BRINGING NATURAL HISTORY TO THE PEOPLE: THREE PIONEERS OF THE PACIFIC NORTHWEST FRONTIER

Ьу

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A THESIS

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In the mid-nineteenth century, three Pacific Northwest collectors established relationships with the fledgling Smithsonian Institution in Washington, D.C. They communicated with Assistant Secretary, Spencer Fullerton Baird, a scientist whose philosophy placed him midway between the "increase" and "diffusion" requirements of the original bequest of James Smithson. The older museum scientists had sought to keep the Institution devoted to research--the "increase" notion, whereas the younger scientists hoped for a museum and a library to bring the new science to the people--the "diffusion" notion. The three pioneers took up collecting to supplant or to supplement their religion, which had come under siege due to rational science. They wished to bring their collections to the people in recognition of the democratic and educational spirit of the new American museum--a far cry from the elitist curio cabinets of Europe and the popular humbug of P.T. Barnum.

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CHAPTER I

INTRODUCTION

In the mid-nineteenth century, three men in the Pacific Northwest established relationships with the fledgling Smithsonian Institution in Washington, D.C. and its Assistant Secretary, Spencer Fullerton Baird. Henry Cummins and Thomas Condon of Eugene, Oregon, and James Swan of the Pacific Northwest Coast were only a few of the collectorcorrespondents who made up a national network providing specimens for Baird's new democratic museum. This thesis will examine their relationship with Baird and the Smithsonian, and the reasons why these three men wished to bring natural history to Americans during the second half of the nineteenth century.

Profound changes were taking place in the America of the early nineteenth century. Even before his death, Jefferson's dream of a nation propelled by yeoman farmers was on the wane. Domestic manufacture had burgeoned, spurred by the British blockade during the War of 1812. Canals and railroads had not only transformed the landscape, but had extended the horizons of men and women. Changes in state constitutions enfranchised men and facilitated the presidency of Andrew Jackson; the hero of the War of 1812 exemplified the new democratic spirit and the increasing importance of the West. This new territory was a promised land, offering economic and spiritual rejuvenation.

Americans newly released from political absolutism also sought release from other restraints. Enlightenment thinkers had turned to science in order to explain the natural world. In America, Franklin had taken up that spirit, blending scientific research with the quest for self-perfection. The old Calvinist belief in the depravity of man was giving way to a more positive image. During the Jacksonian era, Unitarians and Transcendentalists proposed a model of an inspired man whose miraculous willpower could create universal good.

During the three decades before the Civil War, enlightened Americans were immersed in political, religious, and social reform, hoping to utilize science and pseudoscience in order to create a more perfect society. This was the era of the water cure, phrenology, Graham flour, Spiritualism, abolitionism, women's rights, and temperance.

In this democratic era, museum directors wished to make their collections accessible to the public while retaining a scientific demeanor. Midway between the popularizing humbuggery of P.T. Barnum and the austere research

institutions of older, elitist scientists was Spencer Fullerton Baird (1823-1887) of the Smithsonian. His tenure at that institution (1850-1887) served as a bridge between the old and the new museum scientists. The Institution's first Secretary was Joseph Henry (1797-1878), a researchoriented scientist who hired Baird as his assistant. Baird was a scientist, but also a formidable collector. After he convinced Henry to establish a popular museum, Baird developed a nationwide network of collector correspondents who sent materials to fill the new building, which Henry referred to as "the castle." Baird himself had, by the age of nineteen, amassed so many ornithological specimens that Audubon gave him his own huge collection. When he arrived in Washington to take up his new position, the new Assistant Secretary brought two train-car loads of specimens weighing 89.000 pounds.¹

The spirit of the West characterized the three collectors in this thesis--Henry Cummins, James Gilchrist Swan, and Thomas Condon. They came to the West Coast during the great settlement wave of the 1850s. Cummins travelled from Iowa with his parents who were seeking free farmland near Eugene City, Oregon; Swan, a businessman, dissatisfied

¹The Smithsonian Institution, <u>The Smithsonian</u> <u>Experience: Science-History-The Arts</u>, <u>The Treasures of</u> <u>the Nation</u> (New York: Norton & Co., 1977), 37.

with his staid Boston life, sought wealth and adventure in the California goldfields; Condon brought his young bride to the Oregon frontier, where he served as a missionary to the pioneers. All three soon turned to a new interest--the collecting, classification, and presentation of the natural history and Native American artifacts of the new frontier. They were influenced by the Transcendental spirit which saw the connectedness of all things in nature. More importantly, they embraced science either to supplant or to supplement their religion.

The work of Charles Lyell (1797-1875) in geology and that of Charles Darwin (1809-1882) in evolution influenced the three collectors as it did most Americans. Lyell's main work was <u>The Principles of Geology: Being an Attempt to</u> <u>Explain the Former Changes of the Earth's Surface by</u> <u>Reference to Causes Now in Operation</u>, published in 1830-33. Its importance was in connecting the scattered facts of the new science of geology. Earlier mechanical philosophers postulated a universe in which the material systems of nature, the solar system and the organic species were constant throughout the history of the earth. Lyell reiterated the major postulates of James Hutton, namely, the premise that only the geological forces now at work should be used to explain the past history of the earth and that, for this purpose, indefinitely long periods of time may be

assumed. Lyell's theories were immensely popular in middle class circles where the belief in progress was most marked. Harriet Martineau thought that during the 1840s the "general middle-class public purchased five copies of an expensive work on geology to one of the most popular novels of the time."² Lyell's unorthodox views soon became generally accepted and their implications were later developed by Charles Darwin. Although Darwin achieved fame as a naturalist, his early work was in geology, which, as he mentioned in his Autobiography, led him to the theory of evolution. Theories about the biological evolution of the species abounded in the early nineteenth century. Darwin soon became popular in the new democracy whose borders had just reached the Pacific Ocean. In fact, The Origin of Species was one of the books in Henry Cummins' private library.

Cummins (1840-1901), who spent his youth on the Oregon frontier and lived in tiny Eugene City, owned a 100-volume library containing the latest in scientific and pseudoscientific texts (He did possess a copy of Fanny Hill, but dismissed it as undesirable--"not designed to create virtuous thoughts in the minds of its readers.") While still in his teens, Cummins gave up his religion as

²Quoted in Stephen R. Mason, <u>A History of the Sciences</u> (New York: Collier, 1956), 411.

unscientific and became an Infidel; he considered Christianity little more than superstition and ignorance. He soon turned to Spiritualism in an effort to blend science with the eternal. Cummins read all the works of Andrew Jackson Davis, a self-taught Transcendentalist thinker, who attempted to explain the mysterious of the universe in a series of ersatz scientific books. Spiritualists at midcentury were particularly interested in electricity and magnetism and, writing in The Spiritual Telegraph, attempted to address the reform issues of the era. Although the sideshow atmosphere of spiritualism appealed to the youthful Cummins, he sought a more rational approach to explain the natural world. As he matured Humboldt's system of classification and Darwin's explanation of natural phenomena appealed to Cummins. His Pantheon of Science--a museum for the people--was an attempt to bring his new "religion" to the little frontier town. Besides, the Pantheon of Science provided an opportunity for the gregarious youth to mingle with the town's elite and to show off his intellectual abilities.

James Gilchrist Swan (1818-1900), born a generation before Cummins--and five years before Baird--began his correspondence with the Smithsonian at the same time as the Oregon youth. Swan wrote Baird from the Pacific Northwest Coast, where he was living among the Indians. Baird

encouraged Swan for the same reasons he did Cummins. He wished to bring the new National Museum to the people of Washington, D.C., now filled with thousands of Union soldiers due to the Civil War. With the threat of the dissolution of the nation, Congress welcomed the idea of a National Museum to promote the wonders of the recently enlarged United States.

Swan, who had deserted his wife and children for a life among the Native Americans, was an outcast from American society--very much like the Indians of the Northwest Coast. Living in an isolated area of the continent, where jobs were few, he had to seek a source of funds to maintain his existence. Fascinated with the dying culture of the Native Americans, Swan saw in Baird a chance to present them to American whites.

Thomas Condon (1822-1907) was the most orthodox of the three. A missionary and a devoted husband, he blended well with the local establishment. He adapted his pantheistic religion to the new sciences of geology and evolution and saw God's hand in nature. He was also the most successful in gaining support for his work. Unlike Cummins, who created a museum only on paper, or Swan, who had to beg Baird for funds for a quarter century, Condon received a University of Oregon professorship and maintained a lively correspondence with eastern scientists. It was fortunate that Cummins, Swan and Condon began collecting when Baird was involved with the Smithsonian. Joseph Henry (1846-1878) had long believed that the purpose of a museum was to promote the "increase of Knowledge" by expert practitioners. Only reluctantly did he reconcile himself to Baird's interests in collecting and public exhibitions. When he recognized the popularity of the National Museum, he acquiesced to Baird's collecting proclivities.

Popular education and an explosion of scientific knowledge truly made this the century of the collector. The eighteenth century had initiated the ideal of progress. People of the era were fascinated with the earth. Romantics and scientists alike examined the natural world. By the mid-nineteenth century Darwin's theories of evolution had supplanted religion for intellectuals and Humboldt had popularized collecting and classification. As demonstrated by Henry Cummins' "Pantheon," the new religion was science and the museum its temple.

Cummins and Condon had grappled with the meaning of organized religion and developed a pantheistic notion of God. They collected during the era when American museums had just begun to reach out to the people. Both found religion a driving force, a part of nature, yet insufficient to explain the evolving universe. The earliest geologists

had theorized that fossils were simply an error of nature. Now, geology demonstrated the eternally changing forces upon the earth's surface and the reality of extinction of species. Swan recognized that, like prehistoric animals, the Northwest Coast Indians would eventually come to the same end. He would spend more than two decades attempting to preserve their dying culture through his affiliation with the Smithsonian.

At this time, museums were in their infancy and museum directors lacked adequate financing--a problem which the three collectors tackled with varying degrees of success. By the 1860s, the Smithsonian had finally developed into a truly American institution. It bore little resemblance to its European predecessors--elitist curio cabinets reserved for private viewing. Many American museum directors during the first half of the century, seeking to popularize their exhibits, offered sideshow displays, featuring freaks and tricks. At the same time, however, scientists wished to create a professional showcase for uniquely American natural and geological specimens, for scientific apparatuses, and for the artifacts of its native peoples. The educational and social progress during the reform years and the Civil War uplifted popular tastes and enticed the people to the newly-developed museums. Museum directors, realizing the need to create exhibits to satisfy a curious public, reached out to scientists and collectors alike. Cummins, Swan, and Condon, for various personal reasons, sought to fulfill this new public demand. They exemplified the lively interchange between Pacific Northwest collectors and eastern museum directors and scientists during the latter half of the nineteenth century.

This era marked the dawn of the age of the great collector--the individual who provided material for the growth of the American museum. Cummins, Swan, Condon, and Baird would be impressed with the amazing growth of the Smithsonian during the past century. From a budget of \$10,000 in 1870 it now spends \$300,000,000 per year. This thesis will attempt to document the early development of this institution and the debt it owes to these three collectors from the Pacific Northwest.

CHAPTER II

THE LURE OF COLLECTING

The American Compromise

Spencer Fullerton Baird was the Assistant Secretary in charge of the Smithsonian's National Museum from 1850 to 1878, when he became Secretary. A recognized scientist and avid collector, Baird had worked quietly to make the collections more accessible to the general public. As Assistant Secretary, he had to play the diplomat during the early years in order to reconcile two divisive factions within the Institution. Since its inception in 1846, Smithsonian scientists had been divided on how to implement the wishes of James Smithson. In 1819, this Englishman had bequeathed his fortune to the United States to establish an institution for the "increase and diffusion of knowledge among men."³

The Smithsonian's first Secretary, Joseph Henry, born in 1797, belong to the group of older scientists adhering to an "increase" of knowledge philosophy at the Smithsonian.

³Quoted in Joel J. Orosz, "Curators and Culture: An Interpretive History of the Museum Movement in America, 1773-1870" (Ph.D. diss., Case Western Reserve University, 1986), 224.

Henry preferred the sort of museum that existed in the 1850s: cabinets which catered exclusively to the scholar or the connoisseur. These institutions, while of great value to the specialist, were unintelligible to the American public. Although Henry feared the unabashed popularizing trend of earlier American museums, he still recognized the necessity to do something in the way of display, or as he put it "... a few oblations to Buncombe."⁴

Younger scientists at the Institution, including Baird, following the democratic trend of the era, supported a "diffusion" of knowledge and hoped for a museum. By the 1850s, the nation's preservation movement and the fledgling world's fair movement began to diffuse the museum idea and weaken the grip of the "professionals." During the Civil War, museums became important teachers of national loyalty and patriotism. Sanitary Fairs gave a boost to museums and to the concept of popular education. By 1870, scholarly research and popular education had become fully accepted as the twin goals of the American museum. This "American Compromise" contrasted with the European tradition which prioritized research. Hence, the form of the modern American museum was determined.⁵ In order to better

⁴Orosz, "Curators and Culture," 224.

⁵Orosz, "Curators and Culture," 348.

understand this compromise, it is necessary to examine the growth of this uniquely American museum and how it evolved from its European forbearers.

The Enlightenment and Museums

The history of the American museum begins with the reaction to the Enlightenment. The intellectual ferment created by the scientific advances of the sixteenth and seventeenth centuries had a profound effect on the Western world. Some features of the Enlightenment were respect for the achievements of the classical past, faith in progress, including the perfectibility of man and the belief in political and intellectual freedom. People began to envision a new cosmic system directed by the laws of nature. Man's power of reason could now discover those laws and induce conformity to them.

In Europe, very few of the earliest museums had had an intellectual foundation.⁶ Before the Enlightenment, the museum served as a reliquary, a storehouse, or a treasury. Kings and nobles collected objects and displayed them for

⁶Two important exceptions were the Museum Jovianum, begun around 1520 by Paolo Giovio, and Rogier de Gagniere's Natural History Museum of the early 18th century. Both collected objects for their historical significance and for the assistance of scholars. Although both museums failed, Giovio's is significant in that it revived the word "museum." Quoted in Orosz, "Curators and Culture," 13.

their own pleasure--never for the public. The monarchs of France, Britain, Spain, and Russia maintained vast collections. Oxford University had its Ashmolean cabinet, and private collector, Sir Hans Sloan had his own cabinet. In Europe, these great collections could readily be transformed into museums--a scheme which philosophers had advocated for the Louvre in his Encyclopedié.

Founders of the earliest American museums were uncertain whether they should transplant European institutions or create something uniquely American. In an America, desperately lacking in capital, museums had to have a practical purpose. Therefore, in the mid-eighteenth century, the American museum developed a new raison d'etre: to substantiate and to demonstrate scientific claims. In the new land, teeming with unclassified species of flora and fauna, early cabinets could focus on taxonomy. To this was added the preservation of historical artifacts, the exhibition of scientific apparatuses, and the display of great art works.

The first American museum was the Charleston Library Society, established in 1773 "for promoting a Natural History of South Carolina."⁷ The Society had been created in 1748 when some gentlemen imported a few books and

⁷Quoted in Herbert and Marjorie Katz, <u>Museums, U.S.A.:</u> <u>A History and Guide</u> (New York: Doubleday, 1965), 1.

pamphlets, chiefly for their own amusement. The group was soon joined by others who wished to promote science. Newspaper advertisements solicited cooperation and soon donations began to arrive, the first being a drawing of a bird's head. Unfortunately, fire destroyed America's first museum during the Revolution.

The Popularization of the American Museum

Recognizing the popularity of the defunct Charleston Library Society, artist Charles Wilson Peale opened up a wing of his Philadelphia home in 1782. He wished to augment his meager finances and to create a place where the public could view his portraits and his large natural history collection.⁸ At the advice of his friend, Colonel Nathaniel Ramsay, Peale decided to exhibit a huge pile of dinosaur bones he had acquired. Ramsay speculated that while paintings were commonplace, many would go twenty miles to see the fossils and would get more satisfaction "from such articles of curiosity than any painting whatever."⁹ Peale ultimately added such oddities to his own three hundred paintings and, after acquiring even more specimens, he moved

^BCharles C. Sellers, <u>Mr. Peale's Museum: Charles Wilson</u> <u>Peale and the First Popular Museum of Natural Science and</u> <u>Art</u> (New York: Norton, 1980), 9.

⁹Sellers, <u>Peale's Museum</u>, 11.

them to larger quarters at the American Philosophical Society. He built a small skylighted moving picture exhibit at the end of a new gallery. It consisted of pictures within a landscape nocturne, replete with singing birds, hills, trees, houses, and city streets. Eight years later, the collection went to the State house (now Independence Hall), where it remained for over two decades.¹⁰ Eventually Peale's sons, all named for famous painters, took over and operated his enterprises. In 1854, unable to compete with P.T. Barnum's museum, they sold their collection to him.

Peale's museum had eclipsed that of another Philadelphian, Pierre du Simitière, who, in 1782, had also opened his home to the public. He displayed his collection of records and historical materials of the American Revolution. Du Simitière was the first American to advocate documentation of historic events as they occurred. The venture was brief, for he soon died and his collection was sold off.

