Thesis. Department of Geography, University of Washington, Seattle.
- De Vorsey, Louis, 1978. Amerindia contributions to the mapping of North America: A preliminary view. Imago Mundi 30:71-78.
- Friis, Herman R. 1967. The image of the American West at Mid-Century (1840-1860). In The Frontier Re-examined, ed. John F. McDermott, p. 49-63. Chicago: University of Illinois Press.
- Goetzmann, William H. 1959. Army Exploration in the American West 1803-1863. New Haven: Yale University Press.
- \_\_\_\_\_. 1966. Exploration and Empire. New York: Alfred A. Knopf.
- Gudde, Erwin G., and Gudde, Elisabeth K. 1958. Introduction to Exploring with Fremont, Charles Preuss. University of Oklahoma Press.
- Hine, Robert V. 1984. The American West. New York: Little, Brown, and Company.
- Majors, Harry M. 1980. Ogden's Route in Southern Oregon, In Northwest Discovery, 1:274-295.
- \_\_\_\_\_. 1982. Fremont in Oregon: Deschutes River to Klamath Marsh. In Northwest Discovery, 3:168-253.
- Morgan, Dale L. and Wheat, Carl I. 1954. Jedediah Smith and his Maps of the American West. San Francisco: California Historical Society.
- Morse, Jedidiah. 1803. The American Universal Geography. Boston. p. 750-59.
- Moulton, Gary E. 1983. Atlas of the Lewis and Clark Expedition. Lincoln: University of Nebraska Press.
- National Park Service. 1982. Exploring the American West

1803-1879. Handbook 116, Washington.

Pinkerton, John. 1804. Modern Geography. Philadelphia. p. 414.

Ristow, Walter W. 1985. American Maps and Mapmakers: Commercial Cartography in the 19th Century. Detroit: Wayne State University Press.

Schwartz, Seymour I. and Ehrenberg, Ralph E. 1980. The Mapping of America. New York: Harry N. Abrams Inc. Publishers.

Wheat, Carl I. 1954. Mapping the American West 1540-1857. American Antiquarian Society Proceedings, 64:21-194.

\_\_\_\_\_. 1958. Mapping the Transmississippi West 1540-1861 Vol. 2. From Lewis and Clark to Fremont 1804-1845. San Francisco: Taylor and Taylor for the Institute of Historical Cartography.