Although these early Philadelphia museums were created to provide an additional income for their exhibitors, the admission fee was kept low in order to attract the public. Their goals were rational amusement, pleasurable instruction, and the promotion of piety. The enlightened of

¹⁰Sellers, <u>Peale's Museum</u>, 11.

that era advocated amusement of a virtuous and rational nature as an alternative to vice, drinking, and gambling. Early museum proprietors wished, however, to distinguish between the unpleasant rote memorization they had encountered in school and "pleasurable instruction," as they called it.¹¹

Museum directors were caught in a dilemma: they wished to provide a decent education, yet popular humbug often paid best. In New York City, the Tammany Society turned over its City Hall Museum consisting of Indian relics, skulls, and other materials, to its Grand Sachem, Gardiner Baker, in 1795, possibly as settlement for his wages.¹² In order to stem his own financial reverse as well as to satisfy his eclectic interests, Baker offered a variety of promotions in his museum: pseudoscientific demonstrations, freak animals, and a highly-publicized balloon ascent that never occurred.¹³

By 1816, the New American Museum, in New York City, the heir to Baker's museum, had expanded to the second floor of the Alms House in City Hall Park. It included a lecture hall and demonstrations of a more or less scientific nature.

¹¹Orosz, "Curators and Culture," 46.

¹²Katz, <u>Museums</u>, 6.

¹³Katz, <u>Museums</u>, 7.

One large room had a forest scene in which eighty mammals, snakes, and birds were realistically displayed. There was also an exhibit case with over six hundred natural history specimens. A band played "Yankee Doodle" and crowds paid twenty-five cents each to view the exhibits.

Rubens Peale administered his father's museum after 1810 and regarded it as "a business, not a temple." He yielded to popular tastes and made the museum much like the theater.¹⁴ At this time, Protestant antipathy toward the theater on religious, social, and economic grounds was waning. By 1841, the population of New York was growing rapidly, due to the increasing numbers of immigrants. The city had numerous museums and theaters and was fast becoming the amusement capital of America.

In that year, P.T. Barnum appeared in New York and gained control of John Scudder's New American Museum, created in 1810. In the two decades after Scudder's death, his museum had grown to a collection of more than one hundred and fifty thousand "natural and foreign curiosities." It had contortionists, a lady magician, a banjoist, and O'Connell the Tattooed Man as well as waxworks, automatons, chemical and electrical experiments, and mummies.

¹⁴Neil Harris, <u>Humbug: The Art of P.T. Barnum</u> (Boston: Little Brown, 1973), 167.

Barnum promptly set out to discover other oddities for his new museum. The great showman added industrious fleas, jugglers, living statuary, fat boys, giants, American Indians--"anything that might divert the stream of Broadway pedestrians into the building."¹⁵ Barnum's museums and circuses flourished and he eventually drove competitors out of business and absorbed their exhibits. He was so successful that, after his first American Museum burned in 1865, a group of prominent Americans proposed that he be made the head of the new national museum, to create "A pleasant and attractive place of public amusement."¹⁶ The national museum was originally intended to be located at the Smithsonian Institution in Washington, D.C. However, Horace Greeley, William Cullen Bryant, and Henry Ward Beecher sponsored a petition which asked President Andrew Johnson to appoint Barnum head of this new institution.

Although connecting Barnum to a scientific museum may seem peculiar in our own age, it was logical to many in the middle of the nineteenth century. In this optimistic reform era, the American public had become fascinated with "pseudoscience." The disciplines of biology, chemistry, and physics were in their infancy. Schools of higher learning

¹⁵Harris, <u>Humbuq</u>, 40-41.

¹⁶Hans Huth, <u>Nature and the American</u>, 90.

were few, and advanced degrees did not exist. It was often open to question whether a "scientist" was self-appointed or had actually undergone rigorous training. One such pseudoscientific philosopher was Andrew Jackson Davis, known as "the Poughkeepsie seer." Like Barnum, he was immensely popular, yet today his work is considered humbug. His first contribution in the field of philosophy was a book created from a series of lectures made in a state of trance, entitled The Principles of Nature, Her Divine Revelations, and a Voice to Mankind, but sometimes called The Harmonial <u>Philosophy</u>. The philosophy is a hodgepodge of facts and theories, a mixture of all ideas current in mid-nineteenth century America. Davis, a clairvoyant and spiritualist, owed much to Swedenborgianism and other types of mysticism. The Transcendentalists took up Spiritualism and linked it to popular reform. Seances called upon Franklin to speak about electricity, a favorite subject of the era, and upon Jefferson to lecture on abolition. Spiritualism appealed to the masses as well as to such prominent men as President Charles Eliot of Harvard and publisher Horace Greeley.

The central ideas of Davis' great spiritualist books appealed to all Americans. His <u>Harmonial Philosophy</u>, which went through thirty-four editions in thirty years, was that the universe is one great whole. The following selection from one of Davis' many books is an example of the new democracy blending with science and pseudoscience. Its debt to religion is obvious, yet it attempts to avoid its "error and artificial theology."

. . . the era of mythology and superstition is fast decaying. Ignorance, bigotry, skepticism, fanaticism, intolerance, spiritual depression, and all slavery--the great evils which now beset mankind--are rapidly dispersing; they shall recede entirely from the earth, never again to enslave and degrade humanity. This world of thought and affection, and of social relations, shall be progressively purified, until there shall be unfolded a new heaven and a new earth wherein dwelleth righteousness. And the evils which now exist, shall be known only to those who will trace the history of our race, which they will do with mingling feelings of pity and regret. By spiritual intercourse we learn that all men shall ultimately be joined into one Brotherhood, their interests shall be pure and reciprocal; their customs shall be just and harmonious; they shall be as one Body, animated by Universal Love and governed by pure Wisdom . . . Truth will consume all error and artificial theology, whose power is weakened; and whose corruptions are revealed, by the divine light of Nature's manifestations.¹⁷

Davis' Swedinborgianism appealed to many educated Americans of its era. Spiritualism's sideshow antics were far more effective in influencing the less well-trained. Emma Hardinge, an early Spiritualist, named many incongruous "adventists of Spiritualism": mesmerism, electro-biology,

¹⁷Andrew Jackson Davis, <u>The Philosophy of Spiritual</u> <u>Intercourse, Being an Explanation of Modern Mysteries</u> (<u>1854</u>), 176, quoted in Alice Felt Taylor, <u>Freedom's Ferment:</u> <u>Phases of American Social History from the Colonial Period</u> <u>to the Outbreak of the Civil War</u> (New York: Harper and Row, 1944), 78-79.

clairvoyance, chemistry, physiology, phrenology, and magnetism. In other words, she believed that all the new ideas of science and pseudoscience led men to perceive no barrier between their minds and the solution of the ultimate mystery of death and immortality. Spiritualism, said Hardinge, was the "coronal glory of the capital of the column of all the sciences."¹⁸

Horace Greeley's proposal that Barnum had the new national museum demonstrated the ill-defined boundaries of science for Americans of the day. There were two strains of the American museum during this era: Barnum's sideshow and Baird's and Henry's organized, "scientific" Smithsonian exhibits. One sought to attract the public through sensationalism and "pseudoscience," while the other sought to educate by means of orderly, "scientific" displays of the wonders of the natural world. Pseudoscience was slowly giving way to science; the growth of the American university system would legitimatize one, while discrediting the other. Barnum's museum straddled both strains.

Barnum had planned to make a public zoological garden from his private menagerie. His plan was to have the government eventually take over his exhibits and admit the

¹⁸Emma Hardinge, <u>Modern American Spiritualism</u>, 22, quoted in Tayler, <u>Freedom's Ferment</u>, 80.

public free of charge.19 President Johnson, in April 1866, gave Barnum a letter of introduction to take to foreign consuls, enabling him to collect as much material as possible for his proposed museum. Barnum capitalized his new scheme at two million dollars and purchased thirty acres in Bridgeport, Connecticut. There he built a glass and steel structure to house, breed, and exhibit animals and birds. Unfortunately for Barnum, his new museum burned on March 3, 1868 and thus ended his brief threat to the Smithsonian.²⁰

With the demise of Barnum's museum, the national museum was developed at the Smithsonian Institution. However dissimilar, there was a common strain between the two. This new American museum was, indeed, very different from the curio cabinets of Europe and colonial America. Its treasures were from the rich and varied landscape; its exhibits were created for the enjoyment of the people of the new republic.

Much of the impetus for museums had come from a European who had ventured to the New World. He ultimately introduced several new methods of collecting and measuring

²⁰Werner, <u>Barnum</u>, 303.

¹⁹Martin Werner, <u>Barnum</u> (New York: Harcourt, Brace, 1923), 302.

phenomena in the field, classifying the findings, and comparing them with observations elsewhere. That man was Alexander von Humboldt.

Humboldt's Impact on Natural History Collecting

Although Alexander von Humboldt is unknown to most Americans today he was perhaps the most widely admired man of the nineteenth century. In 1804, he accompanied painter and museum director, Charles Wilson Peale to the White House for a visit with fellow scientist and U.S. President, Thomas Jefferson. For the next several weeks, von Humboldt, naturalist, astronomer, geographer, geologist, botanist, authority on Indian antiquities, linguist, and artist, fascinated the new President and his cabinet. Albert Gallatin, Secretary of the Interior, observed that the thirty-four year old German talked at double speed and often shifted into English, French, Spanish, or German. Gallatin wrote, "I was delighted . . . and swallowed more information of various kinds in less than two hours than I had for two years past in all I had read and heard."²¹

Humboldt served as an inspiration for scientific geniuses and explorers of the nineteenth century. John

²¹David McCullough, "The Man Who Rediscovered America," <u>Audubon</u> 75, no. 5 (September 1973): 51.

Charles Fremont honored him by bestowing his name on the river that marked the westward trail or the pioneers. More places around the world are named after him than any other scientist: fourteen towns in the United States, one in Canada, mountains in Antarctica, North and South America, Australia, New Zealand, and New Caledonia. Charles Darwin confided that Humboldt's descriptions of the tropics, which he read several times during his youth, inspired his career. Much of Humboldt's account of the earthquake at Caracas went into Darwin's <u>Voyage of the Beagle</u>. Darwin credited Humboldt, "the greatest scientific traveler who ever lived," with shaping the course of his life.²² John James Audubon, Sir Charles Lyell, Simon Bolivar, W.H. Hudson, Louis Agassiz, and Goethe were equally impressed with Humboldt.

In 1799, in an unprecedented move, Spain had given Humboldt and botanist Aimé Bonpland permission to explore all of its colonies in Central and South America. The two spent the next five years exploring the Americas, collecting plants and animals, analyzing heat and electricity, and the magnetic and electric content of the atmosphere. They reached 19,286 feet, higher than anyone had been before, even in a balloon. Together the two young men examined,

²²Loren McIntyre, "Pioneer of Modern Geography: Humboldt's Way," <u>National Geographic</u> 173, no. 9 (September 1985): 349.

sketched, collected, and classified more plants than any botanist before them (some 12,000 by their count). They gathered rock samples, fishes, reptiles, and skins of animals--identifying some 600 new species of bamboo alone-enough to keep Humboldt occupied for the rest of his life.

Upon his return, Humboldt spent the next thirty years and all of his inherited fortune publishing thirty volumes of his findings, entitled <u>Voyaqes Aux Régiones équinoctiales</u> <u>Du Nouveau Continent, Fait Dans Les Anées 1799 à 1804</u>. The volumes appeared between 1807 and 1839, offered at a price of $$2,000!^{23}$ His final work, <u>Cosmos</u>, was to contain everything he knew about art, nature, history, and all branches of science; it would portray the grand harmonies of the earth and universe to the nonscientific reader. The first volume appeared in 1845, and 80,000 copies had been printed by 1851; it was one of the publishing events of the age and moved a generation.²⁴ As far away as Eugene City, Oregon, a copy of this great work was owned by teenager Henry, a devotee of the new science.

Humboldt drew all his travels and observations together under the rubric of geography. Previously, geographers had only studied the earth's shape and described its regions.

²³McIntyre, "Pioneer of Geography," 350.

²⁴McCullough, "Rediscovered America," 61.

One of the first ecologists, Humboldt explained the interrelationships between the earth and living things.²⁵

<u>A Protege: Louis Agassiz</u>

Humboldt was interested in assisting other scientists and genuinely enjoyed discovering talent. Chemist Justus Liebig, zoologist Achille Valenciennes, and mathematician Friedrich Gauss benefitted from their friendship with him, as did naturalist Louis Agassiz. He was born in Switzerland in 1807, three years after Humboldt had returned from the Americas. Agassiz was living in relative poverty and obscurity in Paris when he met the great scientist in 1832. Humboldt used his influence and funds to assist the young man. In 1846, through Humboldt's political influence, Agassiz won financial support from Frederick William IV of Prussia for a two-year lecture tour of America. Following in Humboldt's footsteps, he studied the natural history of the New World.

Travelling by railroad, Agassiz admired the Americans' vigor and excitement over their new land and culture. He was curious about the people:

Naturalist as I am, I cannot but put the people first . . . What a people! . . . I should in vain try to give . . . an idea of this great nation passing from childhood to maturity with the

²⁵McCullough, "Rediscovered America," 61.

faults of spoiled children, and yet with the nobility of character and the enthusiasm of youth. Their look is wholly turned toward the future . . . and thus nothing holds them back, unless, perhaps, a consideration for the opinion in which they may be held in Europe.²⁶

Through the efforts of Agassiz, science became fashionable in the United States. His meticulous methods of explaining nature gained a wide following, including Emerson and the Transcendentalists, who were seeking a way of explaining the interrelatedness of all living things.

Agassiz began teaching at Harvard University in 1848 and eventually befriended Henry Wadsworth Longfellow, James Russell Lowell, Richard Henry Dana, and Ralph Waldo Emerson. Their Saturday Club met monthly at the Parker House. Some of the members referred to it as Agassiz's Club," in recognition of the esteem in which he was held. In 1857, on the occasion of Agassiz's fiftieth birthday, his friend Longfellow wrote the following poem. It told how Nature, "the old nurse," had invited the boy Agassiz to wander with her while they read a storybook that God had written for him:

> Into regions yet untrod; And read what is still unread In the Manuscripts of God.

²⁶Quoted in Edward Lurie, <u>Louis Aqassiz: A Life in</u> <u>Science</u> (Chicago: University of Chicago Press, 1960), 125.
And whenever the way seemed long, Or his heart began to fail, She would sing a more wonderful song, Or tell a more marvelous tale.²⁷

In America, Agassiz gained fame for his teaching. Henry Adams, reflecting on a Harvard education that seemed of little value, wrote, "the only teaching that appealed to my imagination was a course of lectures by Louis Agassiz on the 'Glacial Period and Paleontology,' which had more influence on my curiosity than the rest of my college instruction put together."²⁸ Agassiz wished to use his teaching abilities as an instructor in a museum. However, his favorite institutions, the Academy of Natural Sciences in Philadelphia, the Boston Society of Natural History, and the Smithsonian, did not offer any instructional programs before the 1870s. Recognizing that these institutions were constrained by a lack of funds, Agassiz hoped that Harvard's resources could be used to develop an independent institution of natural history with a separate faculty and building.

²⁷ "The Fiftieth Birthday of Agassiz, May 28, 1857," manuscript copy in <u>Agassiz Papers</u>, (Houghton Library, reprinted in E.C. Agassiz, Agassiz, II), 544-45, quoted in Lurie, <u>Agassiz</u>, 203.

²⁸Henry Adams, <u>The Education of Henry Adams</u> (New York, 1918; reprint, 1931), 60, quoted in Lurie, <u>Agassiz</u>, 212.

During the 1850s, Agassiz effectively created a university museum at Harvard. He wrote potential donors that their collections would be in good hands in his museum. He hired assistants to work at preserving and identifying any materials he gathered. Unlike the officials at the financially-pressed Smithsonian, Agassiz had ample funding for his museum: Harvard, from time to time purchased his collections, spending \$10,000 of its own funds.²⁹

Joseph Henry, Spencer Fullerton Baird, and the Rise of the Smithsonian Institution

Agassiz had been collecting natural history specimens since his arrival in America. Eventually, as his home could no longer contain his enormous collection, he felt that establishing a Harvard museum was essential. He had become friends with Professor Spencer Fullerton Baird of Dickinson College. Both were accomplished ichthyologists and, more important, avid collectors. In Agassiz's Cambridge home, no object alive or dead was turned away and likewise, when Baird became Assistant Secretary of the Smithsonian, he would often write to would-be donors, encouraging them to send all items, to "never fear the nonacceptability of

²⁹Lurie, <u>Aqassiz</u>, 237.

anything you may send."30

Agassiz, through his contagious enthusiasm and worldwide reputation, popularized science in the United States. Agassiz's influence was keenly felt in America: the years between 1846 and 1871 marked the Age of Agassiz. At the same time, Baird developed a systematic center for scientists and collectors through his Smithsonian position and his publications. The two men supplemented each other.

The Smithsonian was a new institution when James Dwight Dana endorsed Baird for either the position of Curator of Natural History or as Joseph Henry's Assistant Secretary. The Institution had been created by an 1829 half-million dollar bequest of James Smithson, the son of the Duke of Northumberland. The bequest required the United States to found at Washington and institution for "the increase and diffusion of knowledge among men." After much legal wrangling, the money finally arrived in 1838. However, the government could not decide what to do with the money. Debates raged for eight years. Should it be used to found a national university, a library, a museum, an observatory, or something else entirely?

³⁰Quoted in Ivan Doig, <u>Winter Brothers: A Season at teh</u> <u>Edge of America</u> (New York: Harcourt Brace and Jovanovich, 1980), 113.

Secretary of War, Joel Roberts Poinsett, the only American museum director ever to hold cabinet rank, had a brilliant solution to the dilemma. In May of 1840, he organized the National Institute for the Promotion of Science. His plan was to have the institute gather a large cabinet before the Wilkes Exploring Expedition returned from its four-year trip around the world. The institute would then become the logical place to deposit the Expedition's collections. Unfortunately, after Poinsett left his position as Secretary of War in 1841, the Institute was unable to find another man of his stature and fell into political squabbling. However, in 1846, an act of Congress created the Smithsonian, which received all the materials from the 1838-1843 Wilkes Expedition as well as numerous other collections and gifts.³¹

The creation of the Smithsonian was effected by various conflicting trends of the time. Young professionals who saw the trend toward popularization of knowledge wished to develop it through popular museum education. Public schools and the lyceum movement also gave a boost to museums. Older professional scientists were willing to go along as long as museums would diffuse general knowledge. Yet, they feared that this popularization might delude ordinary people into

³¹Quoted in Doig, <u>Winter Brothers</u>, 113.

the belief that they fully understood complex subjects that only professionals could grasp.

Joseph Henry, the Smithsonian's first Secretary, was one of the elder scientists who espoused the increased school of knowledge and downplayed the diffusion component of museums. Born in 1797, he was orphaned in childhood and grew up in great poverty. In 1826, he became professor of mathematics and natural history at the Albany Academy. Moving to Princeton in 1832, he built his reputation on studying magnetism. Before accepting the position of Secretary of the new institution in Washington, Henry stated his concerns:

The object of the institution is the increase and diffusion of knowledge. The increase of knowledge is much more difficult and . . . much more important than the diffusion of knowledge. There are at this time thousands of institutions actively engaged in the diffusion of knowledge in our country, but not a single one which gives direct support to its increase . . There is no civilized country in the world in which less encouragement is given than in our own to original investigations, and consequently no country of the same means has done and is doing so little in this line.³²

Professor Henry's "programme" for the Smithsonian stimulated men of talent to do original research by offering suitable rewards for innovative work. A portion of the

³²Quoted in Orosz, "Curators and Culture," 224.

Institution's income would be appropriated to particular research. He did have a diffusion scheme, but it totally ignored the idea of a museum, library, gallery, or lecture hall, all of which had been mandated by Congress. Fortunately, Henry was able to recognize the need of the people for a museum, although such a museum was counter to his own philosophy. His selection of Baird in 1850 as his Assistant Secretary paved the way for the "American Compromise."

An 1847 quip by the new Secretary anticipated Baird's appointment and Henry's tentative acceptance of a museum. Henry's quip was, "it will probably be necessary to make a few oblations to Buncombe."³³ He was very likely referring to the Western Museum and the American Museum of the 1820s. Unable to survive on the strength of their exhibits, they decided to sensationalize their cabinets and offered outlandish nature and freak shows. The appointment of Baird, a scientist and collector, provided a balance between the increase and diffusion factions at the Institution. The two railroad cars that brought Baird's 89,000 pound collection to Washington, D.C. formed the beginnings of the National Museum.

³³Orosz, "Curators and Culture," 224.

Although he had appointed Baird, Henry was still reluctant to popularize the Smithsonian's exhibits, relegating them to an obscure part of the Institution. Soon after Baird's appointment, Henry became embroiled in a feud with C.C. Jewett, an innovative librarian, appointed in 1847 by the Board of Regents as Assistant Secretary in charge of the Institution's library. According the Smith Act, fifty percent of the Smithsonian's funding was to go to a library and a museum, a provision which Henry, in 1852, asked the Board to repudiate. The Secretary was worried about burgeoning costs for the museum building, which he referred to as "the castle." Henry was concerned that the museum would take precedence over the Institution's research aims. Jewett, representing the diffusion philosophy, feared an end to the library and the museum. He wrote an angry criticism of Henry in his annual report which led to an open feud, with their friends taking sides and writing critical letters and magazine articles. The feud culminated in a Board of Regents investigation of Henry, in which he was exonerated. Henry, however, rebuked Jewett for insubordination and subsequently fired him in 1854, thus placing himself firmly in charge of the Institution.³⁴

³⁴Orosz, "Curators and Culture," 348.

To secure Baird's loyalty (the Assistant Secretary had played the diplomat during this interlude), Henry permitted him to develop the museum as he saw fit. Henry's increased "programme" was soon altered by Baird. The Assistant Secretary had been one of two candidates for his position-the other was Titian Peale of the defunct Peale Museums. Peale, almost a guarter century older than Baird, pursued science in an unsystematic manner, viewing it as only a sidelight to his museum career. Baird, by contrast, was a professional scientist, adept in foreign languages and editorial skills, which could make him a competent chief of publications at the new institution. He had the backing of George Perkins Marsh, naturalist, representative from Vermont, and Regent of the Smithsonian. Baird presented himself as a professional scientist and admirer of Professor Henry.

Shortly after his arrival, Baird acquired the Patent Office collections for the museum. Although this acquisition provided popular education for the previously research-oriented National Museum, it was the Civil War which ultimately gave the Museum its greatest boost. The War changed the nation's capital from a sleepy little town into a bustling armed camp. It became necessary to provide enjoyable, educational, and moral activity for the soldiers, and the National Museum provided one solution. Observing

the crowds at the Museum, Henry became converted to popular education. In his Annual Report of 1861, Henry wrote:

During the past year, Washington has been visited by a greater number of strangers than ever before since the commencement of its history. The Museum has consequently been thronged with visitors, and has been a never-failing source of pleasure and instruction to the soldiers of the Army of the United States quartered in the city or its vicinity. Encouragement has been given them to visit it as often as their duties would permit them to devote the time for this purpose.³⁵

Baird's National Museum received an additional boost from the Sanitary Fair, established during the Civil War. This fair, sponsored by the U.S. Sanitary Commission, was established in June 1861, to raise funds for the health and comfort of the Union soldiers. The wealthy donated their prize possessions for exhibition and auction. These fairs encouraged lyceums, revivals, and estate sales. By the end of the Civil War, some veterans disciplined by military life were drawn to the systematic organization of science. "Driven by a growing faith in science and the war-born desire to be useful citizens, they hastened to offer themselves as candidates for the scientific elite."³⁶

³⁵Quoted in Orosz, "Curators and Culture," 349.

³⁶Edward C. Mack, <u>Peter Cooper: Citizen of New York</u> (New York: Duell, Sloan and Pearce, 1949), 40, 89, 259, guoted in Orosz, "Curators and Culture," 319.

By war's end, Henry had come to agree with Baird's idea for the National Museum. He spoke of the popular museum's "great importance as a means of intellectual improvement, of rational enjoyment, and as a receptacle of interesting materials for the use of the student in any branch of learning."³⁷ However, the professor still worried about the costs of this intellectual improvement. The annual \$4,000 appropriation of Congress remained the same from 1857 until 1870 when it was raised to \$10,000, although costs of maintaining the National Museum had risen greatly due to wartime inflation.

By 1870, however, with the increased funding for the National Museum, the Smithsonian was finally in step with what the museum historians refer to as "the American Compromise"--the balance between popular education and research. The American museum would no longer remove itself from the masses and devote its energies to purely scientific research. The Civil War had brought the people to museums, lyceums, revival meetings and had created a thirst for popular education. Assistant Secretary Spencer Fullerton Baird had played a pivotal role. His diplomacy helped to reconcile the increase and diffusion factions within the Smithsonian.

³⁷Orosz, "Curators and Culture," 319.

Baird's diplomacy and enthusiasm drew amateur collectors and professional scientists into a national network which strengthened the National Museum of the Smithsonian.

From the early 1850s until his death in 1888, Baird communicated with hundreds of collectors, including many who had fanned out across the West with expansion of transcontinental railroads. Cummins, Swan, and Condon were among these, and their careers demonstrated the ascendance of the new spirit of the Smithsonian. They gained their scientific expertise at a time when the field was young and formal training less important than practical experience. All three were gregarious and infused with a proselytizing spirit. By the time of Baird's death, museums were actively involved in the popularization of the new scientific knowledge. Cummins, Swan, and Condon contributed to that trend.

CHAPTER III

HENRY CUMMINS AND THE "PANTHEON OF SCIENCE"

MUSEUM! MUSEUM! headed a February 8, 1862 <u>State</u> <u>Republican</u> article, published in the tiny frontier community of Eugene City, Oregon. The newspaper had given its twentyone year old typesetter, Henry Cummins, space to solicit donations to his latest crusade, the Pantheon of Science. His column offered this news to the 800 people of the town:

AN INSTITUTION is being formed in this place to be exclusively devoted to the advancement of SCIENCE in this country, and especially of the physical or natural sciences--which requires as a basis, a MUSEUM, or collection of specimens in the various departments, such as Botany, Zoology, Oology, etc.--therefore all persons are invited to assist by collecting and sending us such specimens as they may be able to collect.³⁸

Although Cummins was only the printer on this fledgling paper, he took an active part in the intellectual life of Eugene City. This Pantheon of Science, his most recent involvement, reflected his interest in Spiritualism, phrenology and health reform. Born in Indiana in 1840, he soon relocated with his family to Iowa and, in 1853, the

³⁸Henry Cummins, "Papers," 8 February 1862, Special Collections, University of Oregon, Eugene.

family went west on the Oregon Trail and settled near present-day Harrisburg, eleven miles north of Eugene. In 1856, while only sixteen, he began a diary, which he kept until he left Eugene in 1863. His diaries demonstrate that, even on the edge of the frontier, many had interests beyond overcoming the hardships of existence: a vibrant intellectual life had taken root. In his diary, he described the museum and mentioned his meeting with the town's elders to propose the Pantheon of Science:

Made application during the forenoon to several of the most prominent men of Eugene City for their cooperation in establishing the Pantheon of Science. The design of institution is this--"to be a Temple consecrated to its claims and to support prominent Teachers to unfold its principles, and to show its beneficial influence upon the world, etc." It is to contain a public Library and a Museum, a public Conference and reading room. It is a liberal Scientific institution.³⁹

Two days later, he added: "Prof. Cornelius and Rev. J. McCormack, Episcopalian Minister, bitterly opposed the name Pantheon."⁴⁰ Cummins discovered that religion strongly influenced civic matters and that an institution with a heathen name was bound to meet with resistance. After "considerable" discussion, however, the name was adopted.

⁴⁰Cummins, "Diaries," 23 June 1861.

³⁹Henry Cummins, "Diaries," 21 June 1861, Special Collections, University of Oregon, Eugene.

The Pantheon marked Cummins' departure from his earlier interests, which included membership in an "infidel" society, Spiritualism, phrenology, health reform, and magnetism.

Henry Cummins considered himself a reformer in search of individual and community perfection, although many of his earlier interests would today be considered pseudoscience. Quite early in his diaries, the youth declared his intellectual concerns and commented on the first edition of the <u>Pacific Journal</u>, Eugene City's first newspaper. It is "devoted to Physical, Intellectual & Moral Improvement. And the articles that grace the first sheet are certainly calculated to accomplish the desired end."⁴¹

Cummins read voraciously as a youth, maintaining a personal library of over one hundred volumes, largely devoted to the sciences. In his diary for June 25, 1858, he "laid out a plan of study for the future, which is: To devote the next five or six years to reading and acquiring general information and then commence studying particular subjects. Amen."⁴² His reading record is remarkable. One scholar discovered that in one twelve-month period, 1861-1862, Cummins' diary lists by title or author or by

⁴¹Cummins, "Diaries," 3 January 1858.

⁴²Cummins, "Diaries," 25 June 1858.

suggestion 179 books.43 He owned a copy of Darwin's <u>The</u> <u>Origin of Species</u> as well as <u>Cosmos</u> by Alexander von Humboldt. Darwin undoubtedly influenced Cummins' skepticism on religion, and Humboldt inspired him to observe and classify the wilderness that began just beyond the town's edge.

Cummins devoted much time to reading the great scientists, delighted in discussing their works with friends, and often gave science lectures to the townspeople at the County Courthouse. To keep informed about current developments in the scientific world, he read <u>Smithsonian</u> <u>Contributions to Science</u>. According to his lifetime friend, Harrison Kincaid, later editor of the <u>State Journal</u> of Salem and Oregon Secretary of State, Cummins once expressed the belief that he would write a book greater than any of Humboldt's "because he could read all that Humboldt wrote and knew more now than Humboldt did when he wrote."⁴⁴

An 1858 diary entry reveals Humboldt's influence upon Cummins. In January, he took a walk on Skinner's Butte, in the north part of town. Upon his return, he wrote about the

⁴³Thomas J. Easterwood, "Henry Cummins, Constant Reader," <u>The Call Number</u> (Fall 1961): 23.

⁴⁴Harrison Kincaid, "Sunshine and Shadow," 1915, unpublished memoirs, Special Collections, University of Oregon, Eugene.

Butte, demonstrating his observational skills: "Took a walk upon Skinner's Butte and made some geneological [sic] discoveries. The rock of which the greater part of the eminence is composed is pillars of rock from three to five feet long and about two feet in diameter and having from four to seven sides; being entirely separated from each other by a thin layer of dirt."⁴⁵

At the time of the geological walk, Cummins was a student in Eugene. He attended the first school in town, headed by Professor J.H. Rogers. There he studied mathematics, grammar, geography, phrenology, writing, history and philosophy. In 1858, he noted, "Agreed to aid Prof. J. H. Rogers in preparing a Geographical and Historical work for publication."⁴⁶ However, Cummins' real interest at this time seemed to have been in pseudoscience: he was an avid reader of the works of Andrew Jackson Davis, known as the "Poughkeepsie Seer." Davis, an illiterate midwesterner, produced several Spiritualist works, known as <u>The Grand Harmonia</u>, supposedly under divine inspiration. Taking inspiration from Humboldt, Davis attempted to explain the workings of the universe. However, the books were a hodgepodge of information couched in spiritualist language.

⁴⁵Cummins, "Diaries," 8 January 1862.

⁴⁶Cummins, "Diaries," 13 January 1858.

Spiritualism possibly attracted Cummins because it resurrected numerous historical figures in seances to give voice to reformist ideals. On January 3, 1858, Henry and some of the prominent townspeople met to seek guidance from some of those long-deceased personalities:

Formed a little circle; and had over an [sic] hundred bright spirits present, and no dark ones, among those that gave their names were B.W. Stone, Thos. Paine, D. Webster, Geo. Washington, Fr. Marion, M. Luther, Montezuma, Cortez, Eck., Pope Leo X, Josephus, Mary the Mother of Jesus, and Paul the Apostle. I say present, though they Communicated at the distance of twenty miles; the nearest perhaps that they came to us. They also promised to give us some valuable instructions on some future occasion.⁴⁷

Historical figures often returned during seances. Jefferson appeared on occasion in the guise of an abolitionist. Franklin was also popular because Spiritualists were fascinated by electricity. <u>The Spiritual</u> <u>Telegraph</u> was the title of the most popular Spiritualist paper. Cummins read the paper and sold subscriptions to the townspeople. He also dabbled in magnetic "healing" experiments and reports attempting to build a "spiritoscope" with which to communicate with the next world.

Exposure to Eugene City's Spiritualist elite soon eroded Henry's commitment to the church near the family farm

⁴⁷Cummins, "Diaries," 3 January 1858.

north of town. When Cummins tried to share his spiritual education with the rural congregation, he was severely rebuked.

Attended Church at the Grand Prairie Schoolhouse. Demanded a hearing from the congregation concerning some spiritual matters, but was refused in an ungentlemanly, unkind, anti-Christian, insulting manner.⁴⁸

On another occasion, Cummins' spiritual interests ruined his chances for a teaching position at a school near his father's farm:

Went from Mr. Gale's to Mr. Cranston's, but did not find him at. My purpose was to get to teach a school. I then went to Mr. Milliron's and drew up an Article of Agreement. Mr. Smith one of the Director's [sic] wanted to sign it; but the other or Mr. M. reared up ahind and afore, and kicked against the bricks. In fact, he treated me very ungentlemanly, that is just as if I was a real rascal and a rowdy, worthy of nothing but contempt. He said my "belief in life" that is my religion disqualified me for a teacher. But a shortened piece of my mind was very readily served up to him on the subject which cooled him off.⁴⁹

Henry Cummins' interest in Spiritualism waned at the same time it did elsewhere in America. This movement's reform aspect had given way to popular theatrical tricks. Thousands attended the spirit rapping performances of Kate

⁴⁸Cummins, "Diaries," 23 January 1858.

⁴⁹Cummins, "Diaries," 21 June 1858.

and Margaretta Fox in New York state. For the young Cummins, this aspect of Spiritualism had limited appeal. On October 15, 1859 he attended "a Spiritual Seance which amounted to almost nothing."⁵⁰ He still continued to "magnetize" friends and, on one occasion, caused Hilyard Shaw, a prominent Eugene City businessman, "to see beautiful visions."⁵¹ However, on attending a November lecture on Spiritualism, clairvoyance, and Spiritual Theology by James H. McCord, Cummins commented that it "was the most profoundly imbecile thing in the shape of a lecture that I ever heard. It was a murdering of the English language and a burlesque of common sense. Preserve me from all such demonstrations of human weakness and mental depravity."⁵²

As Cummins' interest in Spiritualism cooled, he became more deeply involved with "infidelism." Spiritualists generally rejected Christian dogma in favor of electricity, magnetism and pseudoscience, and Cummins was no exception. Disillusioned with religion and Spiritualism, he turned to the rational arguments of Infidelism as his new faith. He read lectures by the Reverend Robert Taylor, known in London of the 1820s and 1830s as "the Devil's Chaplin." Taylor

⁵⁰Cummins, "Diaries," 15 October 1859.
⁵¹Cummins, "Diaries," 28 March 1860.
⁵²Cummins, "Diaries," 26 November 1861.

ultimately received a one-year prison sentence for blasphemy. Another well-known infidel, Richard Carlisle, had published Taylor's lectures in <u>The Republican</u>, along with notices of the reverend's "Christian Evidence Society." Cummins attended the Methodist church regularly to gather information for his own Christian Evidence Society and also to enjoy social contact with "the fair sex."

Impressed with his own intelligence and speaking ability, Cummins often lectured to "promiscuous audiences" at the County Courthouse. His subject matter was science and the reform issues of the day. He enjoyed the recognition given him by young ladies and prominent businessmen. Undoubtedly, many were impressed with the youth and, on one occasion, he received a tangible reward for his efforts:

Received a present of a pair of pants worth \$10.00 from W.R. Jones, a merchant of this place, as a <u>substantial</u> testimony of his appreciation of my remarks last Friday evening before the Lyceum, and of my ability to expose the frauds and errors of priestcraft. His judgment for bestowing such a gift shall never be disgraced.53

One week later, Cummins became a member of a Christian Evidence Society in town and drafted this fledgling organization's constitution and bylaws. The local newspaper

⁵³Cummins, "Diaries," 28 February 1860.

announced his infidel lecture to be "delivered before the Liberal Association of Lane County, on the subject of Prophecies."⁵⁴ The nearly two-hour lecture, delivered to a large audience, stressed that Christianity was no different from heathen religion because both claimed divinely inspired prophecies.

Cummins had difficulty "making expenses" in Eugene City and also in Albany, Oregon. However, in Salem, the state's new capital, he found more opportunities. He attempted to earn a living as a writing instructor, which necessitated wandering about town to "round up scholars." After attending a lecture by C.M. Sawtelle against the authority of the Bible, he joined The Infidel Association of Salem. Later that month he heard the Reverend Mr. Roberts of Philadelphia lecture in the Methodist Church against infidelism. Cummins judged the talk "stale, flat, stupid sophistry . . . what might be expected."⁵⁵

In May 1861 Cummins invited the Salem public to his own lecture on "The History of the World's Philosophies and their Influence on the Advancement of Civilization." He argued that "theological philosophies could not have

⁵⁴Cummins, "Diaries," 25 March 1860.

⁵⁵Cummins, "Diaries," 24 March 1861.

released civilization from its barbarous nature"56 and that "religion has always opposed the advancement of science; as science advances, religion retreats."⁵⁷ By now, church attendance was only an excuse for the company of ladies. Attending a Methodist service in October, 1861, he said he went "just for the company, of course, not that I care a whit for church preaching."⁵⁸ Science had become his new religion.

A poem written the previous month shows the influence of the spiritualist and infidel traditions and Cummins' interest in reason, transcendentalism, and science:

> It is not all of life to live, Nor all of death to die; Nor does the soul lie in the grave, While time is flitting by.

But life consists in active thought--In love for all our kind; In pure emotions of the heard, Through life's eternal round.

No Bible have we for a creed, But Nature's wide domain No altar of devotion heed But human love divine.

⁵⁶Cummins, "Diaries," 13 May 1861.

⁵⁷Cummins, "Diaries," 13 May 1861.

⁵⁸Cummins, "Diaries," 13 October 1861.

Our Reason is our God on high, Whose gospel science is; And virtue's pure and holy vow--A life to Nature live.⁵⁹

The year 1861 marked the beginning of Cummins' involvement with the Pantheon of Science. In that year, he focused on the natural sciences, gaining inspiration from the work of Alexander von Humboldt, "the last great universal man." Humboldt had died only two years earlier and was beloved by Americans. Cummins had, as early as 1858, dabbled in science, using Humboldt's observational methods. However, it was not until 1861 that Cummins began in earnest to collect and to classify specimens. In June, recognizing the need for a institution in Eugene to support his endeavors, he proposed the establishment of a museum to the town's elders. Shortly afterwards, he recruited his friend, William Gardner to join him on a geological expedition on horseback to Spencer's Butte south of town. Cummins wrote:

Started tolerable early in the morning on a geological expedition--went horseback in company with Wm. Gardner. Ascended Spencer's Butte, the highest peak near here--situated about four miles north of this place. It is a granite mountain of a long, sharp form and quite high. (3 hours.) Then went south, 3 miles more and gathered about 50 lbs. of "crystallized quartz," some very large

⁵⁹Cummins, "Diaries," 28 April 1861.

and beautiful specimens--found in the mud on the hillside. 60

Cummins had already tried to get others to collect geological specimens for him. A museum must have been on his mind the previous winter, as evidenced by a letter he received from his friend Charles LaFollet, a Salem phrenologist. LaFollet wrote:

As to my gathering "rocks" for a museum it is out of the question. I know no more about the Geology of Rocks than Ginger Snaps. However, when you come down, I can furnish you with a "pocket-fullof-rocks" of the green banks of the Rickeole. 61

Cummins had been reading Hitchcock's <u>Geology</u> and Lee's <u>Geology</u> just previous to the Spencer Butte expedition. A day before the trip, he wrote that he "conversed with Mr. McClung and others in regard to the prospects of establishing a Scientific association, cabinet, etc."⁶² No doubt, Cummins was quite serious about establishing a museum and furnishing it with the fruits of his explorations. After returning from the expedition, the young collector washed the specimens and boxed them. That evening he read about "cabinets of natural history," wrote a constitution

⁶⁰Cummins, "Diaries," 9 June 1861.

⁶¹Letter dated 9 January 1861 from Charles LaFollet to Henry Cummins, in Cummins, "Papers."

⁶²Cummins, "Diaries," 8 June 1861.

for his "Pantheon of Science," and composed poetry for a landscape album.

During the following week, Cummins continued to refine his ideas for the Pantheon. He discussed them frequently with friends and read a biography of Louis Agassiz and selections of Humboldt's <u>Cosmos</u>. By June 21, he had already discussed the Pantheon with "some prominent men of Eugene City" and set a schedule for the election of officers and for the acceptance of a constitution for the fledgling museum.

On June 23, Cummins met with "some of the leading men of the town" to draw up a constitution for the Pantheon of Science and to elect officers. Cummins was elected "Secretary protem." Part of the Constitution is reproduced here:

CONSTITUTION

OF THE

PANTHEON OF SCIENCE

Thereas, This Country needs a Temple consecrated to Science, and exclusively devoted to its claims and permanent Teachers to unfold its principles, and to show its beneficent influence upon the world; therefore, we, the undersigned have formed an association for this purpose, to be known as the PANTHEON OF SCIENCE.

Art. 1. This institution shall be permanently located at Eugene City, Oregon; and shall contain a Museum and Library, and may include any department of Science at the discretion of its members.

Art. 2. The officers of this institution shall consist of a President, Vice-President, Recording Secretary, Corresponding Secretary, Treasurer, and two Assistant Secretaries; one of whom shall be elected annually.

Art. 3. It shall be the duty of the President of preside at all meetings and attend to the general interests of the institution. The Vice-President shall be the presiding officer in the absence of the President. The Recording Secretary shall keep a correct journal of the proceedings of each meeting. The Corresponding Secretary shall attend to the society's correspondence. The Treasurer shall have charge of all the funds belonging to the institution, and shall keep a written account of all the receipts and expenditures. The First Assistant Secretary shall have charge of the Library. The Second Assistant Secretary shall have charge of the museum. Vacancies in office may be filled at any regular meeting.

Art. 4. The officers of the institution and two other members, elected for the purpose shall constitute an Executive Committee, who shall have charge of the financial department; attend to the business of the society; devise ways and means for the collections of specimens for the Museum and attend to the purchasing of books and periodicals for the Library.

Art. 5. Provision shall be made for procuring competent persons to deliver public lectures before the society on the various sciences.

Art. 6. There shall be, in connection with this institution, a public Conference for the discussion of such subjects as the society may present for consideration. Also a Reading Room.63

⁶³Cummins, "The Constitution of the Pantheon of Science," excerpt from the <u>State Republican</u>, 8 March 1862, in Cummins, "Papers."

Almost immediately, upon the adoption of the constitution, Cummins began to collect items for the new museum. For example. "Went to Eugene City in company with mother and brother Chancy-deposited a box of rocks in the Museum--from Santiam and around father's in the Drift formation."⁶⁴ The following week, Henry and his friends travelled to the mountains outside Eugene City, in search of more specimens. He went "to hills about 1 1/2 miles of town with J.M. Gale--in search of Geological and botanical specimens."⁶⁵ They "found some beautiful fossil mollusks" which they washed and deposited in the museum, which existed only on paper. Most likely, Cummins stored the materials in a spare room somewhere in town. Two days later, the two friends journeyed to College Butte, the home of Columbia College, "in search of some geological specimens" and "found some fine ones."66

Henry Cummins was fortunate to make the acquaintance of Dr. A.W. Patterson, a surveyor of Eugene City. Trained as a physician, Patterson earned more from surveying than he did from practicing medicine in the tiny town.⁶⁷ He befriended

⁶⁴ Cummins,	"Diaries,"	23 June 1861.
65 _{Cummins} ,	"Diaries,"	5 July 1861.
⁶⁶ Cummins,	"Diaries,"	7 July 1861.

⁶⁷By the 1880s, the town had grown and prospered and Paterson gained prominence as a physician in Eugene and built a fine residence. Eighty years later, John Bellushi

the youth and attempted to direct his reading. He loaned Cummins a copy of Lyell's <u>Manual of Elementary Geology</u> as well as several other volumes. In addition to books, he provided employment for the financially pressed youth. Cummins noted in his diary, "Made arrangements with Dr. Patterson to accompany him on a geological surveying expedition in the northern part of this state. Provisions and \$50/month. Take care of camp. 3 months."⁶⁸

This three-month surveying expedition provided Cummins with more than an income. It provided an excellent opportunity to collect specimens for the Pantheon of Science. His situation resembled that of many other scientists of the day who had to combine collecting with a paying vocation. Much of the time, Cummins had to watch the camp and chase runaway pack animals. When the expedition approached the vicinity of Salem, along the Deschutes River, Cummins discovered fossils, animals and plants for the museum. On August 6, he wrote, "Hunted specimens of Geology--found a piece of fossil log about 5 feet long and 1 1/2 ft. thick on the bank of the Deschutes. It was almost completely crystallized, yet it retained the annular rings

⁶⁸Cummins, "Diaries," undated.

used this home as the setting for his film, "Animal House." Recently, demonstrating a lack of historical concern, the City of Eugene permitted Patterson's home to be razed to make way for a parking lot.

perfectly."69 Later, watching the camp, he took the time to appreciate nature. Observing a nearby mountain, he wrote, "the summit is situated between two immense mountains, and shows evidence of since been the seat of an immense glacier extending near thirty miles. The mountain ranges are composed of granite."⁷⁰

A month later, the surveying expedition approached The Dalles. Cummins carried a bottle of alcohol to use in the preservation of various specimens. He also collected geological items and animals, later using arsenic to preserve their skins. In October, as the expedition headed back to Eugene City, Cummins had a violent disagreement with one of the members of the expedition, and the two came to blows. At this point, the youth decided it would be wise to resign and return to his father's home.

Back in the Eugene City area in early fall, Cummins returned to his museum work, reading books which instructed him to prepare animals and birds for exhibit. On October 4, he "wired and stuffed and set up a ground squirrel and mink in the museum."⁷¹ His older brother John, a lawyer in Lafayette, north of Eugene, had written, mentioning that he

⁶⁹Cummins, "Diaries," 6 August 1861.
⁷⁰Cummins, "Diaries," 19 August 1861.
⁷¹Cummins, "Diaries," 4 October 1861.

would do whatever he could to assist the Pantheon. While on a trip to San Francisco, John wrote, informing his brother of the difficulty in procuring shells. They were "expensive" and those "1 1/2 as large as a man's fist are 25c." Undoubtedly, there were many others collecting such items, thereby inflating their price.

In typical Humboldt fashion (and like Swan, at almost exactly the same time), Cummins "commenced the formation of tables of the temperature, of the weather, atmospheric current and of precipitation, of rain."⁷² He noted that "observations of temperature and atmosphere are made by me twice a day at 8 o'clock in the morning and 4 o'clock in the evening, while the amount of rain that falls is constantly measured and the record made over 24 hours."⁷³ He added that he did this for the benefit of the Pantheon and would furnish copies for the Smithsonian Institution.

Collecting geological and animal specimens fit Cummins' poetic nature, as he demonstrated in this poem:

THE LANDSCAPE

Let us stand upon a mountain, There to view the landscape o'er; For it fills my soul with rapture, As I scan the scenes before.

⁷²Cummins, "Diaries," 10 October 1861.

⁷³Cummins, "Diaries," 10 October 1861.

Let us stand beside the ocean, Where the angry billows roar; For I love the waves' fierce motion, As they dash against the shore.

Let us walk beside the streamlet, That is fresh from Nature's halls; There to hear the water's music, As it dangles o'er the falls.

Let us wander o'er the valley, Where the fragrant flowers bloom; That remind us of the folly, Which is buried in the tomb.

Let us ramble through the forest, In the shady bowers to dwell; For I love to hear the songsters, As their notes of music swell.

Let us bask amid the sunshine, When the sky is clear and blue; And inhale the balmy breezes, As they drink the morning dew.

Oh! to dwell in Nature's mansions, There her hidden laws to find; And to drink of wisdom's fountains, Are the heaven of the mind.

Let us gambol in the twilight, With the starry vault above; There to see the waning crescent, Which inspires my heart with love.⁷⁴

The above poem demonstrates young Cummins' romantic nature. Spiritualism and nature are prominent features of the poem. Cummins' wish to discover the laws of nature are particularly evident in the second to last stanza. Another example of his interest in science is his description of a

⁷⁴Cummins, "Papers," 28 April 1861.

trip to the local hills in spring, 1862 with Miss Sarah Johnson. He had been reading about botany for several days and decided to mix nature study with romance:

Bathed and fixed up and took my book on botany and went into the hills adjoining town on the Southeast, first to the residence of Mr. Enoch Smith's and from there was accompanied by Miss Sarah Johnson to the top of a hill or mountain where we had a most beautiful view of Eugene and the Willamette river and Valley. The sky was clear and beautiful and all Nature clothed in green; the wide spread valley before us, through the center of which the Willamette flows with dense forest studded with green groves, and the distant blue mountains with their summits white with snow, while at our feet the town of Eugene lay spread out in silence--all of which conspired to make it one of the most beautiful and magnificent landscapes eyes could behold. Here we reclined in the shade of a beautiful tree and read poetry, botany, etc. Conversed of things past and prospective and of the scene before us, thus spending about five or six hours.⁷⁵

In November 1861, Cummins wrote to Spencer Fullerton Baird, Assistant Secretary of the Smithsonian Institution, offering to contribute specimens and climate tables. A month later, Baird assured the young collector that Professor Joseph Henry, Superintendent of the Institution, would be glad to cooperate with the Pantheon. Baird received correspondence from a network of collectors throughout America and encouraged all to "never fear the acceptance of anything submitted, no matter how small." He

⁷⁵Cummins, "Papers," 18 May 1862.

usually added that the items would have to be sent gratuitously, due to the small amount of funds for collections available to the Smithsonian.

From Cummins' friend, C.M. Sawtelle, infidel lecturer of Salem, a less enthusiastic response came. Sawtelle wrote:

I hope you will succeed in making that society a permanent thing. I fear you will find it an uphill business. Such things are not popular here in the woods. It is a good thing and ought to be helped out but dont be to sanguine [sic]. It is altogether out of my line, you know. Geology, Botany--Zoology & c. is all Greek to me. Besides, I am poverty stricken, yet it shall have my prayers, and you know I have considerable influence with old Uncle Billy.⁷⁶

By the end of November, Cummins had secured work as a printer on the new <u>State Republican</u> of Eugene City. This job improved his financial situation, and the new office served as a repository for his burgeoning collection of birds, animals, and rocks. In addition to his printing duties, Cummins was allowed to write occasional articles. He wrote about the Union victory at Fort Donelson and about the Pantheon in his "Museum! Museum!" appeal for funds.

The "Museum" notice motivated friends, relatives, and complete strangers to donate ducks, geese, and "a foetal

⁷⁶Letter dated 10 November 1861 from C.M. Sawtelle to Henry Cummins, Cummins, "Papers."

Monstrosity--two pigs grown completely together at the head and thorax." Like Baird, Cummins accepted them all. He blew out the contents of the eggs, wired the animals for exhibit, and put the foetal monstrosity in alcohol for preservation. From Salem, his friend Cornelia Coon wrote, promising "to furnish a herbarium to the Pantheon." His collection eventually grew so large that he had to move it to more spacious quarters in a building near the printing office.

Cummins remained devoted to the museum throughout the summer. He spent several evenings per week cleaning out eggs and studying botany. He made a pet of a young rabbit and built a cage for it. As summer ended, he was again pressed by practical concerns. Cummins accepted an offer from G.P. Crandal, Chairman of the Executive Committee of the State Educational Association to attend their next session and to "take care of the departments of Orthography and Orthoepy." The session was in Salem, and the youth prepared to take what he thought would be his "final leave of Eugene City."

In the bustling capital, Cummins, now approaching his twenty-second year, found romance, wider personal contacts, and a richer cultural life. He met Professor Marsh of Pacific College, Oregon Governor Addison G. Gibbs, and was invited to join the debating society of Willamette College.

He continued his Humboldt and science readings and, to meet expenses, got elected Assistant Clerk of the Oregon House of Representatives for one session. After the session closed, his financial affairs once again declined. As a final blow, his great love, Emily Crandall, abandoned him for his roommate. Too distraught to continue in Salem or to resume his life in Eugene City, Cummins put aside the Pantheon of Science on May 10, 1863 and headed east to "the Atlantic States" with two horses and a revolver. He planned to write about and to lecture on his travels.

It is not known what became of Cummins' collection. In his memoirs, his friend Harrison Kincaid wrote that the Pantheon of Science had existed only on paper. Although the Civil War was raging, Cummins did reach the Atlantic States. In 1867 and 1868, he and his brother, John, entered politics in the Idaho Territory, lobbying against "the subterfuges of President Andrew Johnson." In the election of 1868, he attempted to rally the South to the presidential candidacy of Salmon P. Chase. By the 1880s, Cummins had succumbed to the spirit of the Gilded Age. Living in New York City, he was a businessman involved with the new technologies of Bessemer steel, railroads, and the typewriter. He also established the Postal Telegraph Company, although he soon lost control of it to others more persevering.

In 1915, several years after Cummins' death, Harríson Kincaid reminisced:

Among the thousands of men I became acquainted with from all parts of the world, he was one of the brightest. But he jumped from one thing to another with the force and rapidity of a cyclone and never stayed with anything long enough to make it a success. He started many enterprises for others who came after him, similar to the Postal Telegraph Company . . . which never benefitted its founder, and not many of its stockholders or employees know that such a man as Henry Cummins ever lived and that they owe their great company and their place to him. He wore himself out at a comparatively early age, originating schemes, like the Postal Telegraph, which did not benefit him but may benefit thousands of others. One individual or generation sows and some other individual or generation comes after and reaps."77

With the creation of the University of Oregon, in 1874, Cummins' dream of bringing science to the people of Eugene City was revived. Soon after its inception, the University recruited Thomas Condon, the discoverer of the John Day fossil beds. The new professor collected geological specimens in eastern Oregon and he too commenced an active correspondence with Spencer Fullerton Baird of the Smithsonian. Today, those who visit the University of Oregon Museum will see Professor Condon's extensive collection. Sadly, only those who have delved through the Special Collections of the University know about Eugene's

⁷⁷Kincaid, "Sunshine and Shadow," 1915.
earliest collector and the town's first "museum"--Henry Cummins' Pantheon of Science.

Cummins' contribution to the museum movement was meager. However, his attempt to establish the Pantheon demonstrates that culture and higher learning did, indeed, exist at mid-century on the Pacific Northwest frontier. Cummins' museum idea struck a resonant chord in a community that was attempting to duplicate Eastern institutions. Present-day Americans possess a distorted notion of life on the Western frontier; the Bible was not the only text in pioneer homes. The Pantheon of Science demonstrates the popularity of science--geology and natural history--and the great interest in classification and collecting in antebellum America. Books, magazines and newspapers disseminated the new scientific discoveries -- indeed this explosion of information diffused throughout the nation. Cummins, like Condon and Swan, was fascinated by his newfound knowledge and wished to bring it to the people of his community.

CHAPTER IV

JAMES GILCHRIST SWAN: NORTHWEST PACIFIC COAST PIONEER AMONG THE INDIANS

James Swan journeyed west for adventure and wealth. Although he became the earliest ethnologist on the Pacific Northwest coast, he died in poverty and obscurity. Referred to as "an example of the shiftless, unsuccessful man of the territories,"⁷⁸ his writings are now carefully guarded treasures. During his long life, half of it spent on the Pacific Northwest Coast, he pieced together a hand-to-mouth living as a journalist, teacher, ticket agent, notary, probate judge, and in Port Townsend, Washington, counsel to Hawaii. Such diverse occupations were necessary in an era that provided little support for collectors. Fascinated with the Northwest Coast Indians and their way of life, Swan was more involved with their community than any other American. He studied their languages and spoke them fluently, ate their food, lived in their lodges, travelled in their canoes, and learned about and respected their religion. For over two decades, he sent numerous Indian

⁷⁸Douglas Cole, <u>Captured Heritage: The Scramble for</u> <u>Northwest Coast Artifacts</u> (Seattle: University of Washington Press, 1985), 15.

artifacts, often gratuitously, the Smithsonian's new National Museum.

Most of what we know about Swan is derived from his published accounts of the Pacific Northwest Coast or his journals and diaries. Between his arrival in San Francisco in 1850 and his death in Port Townsend in 1900, Swan not only published numerous works, but also kept a meticulous account of his daily life. His diaries fill seventy-three volumes (approximately 2,500,000 words), and he kept up a lively correspondence with Professors Joseph Henry and Spencer Fullerton Baird of the Smithsonian Institution. Swan's writings inspired Ivan Doig's Winter Brothers. Doig, a Pacific Northwest author extols "the simple stubbornness of Swan's achievement,"⁷⁹ and "the dailyness of grace."⁸⁰ Another local author, Lucille McDonald, writing in Swan Among the Indians, traces Swan's Boston beginnings, a period Swan wrote little about.⁸¹

Swan was born in 1818 in Medford, Massachusetts and grew up with a sense of history. He came from a family

⁷⁹Ivan Doig, <u>Winter Brothers: A Season at the Edge of</u> <u>America</u>. (New York: Harcourt Brace and Jovanovich, 1980), 7.

⁸⁰Ivan Doig, conversation with author, Eugene, Oregon, 10 December 1987.

^{B1}Lucille McDonald, <u>Swan Among the Indians: Life of</u> James G. Swan, 1818–1900 (Portland: Binfords and Mort, 1972).

whose roots in the area could be traced to 1638. However, he received his greatest inspiration from his uncle, William Tufts, who, in 1810, made a voyage to the Pacific Northwest Coast on the Boston trading ship, Guatimozin. Tufts told tales of many Indian chiefs--one-eyed Concomly of the Chinooks, Tatoocheatticus of Cape Flattery, and Maguinna and Wicannish of Vancouver Island. Young James hunted for local Indian relics and cooked outdoors, like an Indian. Unlike those Americans who viewed Indians as impediments or as objects of amusement, he was fascinated by them and respected their culture. Years later, in The Northwest Coast: Three Years' Residence in Washington Territory.⁸² Swan wrote that his neighbor, Captain James Parrington, "made all sorts of fun of the Indian beliefs and rituals and was always laughing at them." Swan added, "I, on the contrary, endeavored to get them to explain their views to me, and always tried to respect their feelings."⁸³

Swan studied admiralty law and built up a prosperous shipfitting concern. Like Melville, he visited Liverpool and also kept a diary of his visit. He soon married and had two children, but eventually he and his wife took up

⁸²James G. Swan, <u>The Northwest Coast: Three Years</u> <u>Residence in Washington Territory</u> (Seattle: University of Washington Press, 1857; reprint, 1972).

⁸³Swan, <u>Northwest Coast</u>, 148.

separate residences. Late in 1849, Swan sold his business and in January of the following year took passage on the <u>Rob</u> <u>Roy</u> to San Francisco. Upon his arrival six months later he set out for the goldfields; within three months, tired of the bonanza society, he returned to San Francisco. Next, he shipped out on the schooner <u>Monticello</u> for Maui in the Sandwich (Hawaiian) Islands. This fourteen day voyage marked the beginning of Swan's writing career; he published two articles of his impressions of the Islands in the <u>California Courier</u>.

Late in 1851, Swan met his first Indian from the Northwest Coast--Chief Chetzamoka of the Clallam Indian tribe, newly arrived from the Strait of Juan de Fuca with a cargo of timber. They became friends and explored the woodland which later became Golden Gate Park. Swan promised to visit him in his homeland. Chetzamoka later sent Swan a small cedar model canoe and a pouch of red carnelians. This friendship rekindled Swan's interest in the Northwest Coast. He had journeyed to Vancouver Island the previous year, but was excluded by British laws requiring that immigrants bring servants. On the way back, he wisely filed a claim for free land in the sawmill village of Port Townsend, Washington.

Late in 1851, Swan met Charles J. W. Russell, a thirtyyear old Virginian who had just lost his money in a promotion scheme near present-day Iwalco, Washington. The

two of them concocted a plan to head north to procure oysters from the Indians for shipment to San Francisco where a ready market awaited them. The Shoalwater Bay area was exactly where Uncle William had been on the <u>Guatimozin</u>. On November 20, 1852, the two set sail on the brig Oriental. Swan would remain in Shoalwater (Now Willapa) Bay, north of Astoria, for three years and, in 1857, published his Northwest Coast recollections--a curious combination of history, ethnology, folklore, and anecdotes regarding the local Indian customs, religion, and artifacts. The writing of the book, containing Swan's own illustrations, was quite a feat as he had lost all his notes during the return sea voyage. Swan's experiences during those three years also started him collecting.

Swan discovered that some tribes had been decimated by the white man's afflictions, measles, smallpox, and alcohol. Of the once-powerful Chinooks, Swan wrote, "for the most part they are a miserable whiskey-drinking set of vagabonds"⁸⁴ and added, "the race of the Chinooks is nearly run." From a large and powerful tribe in the days of the one-eyed chief, Concomly, they have dwindled down to about a hundred individuals, men, women, and children."⁸⁵ Although

⁸⁴Swan, <u>Northwest Coast</u>, 108.

⁸⁵Swan, <u>Northwest Coast</u>, 108.

mincing no words regarding these Indians' situation ("a depraved and licentious set, of but little use to themselves, and of no account to any one else"),⁸⁶ Swan recognized the beauty of their dwellings and uniqueness of their salmon industry.

Swan was a keen observer of the Indian manufactures and, using his artistic abilities, documented the Indian way of life. Such skills helped him collect and label specimens for the Smithsonian more than a decade later. His descriptive abilities are evident in the following passage from The Northwest Coast:

The Indian lodges, like all that I have seen on the Northwest Coast, are made of boards from the cedar. The Indians perform this operation by means of little wedges, and manifest a good deal of dexterity and skill; for, if the wedges are not placed properly, the board will be full of twists and creeps. The lodges are strongly and comfortably made by first setting posts firmly into the ground four or five feet high, one at each corner. The tops of these posts are notched, and poles laid along to form the eaves. The ridge-pole is supported at its ends by the boards of the outside, which are placed upright, and in the center by posts elevated for the purpose.⁸⁷

The Indians who lived north of the Columbia River had fewer contacts with white men. They were suspicious of outsiders and sometimes violent, yet they accepted Swan

⁸⁶Swan, <u>Northwest Coast</u>, 110.

⁸⁷Swan, <u>Northwest Coast</u>, 110.

because of his calm, inquisitive manner and his skill as an artist. They named him "Cha-tic" (the painter) and often brought him their drawings for him to color. Impressed by a thunderbird painted on a large board in the house of a Makah chief at Neah Bay, Swan discovered that it represented a supernatural giant. In his memoir for the Smithsonian, "The Indians of Cape Flattery,"⁸⁸ Swan recorded their description of the thunderbird:

The giant lives on the highest mountains, and his food consists of whales. When he is in want of food, he puts on a garment consisting of a bird's head, a pair of immense wings, and a feather covering his body; around his waist he ties the Ha-hek-to-ak, lightning fish . . This animal makes the fire. The Thlu-kluts [thunderbird] having served himself, spreads his wings and sails over the ocean until he sees a whale. This he kills by darting the lightning bolt down into its body, which he then seizes in his powerful claws and carries away into the mountains to eat at its leisure.⁸⁹

Swan used books and pictorial newspapers to supply the Makahs with new motifs, an example of one culture influencing another, as anthropologist George Quimby has

⁸⁹Swan, "Cape Flattery," 11.

⁸⁸James G. Swan, "The Indians of Cape Flattery, at the Entrance to the Strait of Fuca, Washington Territory," <u>Smithsonian Contributions to Knowledge</u> 16, art. 8 (1869): 10.

noted.90 A lively interchange occurred between Swan and the Indians; they brought him wooden masks to paint and asked Swan to paint something they had never seen before. Using pictorial newspapers, a cut of a Chinese dragon, and a double-headed eagle from a picture of an Austrian coat-ofarms, Swan grouped them with drawings of crabs and human faces and gave it the appearance of Indian handiwork, which pleased the natives enormously. Swan's artistic ability gave him access to Indian homes and served as a medium of exchange. Swell, the Makah chief, exchanged a large tamanoas board in his lodge for a drawing of a horse on his cance sail which he believed would make this vessel go faster than that of any other Indian. Swell fashioned some red paint for Swan by chewing dried salmon eggs and spitting them into a dish containing vermillion. Ground charcoal became black paint, and a chewed stick formed the brush. Swell's print of a Bowery boy's butcher cart and horse served as Swan's model.⁹¹

Swan's first reference to collecting appeared in his diary entry of December 28, 1859. He wrote that he would like to send the tamanoas board to the Smithsonian. Nearly

⁹¹Quimby, "Swan Among Indians," 213

⁹⁰George I. Quimby, "James Swan Among the Indians," <u>Pacific Northwest Quarterly</u> 61, no. 4 (October 1970): 212-216.

two years earlier, in 1857, Swan had been in Washington, D.C. where he met the Assistant Secretary of the Smithsonian, Spencer Fullerton Baird. Swan was serving as secretary to former Washington territorial governor Isaac Stevens, with whom he had negotiated a U.S. government treaty with the Indians. Stevens had been elected delegate to Congress. Professor Baird, in charge of the new United States National Museum, had established contact with numerous amateur collectors who would help him develop the new institution.

Late in 1859, Swan had been back in Port Townsend for a year. A visit from Dr. George Suckley, a friend of Stevens, reminded Swan of the Smithsonian. Dr. Suckley was a scientist and collector who had to support those interests by his medical practice. In that era, little funding was available for full-time collectors. Suckley had recently been the surgeon and naturalist in the eastern division of the exploration and survey for the Pacific Railroad. During his travels he had made collections of natural history specimens for the Smithsonian and, along with Dr. J.B. Cooper, had just completed <u>The Natural History of Washington</u> <u>Territory</u>, based on information they had gathered in the West. Swan welcomed his visitor since there were few on the Northwest Coast who could appreciate his collecting interests. He asked Suckley if his own collections of

artifacts might be of interest to the Smithsonian. The doctor assured him they would since the institution had so little from the region.

On January 10, 1860, Swan sent off a box of shells and sponges to the Smithsonian--"happy at all times to add my humble collections to specimens in your museums."⁹² This began a correspondence with Baird and Director Joseph Henry that continued until their deaths many years later. At first, Swan only provided meteorological tables for the Smithsonian, as did Henry Cummins during this time in Eugene City. Soon Swan began to send natural history material, such as pickled clams and fishes. However, after the reading the circular "Instructions for Research Relative to the Ethnology and Philology of America," Swan returned to the more familiar subject of Indian artifacts.

He soon relocated in Neah Bay, where his friend Henry Webster had been appointed agent on the newly-created Makah reservation. Swan befriended the Indians and continued collecting. Baird wrote in February of 1860, thanking him for his first gift of specimens. Swan wrote back immediately, telling the professor about the rich array of materials awaiting the Smithsonian. As he would do so often during the next quarter century, Swan inquired about funds,

⁹²Doig, Winter Brothers, 113.

mentioning "the expense of hiring Indians," and asking only "to be remunerated for the exact amount incurred." He also promised he would send specimens gratuitously, if he could afford to.⁹³

Always looking for employment, Swan asked Baird to see if he could find him a position as one of the new Indian sub-agents in Washington Territory. Isaac Stevens had already written the Department of the Interior regarding the same matter. Swan supported himself for a while as justice of the peace and by writing articles for The Register and The Bulletin. In mid-1862, Henry Webster put Swan on the reservation payroll as a teacher, although that title was somewhat of a misnomer. In actuality, Swan was a surveyor, arbiter, historian, judge, collector, anthropologist, and doctor. The Makahs, wary of the customs of the "Boston men," were uneasy in the classroom and fearful of the skookums (spirits) that might harm them in white men's buildings. Despite such problems, the position provided a small income, much free time and access to the Indians. who collected shells for Swan in trade for potatoes.

In the early 1860s, when Swan wrote to the Smithsonian, he was uncertain about what items to send. He timidly offered Indian baskets and mats, writing that the baskets

⁹³Quoted in McDonald, <u>Life of Swan</u>, 108.

might be used for storing papers. Baird responded as he usually did to amateur collectors with a simple "thank you" and a reiteration of the Smithsonian policy of welcoming all collections (gratuitously sent). (An 1860 Baird journal noted that he had written 3,050 letters that year.)⁹⁴ However, the latest gift inspired institution officials to propose spending \$50 on some Indian articles for a collection.

By early 1864, Swan, in an attempt to do more than the Smithsonian, wrote to Henry, lamenting the lack of suitable instruments with which to do his meteorological investigations. He had only a thermometer and "a couple of rude gauges."⁹⁵ In response to his complaint, the revenue cutter <u>Joseph Lane</u>, on February 27, arrived with books and publications from the Smithsonian to sharpen Swan's collecting skills. That same mail also brought news that his wife, Matilda, residing with relatives since their separation, had succumbed to tuberculosis. In his diary, Swan wrote, "I had fondly thought that I might once again go home and be joined with my dear wife and children . . . But

94Doig, Winter Brothers, 112.

⁹⁵James Gilchrist Swan to Spencer Fullerton Baird, 14 January 1864 in "Correspondence with Spencer Fullerton Baird: 1860–1887," Suzzalo Library, University of Washington, Seattle.

it was ordered otherwise."96 Swan had been away from his family for fourteen years, and his children Ellen and Charles were grown. He had given up family life for adventure among the Indians. Although he continued to write to his brother and children, the Indians pupil became his substitute family.

The Indian children were as interested in Swan's collections as they were in his teaching. They acquired an owl with two mice in its stomach, a fresh-water lobster, and several nests containing bird's eggs. All these were sent to a receptive Baird. During those early years, Swan's specimens packed in alcohol, occasionally arrived "all mush," according to the professor. Eventually, Baird's books and advice provided Swan with the necessary preservation skills and techniques, thus assuring his natural history specimens a safe arrival at the Smithsonian.

During this time, Swan began his Makah memoir, which the Smithsonian had agreed to print in <u>Smithsonian</u> <u>Contributions to Knowledge</u>. Although Swan had already published several newspaper articles as well as The Northwest Coast, he had been writing for laymen, not scientists. Baird advised, "Write concisely and as you feel most like doing; the Institution will have the work properly

⁹⁶Quoted in McDonald, <u>Life of Swan</u>, 111.

revised if necessary."97 Despite such assurances, Swan apologized for his "want of books of references" and stressed his desire to present "the conditions of the tribe, the manners, habits and customs" . . . "Leaving all deductions, comparisons and theories to those ethnologists who have more leisure and more ready means of access to works of other writers than I have had on this remote frontier."⁹⁸

Swan's Makah memoir documented the tribe's dress, dwellings, customs, social life, and religion of the tribe. Entitled "Indians of Cape Flattery, at the Entrance to the Strait of Fuca, Washington Territory," the memoir contained 108 pages of detailed observations, anecdotes, and Swan's excellent illustrations. Lack of funds delayed publication for over three years and a discouraged Swan wrote, "I have in contemplation writing a memoir of the Clallam Indians similar to the one I wrote for the Smithsonian about the Makahs and if there is any reasonable possibility of its being published during my life time I should be happy to send it to you."⁹⁹ A year later he wrote, "I am not anxious for posthumous honors, and do not care to furnish up

⁹⁷Quoted in McDonald, <u>Life of Swan</u>, 113.
⁹⁸Quoted in McDonald, <u>Life of Swan</u>, 113.
⁹⁹Swan to Baird, 12 November 1868.

manuscripts for use after I am dead."100 Finally, early in 1869, Baird wrote that the proofs had gone to the printer. Still, another year passed until publication. Swan's exasperation is seen in his letter to Baird, "When that Makah memoir is published? ? ! !! I should like some copies to send to several officers at Sitka who are much interested in Indian affairs."¹⁰¹ The document was finally published in May, 1870.

Swan sought a position that might provide him a secure income as well as access to the Indians. He wrote Baird, "I am very desirous of getting appointed as Indian Agent and if you can aid me, I trust you will."¹⁰² Swan reiterated similar requests over the next two decades without success. Instead, he had to be content with mostly gratuitous offerings to science. As he wryly expressed to Baird: "I write you about my holding several commissions of honor and I find I reverse the saying that a prophet is without honor for I have the honors without the profit."¹⁰³

Swan's Makah memoir was, indeed, a valuable ethnological document of that tribe. Richly illustrated, it

 100 Swan to Baird, 6 January 1869. 101 Swan to Baird, 26 November 1869. 102 Swan to Baird, 30 December 1869. 103 Swan to Baird, 9 March 1869.

provided vivid descriptions of their artifacts and contained a detailed discussion of their religion and customs. In the following passage from the memoirs, Swan describes the courting customs of the Makahs:

An Indian approaches, dressed in a blanket, which concealed his head, creeps on all imitates whale when blowing. At intervals, the Indian in the cance will throw the harpoon as if to strike, taking studious care, however, not to hit him. When they reached the lodge, the man in the cance threw his harpoon with such force as to split the door. The door is kept barred. They put a great number of blankets in front of the door. Another harpoon is thrown, but to no purpose, the damsel was obdurate, and the price not sufficient to satisfy her parents. This operation may be said to be symbolic of Cupid's dart on a large scale.¹⁰⁴

Swan also recorded several aspects of the Indian religion in his memoir. He wrote, "The Makahs, like all other Indians are exceedingly superstitious, believing in dreams, in revelations, necromancy, and in the power of individuals over the elements."¹⁰⁵ Swan related the tale of a sick man, confined to his house for several months, who had become severely emaciated. He wandered out to a brook and saw a raven who, after alighting on the ground, spat up a bone. The Indian doctor said that the bone was medicine sent to him by his tamanoas. Consequently, the man

¹⁰⁴Swan, "Cape Flattery," 12.

¹⁰⁵Swan, "Cape Flattery," 29.

recovered. Swan believed that there was some truth to the story: ravens do spit up bones and this may have caused a reaction to the man's system. Swan reasoned, "The same effect might have been produced by a smart shock from a galvanic battery."¹⁰⁶

After publication of the memoir. Swan heard little from his Smithsonian correspondents. He chided them for sponsoring scientific expeditions to the Northwest Coast which did "comparatively little toward making collections." He told Baird that he knew the Indians best and warned, "the time is not distant when the tribes will pass away and future generations who may feel an interest in the history of these people will wonder why we have been so negligent."¹⁰⁷ Little encouragement came from Baird and Henry, other than their usual desire for gratuitous collections. In 1871, Swan lamented about being unable to go to Alaska--this time, on the Washington Territory revenue cutter, Lincoln, where awaited "a rare opportunity for making collections and obtaining information regarding Indians." He wrote, "I am not one of the lucky ones who get paid for valuable services, so I shall remain behind."¹⁰⁸

¹⁰⁶Swan, "Cape Flattery," 30.
¹⁰⁷Swan to Baird, 9 March 1869.
¹⁰⁸Swan to Baird, 9 May 1871.

Swan threatened "to do no more for the cause of science and to let others reap the reward."¹⁰⁹ But one month later Swan wrote "if it were possible to get a set of meteorological instruments here, I would undertake to keep a record, but have nothing at all, and I do not feel like attempting to keep a record which would only be approximately correct."¹¹⁰ Interestingly, this is the same complaint he wrote in January, 1864, at the beginning of his involvement with the Smithsonian.

By 1873 it was clear that the Institution was definitely interested in building an ethnological collection, albeit cautiously and at the least possible cost. Swan informed Baird that he already had carvings by the Indians of the Queen Charlotte Islands representing an otter, a beaver, an old woman, a crow and a bear. They were not idols, "as 99 in a 100 would think--but simply heraldic designs or totems."¹¹¹ Swan reiterated the importance of having collections made by a person who could correctly explain their uses and meaning. The "collector of Indian manufactures or any Ethnological specimens must get his information on the spot in order to enable him to give

109Swan to Baird, 9 May 1871. 110Swan to Baird, 20 June 1871. 111Swan to Baird, 22 March 1873.

truthful descriptions which will be of value to science."112 Such information cannot be obtained "by a flying visit. It must be by a long residence among or near the people who produce them after careful study and inquiry."¹¹³

By this time, the Germans, Austrians, British and French had become interested in Pacific Northwest Coast Indian artifacts. European museums could afford to sponsor collecting expeditions to the area, thus driving up the price of artifacts. In April, 1873, Swan warned the Institution of recent French activities and berated the U.S. Indian Department for having "utterly ignored scientific matters."¹¹⁴

The following month, a party of Haida Indians visited Swan's office in Port Townsend. Swan decided to prepare a paper for Baird to accompany some specimens. The Haidas, skilled in body tatoos, told Swan their meaning. The chief invited Swan to visit him in the Queen Charlotte Islands. This seemed a good opportunity for Swan to ask Baird about a government salary to "afford him facilities for procuring Indian products."¹¹⁵ He commented that "without egotism" he

 112 Swan to Baird, 20 March 1873. 113 Swan to Baird, 18 April 1873. 114 Swan to Baird, 28 April 1873. 115 Swan to Baird, 12 May 1873.

could do it "for less than one quarter the cost of a government expedition,"¹¹⁶ adding he would be sending artifacts with an invoice "of their actual cost which had not been exorbitant."¹¹⁷ Swan's article, "The Haida Indians of Queen Charlotte's Islands, British Columbia," appeared the following year in <u>Smithsonian Contributions to</u> <u>Knowledge</u>.¹¹⁸ It was far shorter than his Makah memoir-only eighteen pages--and much more superficial.

Perhaps collecting allowed little time for writing. Indeed, Swan was now spending much time collecting and he kept Baird regularly informed of his progress. In June, 1873, he complained to Baird about the high prices paid for artifacts, commenting, "such prices are absurd--due to the high prices paid by the officer's station in Sitka."¹¹⁹ In September, Swan sent a box of "a great variety of articles" and noted that he had made good deals; however Swan was still beset with monetary woes, asking Baird for "the small sum of \$1,000" to "do more" for the Smithsonian in Port Townsend.

 119 Swan to Baird, 6 June 1873.

¹¹⁶Swan to Baird, 12 May 1873.

¹¹⁷Swan to Baird, 12 May 1873.

¹¹⁸James G. Swan, "The Haida Indians of Queen Charlotte's Islands, British Columbia," <u>Smithsonian</u> <u>Contributions to Knowledge</u> 21, art. 4 (1874): iii.

A few weeks later, renewing his monetary requests, Swan warned that others were interested in his Indian articles-and possessed sufficient funds to pay for them! A Dr. Steindachner of the Imperial Zoological Museum of Vienna had just visited him. After a decade of unpaid collecting for Baird, Swan was thrilled that another scientist appreciated his entire collection and would pay for it. He wrote that the doctor bought everything he had for sale in his office, "including some fine specimens in alcohol among which were some new varieties of fish -- news calculated to irk the professor, an accomplished ichthyologist. Swan added that Steindachner wished to translate the Makah memoir into German, with all the original illustrations in color-something unusual for the time and guite unaffordable for the Smithsonian. In closing, Swan gloated that he had an "unlimited order for Indian manufactures." Receiving no immediate response from Baird, Swan wrote again, reiterating the value of his collections to others and added that he preferred to work for Baird. He wrote, "I have no arrangement with Vienna which would preclude my engaging with my own Government in preference." 120 He noted his lack of salary and his previous request for an appointment by the Indian bureau. "Can you wonder at my preference to furnish

¹²⁰Swan to Baird, 10 January 1874.

to those who will pay me," he implored.121 A month later, Swan sent an angry telegram stating that the hadn't received the sum of \$80 for some vouchers he had recently sent. He scolded, "I do not find <u>such delay in other scientific</u> <u>Institutions</u> in <u>promptly</u> remitting me amounts due for authorized purchases and shall <u>hereafter</u> in my contributions to the Smithsonian be confined entirely to the work of my own hands for which <u>I ask no compensation</u>."¹²² He reminded Baird that "all the Indian collections are eagerly sought after and readily paid for here."¹²³ The money arrived and, five days later, Swan sent a cool, brief letter of acknowledgment.

In April, Swan paid a rare visit to Boston. He wrote Baird, inquiring about a Congressional appropriation in order to make a collection for the Centennial Exposition, due to open in Philadelphia in 1876. Acting Secretary of the Interior, Cowan offered Swan the opportunity to "make collections of specimens of Indianology gratuitously for the Indian bureau." Swan refused, writing he was "astounded by the proposition" . . . it "would cost thousands of dollars" to make the desired collection. At the end of the year,

¹²¹Swan to Baird, 10 January 1874.
¹²²Swan to Baird, 12 February 1874.
¹²³Swan to Baird, 12 February 1874.

perhaps intimidated by the Steindachner affair, Baird came through with funds. The Smithsonian eventually contributed \$52,000 to the entire Indian exhibit, to which was added a much greater amount from the Indian Bureau; Swan's dream of a decade had materialized. (Interestingly, Steindachner's promises came to little: he purchased only a small number of Swan's Indian artifacts.)

Immediately, Swan began to make preparations for his collecting trip north. On October 16, he wrote that Indian Commissioner Powell of Victoria, B.C. offered to take him north on a two-month cruise to see the tribes. Swan reminded Baird that this was a great opportunity for the U.S. Government and asked if he could get Congress to appropriate funds for the Philadelphia Exposition. Two weeks later. Swan suggested that "a building be erected of suitable dimensions, which building should be of a plan as near as may be to represent a lodge or house such as are now used by the Indians of Sitka, a model of which will be forward by one to the Smithsonian Institution."¹²⁴ Swan wanted the Exposition to display Indian artifacts with care so as to serve an educational function. He wrote, "In the interior of such a building, the Produces of each tribe should be separately placed, care being taken to arrange

¹²⁴Swan to Baird, 30 October 1874.

them in their relative geographical position, and there should be an arrangement of comparison."¹²⁵ Swan's plan had epic proportions: "canoes with full crews of Indians . . carrying weapons, whaling gear and dressed in full regalia."¹²⁶ Such displays would be popular in the 1890s, but, in 1875, the notion of popular education was still in its infancy. Neither the Smithsonian nor Congress was willing to finance such a project, which Swan estimated would cost \$100,000.¹²⁷

However, Baird wrote that Congress would make a "liberal appropriation for collections." Therefore, Swan travelled around the Northwest Coast, negotiating purchases of Indian artifacts. Five months later, at the end of March, 1875, he wrote he was "negotiating to purchase the largest cance ever built on this coast--75 to 80 feet long, with an eight foot beam an six feet deep."¹²⁸ The cance had been produced from a log twelve feet in diameter--all in one piece, except for the head and stern pieces, which he noted were always made separately.

125_{Swan} to Baird, 30 October 1874. 126_{Swan} to Baird, 30 October 1874. 127_{Quoted} in Cole, <u>Captured Heritage</u>, 20. 128_{Swan} to Baird, 25 March 1875.

Baird informed Swan by telegram in May that he was to go north on the U.S. revenue steamer <u>Wolcott</u> to collect for the Philadelphia Centennial Exposition. The Smithsonian had arranged to acquire the exhibits after the show had concluded. The Indian Bureau appointed Swan "Special Commissioner" with a salary of \$200 a month plus collecting expenses. On June 8, 1875, at midnight, Swan left Victoria. During the next forty-four days, the <u>Wolcott</u> cruised along the North Pacific coast stopping at trading posts and Indian settlements. Swan acquired hundreds of items, ranging from the huge canoe, for which Swan paid 100 blankets, or \$225, to wooden berry spoons for 25 cents each. Swan, now age fifty-seven, suffered few ill effects from an excursion that might have exhausted a less rigorous man.

Much of Swan's collection of this journey were recently made articles for which he received some critical comment from historians. One writer commented that Swan's "willingness to accept modern productions seems part of his almost complete lack of bias toward 'ancient' artifacts."¹²⁹ Swan's diary details his problems. On June 30, having passed through Tlevak Strait to the Howkan Trading Post, Swan attempted to purchase already carved posts. He wrote that they were "the finest he had seen." Upon attempting to

¹²⁹Cole, <u>Captured Heritage</u>, 32.

purchase these posts, an Indian women who had been to Victoria and knew the ways of the whites, told Swan that her people could no more sell these monuments to their dead than his own people would sell grave stones in cemeteries. She told Swan that he could have a post made for him. After he returned from the trip, Swan wrote Baird, offering to have "a magnificent collection" in which every article was newly made. Perhaps Swan perceived that this might be a means of distributing federal government largesse among his Indian craftsmen friends!

This trip, the first major commissioned collecting on the Northwest Coast, was hampered by the manner in which Swan received his funds. The initial budget for Swan's part of the Exposition, expenses included, was \$3,000--later increased to \$10,000. Unfortunately, Professor Baird, accustomed to receiving collections from government surveys, did not know how to organize his own expedition. He restrained Swan by imposing a funding system that provided no cash advances and payment in currency drafts. Portland and San Francisco were the closest cities with banks that would honor those drafts!

Other shortcomings were Swan's fault. His knowledge of the area north of Victoria was derived from Indians he met while at Port Townsend, Neah Bay, or Victoria. Swan was surprised to discover the Tlingit and Kaigani Haida villages

virtually deserted in June and July, which happened to be the fishing season. Fortunately, Swan often relied on traders and missionaries to assist him, and they provided a large, albeit haphazard collection.

For the Philadelphia Centennial Exposition, Swan sent an enormous collection consisting of bowls, baskets, spoons, daggers, hats, clubs, gambling sticks, rattles, and masks. In addition, he sent several tools, such as a stone hammer, carved wood-carving masks, knives, bark-scraping knives, and paint brushes as well as a variety of jewelry, both traditional and newly-made.

Returning from his cruise on July 22, 1875, Swan took until April of the following year to label, itemize, preserve, and send the items to Philadelphia. The most impressive item was a thirty-six foot Haida canoe, weighing "about 5 tons," which a donkey engine could not lift. The shipping agent, wrote Swan, "induced 100 passengers and ships stewards to pull on the fall and their united strength aided by the Donkey Engine lifted the canoe out of the water and on the <u>Dakotah</u> deck."¹³⁰ The larger, eighty-foot canoe had been sent back in two pieces.

Swan suffered bitter disappointment when Congress failed to appropriate funds "to take Indians to the

¹³⁰Swan to Baird, 17 April 1876.

Centennial." He wrote, "Whoever lives at the next Centennial will find but few Indians to display, and now is the only time in which the Government can shew the result of the treasure and blood which has been expended to civilize and Christianize the aborigines."¹³¹ Scolding Baird, he added that the display would show "little to credit of the American Government" and "would bring into marked contrast those Indians under the wise policy of the Hudson's Bay Company and the Canadian Government and the slender advance of the tribes under our own insane policy."¹³²

Swan complained about not being able to attend the Centennial or to supervise the display of his collections. On August 20, he wrote Baird, "am dangerously sick, mental depression due to terrible disappointment of not being able to be in Washington to arrange my collection."¹³³ He added, "Doctors said I could not live. Lived. I may have written some unintelligible letters during my sickness. Doctor says nine out of ten would have died."¹³⁴ The unintelligible letters may indicate Swan's return to the bottle in an effort to relieve his pain. Such a solution had been used

 131 Swan to Baird, 2 May 1876. 132 Swan to Baird, 2 May 1876. 133 Swan to Baird, 20 August 1876. 134 Swan to Baird, 20 August 1876.

by Swan during his marriage and was to continue, sporadically, for the rest of his life.

At the close of the Centennial Exposition, Swan's collection went to the Smithsonian. So too did the exhibits of several foreign nations; Baird had persuaded them to give their displays to the National Museum. The Museum acquired 406 tons of material; it took forty-two boxcars to haul it to Washington to a new building. Unfortunately, with the Exhibition over, Swan was off the payroll. Once again, he had to offer his services to Baird gratuitously.

The diaries of the late 1870s included only one item of major interest: the death of Professor Henry. Swan wrote, "I looked upon the late illustrious Secretary as I would upon a venerated parent."¹³⁵

Relocated in Neah Bay at the beginning of the new decade, Swan was appointed "Field Assistant to procure statistics of Fish and Fisheries of Washington Territory, N.W." However, his main interest was still collecting. On November 23, 1880, he wrote Baird that Canadian Indian Commissioner, Dr. Powell, wanted him along on a collecting cruise to Wrangall, Alaska. According to Powell, Swan wrote, "we would devote ourselves to work out the origin of

¹³⁵Swan to Baird, 7 June 1878.

the northern tribes."136 Swan would go along if he could make collections for the Smithsonian. He would require \$200 a month plus expenses. Sadly, government bureaucracy and insufficient funds frustrated Swan's hopes. In early 1881, he complained about "meager appropriations of Congress for trip," adding, "A Congress which can waste valuable time discussing the state claims of Ben Holiday (the railroad magnate) can hardly be expected to think much of a purely scientific proposition involving at the most but a very insignificant sum comparable with what would be the cost of a Government expedition to produce the same results that I can in two or three months by going with Mr. Powell."¹³⁷ He wrote, "I will be content to wait as Mr. Micawber did, for something to turn up."¹³⁸

In 1882, Swan looked to the Queen Charlotte Islands for another collecting expedition. He wrote to Baird, informing him that he had acquired some Haida Indian items from "the Islands," adding, "they strongly resemble Aztec carvings."¹³⁹ Swan reminded the professor that he had been unable to accompany Professor Dawson to the Queen Charlotte

 136 Swan to Baird, 6 February, 1881. 137 Swan to Baird, 6 February 1881. 138 Swan to Baird, 6 February 1881. 139 Swan to Baird, 18 May 1882.

Islands a few years previous nor with Dr. Powell the past year. He scolded, "the whole field of the Northwest Coast has been swept by agents from Austria, France, and Germany, leaving us nothing but such as they have rejected."¹⁴⁰

During February, 1883, Swan and Baird entered negotiations for Swan's second major expedition. Swan would require \$350 per month for himself and three Indians; he promised to provide a "strict account of expenditures." Swan wrote that he now had an "intelligent young Haida man," Johnny Kit Elswa working for him, who could fashion jewelry, paint, and make tatoos. He wrote, [Johnny was] "the most faithful, intelligent and reliable Indian I have ever seen."¹⁴¹ Swan added that Elswa would be of valuable assistance in trading with the Indians. Appealing to Baird's frugality, he added that Elswa had the ability to get items cheaply. However, recalling his previous dealings with Baird, he warned, "I do not want to be embarrassed for funds."¹⁴²

To entice Baird and to acquire the necessary funds, Swan wrote that his friend Elswa had told him of a chief who had recently died at Skidegate. He had left a splendid

 140 Swan to Baird, 18 May 1882. 141 Swan to Baird, 7 February 1883. 142 Swan to Baird, 7 February 1883.

collection of masks, images, and costumes and his widow was willing to sell the lot. Swan cautioned that others were interested in his own collections. "Mr. Villard is making a collection for the museum of the Northern Pacific Rail Road Co., and an Agent of that company has interviewed me to make a collection for them, offering to place all required funds in my hands or in the Seattle Bank."¹⁴³ Swan wrote that he would prefer to work for the National Museum, yet he warned, "if arrangements cannot be made, I will then work for any other parties who will pay me for my services."¹⁴⁴ Swan's March 20 letter must have impressed Baird. In May, Swan's letterhead designates him "Assistant and Collector, Washington, D.C." Correspondence from Baird hinted of a "definite sum" for collecting.

By early May, 1883, Powell and Swan had made plans for the expedition. Mr. James Deans was to accompany Swan to the Queen Charlotte Islands to make selections of lands for Indian reservations and to make geological and "other" collections. Deans, Swan, wrote "is an educated gentleman who takes great interest in all Indian matters and I could not have selected a more congenial companion."¹⁴⁵ However,

 143 Swan to Baird, 13 March 1883. 144 Swan to Baird, 20 March 1883. 145 Swan to Baird, 9 May 1883.

by the end of the two-month cruise, Swan's praise had turned to contempt. He wrote, "Deans proved himself a great nuisance by interfering with my Indian trade and purchase of curiosities . . . he is filthy in his habits and untruthful to a degree . . . I wish I had never seen the man."¹⁴⁶

Swan would go by the steamer <u>Otter</u> to Massett at the north end of the Queen Charlotte Islands. From there, the party would proceed by canoe. To eliminate misunderstandings about finances, Swan wrote Baird, requesting "a definite amount." The Secretary responded by fixing Swan's salary at \$125 per month from January through June, and from July through September at \$300 per month. There would be an additional sum of \$175 per month to pay for his travelling expenses, his assistants, and to purchase specimens. Although this amount was relatively meager, it far exceeded previous monies from Baird, with the exception of the Philadelphia Exposition. Swan's only other income was from office work--"a mere stipend."

Swan spent practically every moment of the voyage collecting. Soon after he embarked, he acquired a most interesting weapon, fashioned of deer's antlers. It was carved to resemble the blue heron or crane bill. The weapon

¹⁴⁶James G. Swan, "Diary 33: Journal of a Trip to Queen Charlotte Islands," 24 September 1883, Suzzalo Library, University of Washington, Seattle.

had been used to kill slaves in former times upon the death of a chief or a member of his family. This was accomplished by striking the point of the prong into the skull of the victim, penetrating the brain and causing instant death. The body of the slave was then buried under the body of his master or the person for whom his life was sacrificed.

The first stop was at Massett, "a very pretty place situation on the East side of Massett Inlet."¹⁴⁷ At the small Indian village Swan discovered that each house had in front a carved pole of column carved with heraldic designs of the totems of the family. He met the principal chief, We ya, and described his house. It was the same structure Captain Marchand had seen in his 1791 voyage. There were sleeping platforms and a deep fireplace in the center. Curiously, pictorial newspapers covered the walls; the Indian village had drawn from the white culture.

On Massett Island an Indian chief died of a stomach hemorrhage. Swan paid a visit so he could observe the Indian way of death. The body of the deceased was laid out and surrounded by evidence of his wealth and rank. After the service, Swan went to visit the graves of Indian doctors. They had been placed on platforms erected on stout posts and covered with a rude plank box, neither wind or

¹⁴⁷Swan, "Queen Charlotte Islands," 26 June 1883.

water-tight. The boxes had decayed and were falling apart; Swan could plainly see the skeletons within.

Swan and Deans examined other burial grounds during the voyage. Further north, at the old, abandoned village of Ka-Yung, Deans found an old, broken grave box erected on two posts, containing a skull. At North Island, at the cave of Skung o na or skimgos, they found Indian corpses mummified in the cave's dry, well-ventilated environment. The bodies were doubled up, with the knees drawn to the breast. Swan wrote that this reminded him of Aztec mummies; the cave reminded him of Humboldt's description of the burial caves in Central and South America and the Guaches of Tenneriffe.

A few Indians in Swan's party did not like Deans' method of investigation, involving the desecration of graves. Toward the journey's end there were fierce, torrential rains. The Indians attributed this to "Mr. Deans stirring up the remains of the old doctor mentioned of the 10th of August," wrote Swan.¹⁴⁸ Later, they found the remains of the chief of the Skana tribe. Beside the box, a scepter of state, 5'4" high and painted black, was found. Swan knew that those Indians had been attacked by the Ninstomer tribe near Cape St. James. Many were killed and the remainder left the village and lived at Yakh until

¹⁴⁸Swan, "Queen Charlotte Islands," 19 August 1883.
smallpox killed them in 1852. The survivors merged into the Massett Tribe.

Swan did more than examine graves and collect legends on this journey. He collected numerous Indian artifacts as well as several boxes of animals and fish. He found a particularly unusual Indian artifact--an elaborately carved cane made by an old doctor. The handle was a bear tearing open a man's belly and the head represented a hand grasping the bear by the back. Under the hand was the double-ended knife of the Northwest Coast Indians. Swan discovered that same theme represented on a totem pole. The bear, known as Hoorts, killed the great hunter Towats when the bear discovered him making love to his wife. Swan purchased from Charley Edinso, "one of the best carvers in the tribe," "two splendid canes"--representing serpents twined around a stick. One had a head of a walrus, while the other, an elephant head copied from a picture of Barnum's elephant Jumbo--another example of the influence of the white culture on Indian art.

Swan also wrote about techniques of canoe construction. An Indian built a slow fire on the outside of the canoe and threw hot water on the inside. When the wood was softened, or as the Indians said, "cooked," they stretched the sides apart as far as was safe. Swan measured the canoe before the man began his work and found it to be 2'8" in

circumference; after he was finished, the canoe measured 4'9". Swan drew a picture of the process in his journal.

Swan also purchased figures made of copper. a metal particularly valued, from the Indians. From an old woman, he acquired five figures of nude Indians, which were used in dancing ceremonies. They were antique, having been in the family long before her mother's grandmother was born. Tradition said that ancestors got them from Indians far beyond Sitka--perhaps the Alvia or Copper River Indians, speculated Swan. They were of pure nugget copper and made "a peculiar sonorous sound when rattled together," thus making them highly prized by Indians. The figures were 3" in length and had a striking resemblance to the pictures of similar images among the ancient Aztecs "as shown in Bancroft's Native Races of the Pacific Vol III [sic]." Swan wrote.¹⁴⁹ Deans and Swan considered the figures "the best evidence we have seen of the ancient connection between the tribe and the Aztec races."¹⁵⁰

Travelling in an old canoe meaded with copper staples, Swan feared he would have to lighten its load by throwing things overboard. Now age 65, Swan had to contend with incessant rain and blowing headwinds. He was distressed at

¹⁴⁹Swan, "Queen Charlotte Islands," 25 July 1883.
¹⁵⁰Swan, "Queen Charlotte Islands," 25 July 1883.

having to pay the Indians for their time, even if the weather did not permit them to work. At Massett, Swan lightened his load of heavy items, including the nowdisliked Mr. Deans, and proceeded on to Skidegate. There, he paid Edinso's party \$110, all in shoes, stockings, and shirts. Edinso demanded provisions, but Swan refused, telling him to get off. Swan wrote, "he had delayed the trip to the disgust of his own people and is the biggest old fraud I have had dealings with and I have been annoyed by him every day since leaving Massett."¹⁵¹ Yet Swan summed up the trip on a positive note: "I feel very thankful that I have ended this tedious and perilous journey from Massett to this place in good health and without accident to any one of the party."¹⁵² Having paid the Indians, Swan packed some items and collected some more in the area. He left Skidegate for Victoria on the <u>Skidegate</u> on September 19.

Back in Port Townsend, Swan began a campaign for two new expeditions. The Haidas would soon have "a grand performance of raising heraldic columns and distribution of presents."¹⁵³ It would be one of the largest Haida gatherings in many years. Swan warned that, due to the

¹⁵¹Swan, "Queen Charlotte Islands," 26 August 1883.
¹⁵²Swan, "Queen Charlotte Islands," 26 August 1883.
¹⁵³Swan, "Queen Charlotte Islands," 14 October 1883.

influence of the missionaries "to break up the old customs," it might be the last such ceremony. Two months later, Swan proposed another trip--to return the following year to the Prince of Wales Archipelago in the Queen Charlotte Islands; the last trip had been "a mere reconnaissance."

Swan's travels had made him a celebrity. Several members of the Provincial Parliament invited him to deliver a lecture on his cruise. Baird encouraged him to attend, writing, "We have no wish to monopolize knowledge . . . the more extensively diffused your information, the better."¹⁵⁴ A month later, <u>The Daily Argus</u> of Port Townsend reported that "Judge Swan" had lectured in Victoria on the history of the Smithsonian and earlier visits to the Queen Charlotte Islands. It reported that the Provincial Government would publish "a copy of Judge Swan's valuable and interesting essay."¹⁵⁵

Due to disallowed purchases, Swan had to write to Baird that his movements were "completely paralyzed." In an effort to resolve the problem, Swan asked for Congressional funds, complaining "the scales of National Justice and equality are very unevenly balanced."¹⁵⁶ He added, "The

¹⁵⁴Baird to Swan, 14 October 1883.

¹⁵⁵<u>The Daily Argus</u> (Victoria, B.C.), 28 January 1884.
¹⁵⁶Swan to Baird, undated letter.

late Hon. Thomas H. Benton once said of the Northwest Coast that it is the derelict of Nations, and I judge by the economy used toward us by the committee on appropriations that they are of the same opinion."¹⁵⁷ Confused as to which department to send his vouchers, he wrote Baird, "Will sign any blank if properly filled out."¹⁵⁸ Amidst this financial discord, Swan awaited Congressional appropriations for the National Museum for the New Orleans Exposition of December, 1884. He proposed to collect at Neah Bay and wrote, "I have a peculiar desire to make a better display of Indianology at the New Orleans Exposition than I have hitherto done, and I trust that Congress will grant a liberal appropriation."¹⁵⁹ Swan wished to return to the familiar Makah Indians to collect articles relating to whaling, sealing, and fishing. He wrote that he was ready to go to New Orleans in order to explain his collections.

Baird agreed to send Swan on a steamer to collect among the Northwest Coast Indians for the exposition. Swan had written to Baird that foreign collectors "have driven up price extravagantly." He reminded Baird that all his collections had been made for actual use, not new for the

¹⁵⁷Swan to Baird, undated letter.
¹⁵⁸Swan to Baird, 12 May 1884.
¹⁵⁹Swan to Baird, 7 June 1884.

Smithsonian. Swan went north that summer and by fall had shipped six cases to Baird. He send a model whaling cance, an ancient whalebone fish hook, several small sealskin buoys--for which he received vouchers of \$367.74 from the Smithsonian.

This journey was Swan's last. He still wished to go to the Prince of Wales Archipelago to investigate kelp from the Nootka Indians and to test its adaptability as a paper stock. Swan requested a dry plate instrument to use for illustrations as he camped in the Tongass. He would need "as large an allotment as I had for the Queen Charlotte Islands Expedition."¹⁶⁰ Baird replied in midsummer 1885 from Woods Hole, Massachusetts, where he was investigating fish. In a brief, scribbled note, he "offered to furnish James G. Swan, Port Townsend, Wash. Territory. \$200 towards expenses of making a trip to Queen Charlotte's Island."¹⁶¹ Disappointed, Swan telegrammed back, "Amount named insufficient. Expedition abandoned."¹⁶² In frustration. he informed Baird that he would be glad to turn over all his material of the U.S. Fish Commission should the professor be able to locate a suitable replacement for him.

¹⁶⁰Swan to Baird, 8 June 1884.
¹⁶¹Baird to Swan, 15 July 1884.
¹⁶²Swan to Baird, Telegram, 15 July 1884.

Despite his "resignation," Swan wrote Baird a few months later to inquire about any new funds for collecting. Two months later he wrote, "If there is anything you can devise for me the coming season I shall be truly gratified."¹⁶³ During the following year, Swan proposed several new expeditions, commenting that he felt "as lively as a cricket." He pleaded, "I am sorely straitened for funds and if you can possibly assist me out of my embarrassment you will add to the many personal obligations I am under to you during the many years since I first became a contributor to the Smithsonian."¹⁶⁴ Baird encouraged Swan and expressed regret over the lack of funds. "All in its season," wrote the professor.

In the summer of 1887, Swan contacted Professor Goode of the Smithsonian. Baird was ill and Swan communicated to his replacement various collecting requests and a wish to settle bills dating back to 1883. In closing, he inquired about Baird's health. On August 20, 1887, Swan wrote in his diary, "The news came today of the death of Professor Baird who died yesterday at Wood's Hole--I set my flags at half mast in token of my respect for his memory."¹⁶⁵

¹⁶³Swan to Baird, 8 March 1886.
¹⁶⁴Swan to Baird, 17 March 1887.
¹⁶⁵Quoted in Doig, <u>Winter Brothers</u>, 232.

Here ends the relationship between Swan and the Smithsonian that had endured for over a quarter century. Sadly, in 1887, he was no better off--at least financially-than he had been in 1863, when he had likened his troubled state of affairs to that of "the wrecked ship in a Longfellow poem." Of the new administration at the Smithsonian, he wrote in his diary, "There is a new deal and no sympathy in Washington. A new king has arisen over Egypt who knows not Joseph."¹⁶⁶

In Swan's last years, he was a minor celebrity. General Sherman and President Hayes visited in 1880. In 1889, Swan met the great ethnologist, Franz Boas, in Victoria. Swan wrote, "met Dr. Franz Boas and went with him to see a lot of Haidas which had just arrived. They were all drunk but civil."¹⁶⁷ Historian Hubert Howe Bancroft also visited him and wrote his sarcastically entitled "Olympia Club Conversations,"¹⁶⁸ in which Swan and his companions ramble drunkenly about the early days of Washington Territory. Upon reading Bancroft's account, Swan was humiliated to read about "James G. Swan, a poor fellow

¹⁶⁶Quoted in Doig, <u>Winter Brothers</u>, 212.

167Doig, Winter Brothers, 234.

¹⁶⁸Hubert H. Bancroft, "Olympia Club Conversations," interview by James G. Swan, Suzzalo Library, University of Washington, Seattle.

who demon Drink had long held . . . in his terrible toils."¹⁶⁹ [Bancroft's original notes added further insult--Swan was identified as "John M. Swan."]¹⁷⁰

Although Swan had always liked the bottle, the lonely frontier isolation exacerbated his needs. In his last years, the provincial government declared him "a habitual drunkard," admonishing others not to serve him alcohol. Yet, Bancroft credited Swan with being a man who "occupied many public places of more honor than profit."¹⁷¹ Such was his relationship with the Smithsonian.

¹⁷⁰Bancroft, "Olympia Club Conversations."

¹⁷¹Bancroft, <u>Literary Industries</u>, 540.

¹⁶⁹Hubert H. Bancroft, <u>Literary Industries</u>, (San Francisco: History, 1890), 39:540.

CHAPTER V

THOMAS CONDON: MISSIONARY, GEOLOGIST, PROFESSOR

Thomas Condon, the father of Oregon geology, initially came west as a missionary. Although he continued in that field for the rest of his life, he still could see God's hand in geological evolution and blended religion with his work as scientist, collector, and professor at the University of Oregon. Henry Fairfield Osborn, former President of the American Museum of Natural History and Senior Geologist of the U.S. Geological Survey commented on the importance of Condon's life. He wrote: "the romantic life of this theist and naturalist stretched across the American continent during the formative period of the sciences of geology and paleontology and his eighty-four well-spent years as a high priest of nature qualify him to rank among the immortals."¹⁷²

Discoverer of the John Day Fossil Beds, Condon explored the geological history of Oregon and shared his findings through books and magazine articles. He corresponded with pioneer paleontologists O.C. Marsh of Yale and Edward Cope,

¹⁷²Quoted in Forward to Ellen Condon McCornack, <u>Thomas</u> <u>Condon: Pioneer Geologist of Oregon</u> (Eugene: University Press, 1928), ix-x.

anatomist Joseph Leidy, botanist J.S. Newberry of Columbia, conchologist William Dall of the American Museum of Natural History, and with Spencer Fullerton Baird and Joseph Henry of the Smithsonian Institution. Working on the Oregon frontier, Condon interested professionals and amateurs alike in Oregon's evolutionary history. Eastern scientists shared their collections with him and some even came west to join him in the search for additional fossil evidence. Although not formally trained in his craft, Condon attained professional status through his readings and correspondence. His work was far-ranging and reliable; most of his conclusions are still accepted.

Thomas Condon was born in 1822 in southern Ireland. As a youth, he explored his surroundings and laid the foundations for his future profession. Visiting a limestone quarry near his home, he became interested in geology--an avocation which would become a vocation years later in Oregon. In 1833 or 1834, the family emigrated to New York City; the first Condon home was in the uncultivated wilderness of what is now Central Park. Condon's father, a poor stonecutter, squatted with his family among the "shanty Irish" in the squalid Five Corners area of New York City. There were stone guarries near 40th Street's rocky surface:

perhaps John Condon found employment there.173 The youth spent his leisure hours exploring the old Revolutionary War fortifications near the city, hunting rabbits, and wandering around the unsettled northern part of Manhattan Island.

When Condon was a bit older, he learned from a neighbor some practical skills as well as an appreciation for nature. At a nearby farm at the present site of New York City's Main Public Library, Eliza Cox raised flowers. There, young Thomas spent two happy years learning gardening.¹⁷⁴ Later, he was employed in the office of Dr. McNevin, one of the leading physicians of the city. Mrs. McNevin liked the boy and often asked his help about some piece of work at home. While he worked, she told him stories that broadened his knowledge of the world. After one of the daughters gave him lessons in drawing, he used his new skills repainting the worn pattern in the floor oilcloth, carefully imitating the pattern in lines, shapes and colors.

The McNevin family provided early formal education for Condon. A son of Dr. McNevin had a contract for surveying the Erie Railroad and proposed to take the youth along to assist him. McNevin tutored the youth in algebra and

¹⁷³Robert D. Clark, <u>The Odyssey of Thomas Condon: Irish</u> <u>Immigrant, Frontier Missionary, Geologist</u> (Portland, Oregon: Oregon Historical Society Press, 1989), 8-9.

¹⁷⁴Clark, <u>Odyssey of Condon</u>, 8-9.

geometry, subjects which Condon greatly enjoyed. Recalling the lessons much later in life, Condon said, "It lifted me to the clouds; I drank it in as a mental food."¹⁷⁵ The family also provided access to a fine library.

When Condon was nineteen, he joined his father on a trip "out west" to Michigan where they acquired some farm land. Upon his return, he decided to attend a college at Casenovia. Soon, he was teaching school at Camillus, New York, where he became fond of debate. In 1842, he taught in Skaneatles, New York, where he helped the schoolchildren transform a barren schoolyard into a beautiful flower garden. In the lake country of central New York, he gathered a collection of trilobites, crinoids, and other fossils common to the area.

Around this time, Condon decided to be a minister of the gospel and settled at Auburn to study at the Theological Seminary. He taught the inmates of the state penitentiary at Auburn in order to earn his tuition. Shortly after his graduation in 1852, he married Cornelia Holt, a school teacher, and both decided to go to the Oregon Country made famous by Marcus Whitman and his associates. He applied to the Home Missionary Board of the Congregational Church and was accepted. In the autumn of 1852, <u>The Trade Wind</u>, a

¹⁷⁵McCornack, <u>Thomas Condon</u>, 9.

clipper ship, took the young couple from New York to San Francisco by way of Cape Horn. Once arrived, they transferred to an ocean steamer which brought them to the tiny pioneer town of Portland.

The Condon's first assignment was St. Helens, shortly followed by Forest Grove, where early pioneers had founded both Tualatin Academy and Pacific University. In 1857, they moved to Albany, where Condon became pastor of the Congregational Church. However, it was his next assignment at The Dalles that most influenced his geological career. This town was the head of navigation on the Columbia River. That stream was travelled by the wild, reckless mining population on their way to the newly-discovered goldfields of the Salmon River country. At this time, shootings and stabbings were daily occurrences in The Dalles, and horses had to be protected from thieves. Condon's early collections there were of a different sort than the fossils of John Day. Here he went among the saloon keepers and rough town characters of the town collecting coins for his church. Carrying a geologist's pick and hammer, he also visited an old stone quarry, where a few skillful blows upon the quarry stone might expose a beautiful acacia branch. Around Mt. Adams, Condon and his friends explored the Ice Caves and pondered their formation by volcanic rock millions of years before.

Condon's interest in geology was infectious; people passing through The Dalles would visit with him to learn about the earth and see his fossil collection. One such visitor was Captain John M. Drake, who commanded a company of cavalry, taking his men into the Indian country, as far as the Harney Valley. Drake wrote, "some soldiers during the absence of the main body of troops on the Indian chase discovered some very fine geological specimens on the crest of a low ridge jutting out from the main chain of the hill opposite our camp."¹⁷⁶ The specimens were fossil shells imbedded in a hard sandstone, leaving only the imprint of the shell in the rock. Drake added in his journal, "I went up the ridge this morning and succeeded in gathering some fine specimens for Mr. Condon at the Dalles and purpose sending them to him by the next wagon train."¹⁷⁷

In July, 1864, Captain Drake wrote to Condon, telling him of his find. He told of the shells, writing that "I am not able to judge correctly of the character of these fossils; there are some persons who pretend to know, who say they are Marine shells; I doubt it, but am inclined to believe that they have been deposited in the bed of a saline

 $^{176 \, \}rm Quoted$ in Priscilla Knuth, ed., "Cavalry in the Indian Country, 1864," <u>Oregon Historical Quarterly LXV</u> (March 1964): 74-75.

¹⁷⁷Knuth, "Cavalry," 75.

lake."178 Drake wrote that he would send them by the supply train. His camp, he reported to Condon, had been "converted into a vast geological cabinet; everybody had been gathering rocks."¹⁷⁹

The specimens Condon collected were Trigonia and other Cretacious sea shells from Beaver Creek in the Crooked River Valley. They stimulated his desire to explore this new field. He applied for and received permission to travel with a company of cavalry which was escorting a caravan of supplies for the Harney Valley. This expedition to the John Day Valley, in 1865¹⁸⁰, took Condon through the upper Crooked River Valley, where he discovered a few fossil bones and teeth. Returning to The Dalles by old Camp Watson on the John Day River he found a few specimens from a field that would soon provide great riches for future expeditions. Condon gave some leaf specimens to W.P. Blake of Yale to be examined by a fossil expert, Dr. J.S. Newberry of Columbia.

In June, 1867, Blake wrote that Newberry had found the discovery "exceedingly interesting" and had recognized a Platanus and an Oak from the upper Miocene or Pliocene era. He considered the discovery "of extreme importance," since

¹⁷⁸Quoted in McCornack, <u>Thomas Condon</u>, 36–37.
¹⁷⁹Quoted in McCornack, <u>Thomas Condon</u>, 37.
¹⁸⁰Clark, <u>Odyssey of Condon</u>, 176.

it would provide scientific insight into the former flora of that region. Blake asked for a more complete leaf collection, offering to pay for it. They would also send him some fossil shells in exchange. Blake and Newberry asked Condon to go take workmen and "quarry out half a ton of good specimens and send them to Messrs. Blake and Newberry, care of Smithsonian Institution, Washington, and draw on us for amount you think best, inside of \$100."¹⁸¹

Condon was hoping to return to this area when the Indian wars were over and the army had departed. In his letters, he wrote that the area was "infested" with Indians. While passing his vacations exploring the John Day Country, he found and named Turtle Cove, one of the richest fossil beds in the valley. In the summer he hired young men to collect fossils which had been exposed by winter storms. A gregarious person, Condon befriended teamsters who drove government freight wagons. Inspired by his enthusiasm, they brought him rocks and fossils. In a few years, Condon had a large quantity of valuable material to classify and describe, but no books, no great library or museum, an no great scientist nearby with whom to communicate.

An opportunity to expand his horizons came in 1867 when the United States Government began its exploration of the

¹⁸¹Quoted in McCornack, <u>Thomas Condon</u>, 39.

40th Parallel with Clarence King as "Geologist-in-Charge." The King party was mapping a 100-mile wide strip extending from San Francisco Bay eastward to the eastern foothills of the Rockies, with the 40th parallel as the median line. This survey, when completed and published by the United States Government, filled seven folio volumes. In 1868, King passed through The Dalles. Condon, reading of this visit in the local newspaper, rushed to King's hotel for a short meeting--Condon's first with a great geologist. After King returned to Washington, he met Dr. Newberry and told him about his meeting with the Oregon missionary. Newberry, who had heard nothing from Condon after Blake's request for more fossil leaves, wrote to the fledgling Oregon geologist in February, 1869, reiterating the wishes of his earlier letter. This began a lively interchange of correspondence and specimens between Condon and Newberry.

The meeting with King provided the impetus for Condon to exchange and broaden his information on collecting. Corresponding with Newberry, the Smithsonian and other eastern scientists, he gained the necessary knowledge and skill to eventually become a professional geologist.

In addition to correspondence, Condon also sent boxes of fossils to Newberry. The first box of specimens included a rough pencil sketch of the country containing the fossils. He wrote that he wished to return to find additional specimens: "I am hungry for a sight of that hill again, when no fear of prowling Indians shall compel me to hold a rifle in one hand and my pick in the other."¹⁸² By 1870 Condon had his wish. He wrote to Newberry that "only a few small bands of Indians remain to be gathered on the reservation, and then one may go there [Crooked River country] without escort."¹⁸³

Condon also wrote to Newberry about his own weekly lectures on geology. Already accustomed to addressing groups in his ministry, Condon had for the past few years offered weekly lectures "to interest the young people" free of charge. He provided information and brought specimens. Wishing to add material for his exhibitions, he wrote to Newberry, asking, "can you have one of your assistant put up a box of your excess of material and commit it to the express for me, at my charge?"¹⁸⁴ He noted that he had just sent a 102 pound box of his own specimens to the professor.

Condon had begun his lectures in the 1860s and continued them at The Dalles as well as throughout the Willamette Valley and other locations. Some of the subjects were: "How Oregon Was Made," "The Fossil Horse: His Place

¹⁸²Quoted in McCornack, <u>Thomas Condon</u>, 46-48.
¹⁸³Quoted in McCornack, <u>Thomas Condon</u>, 53-56.
¹⁸⁴Quoted in McCornack, <u>Thomas Condon</u>, 53-56.

in the Theories of the Present and His Record in the Past," "The Three Beaches, "Lectures on Revelation," "Natural Selection, Market Selection and What Next," and "Evolution Not Atheistic," the last topic indicative of Condon's belief that evolution was evidence of the wonders of God, not proof of the lack of his existence.

After the publication of Darwin's <u>Origin of Species</u> and <u>The Descent of Man</u>, scientists such as Spencer, Huxley and Tyndall discarded the Bible as outdated and out of harmony with scientific thought. Condon, however, saw the theory of evolution as

. . . presenting to the human mind a wider conception of God than the world had ever known . . . a plan of unthinkable grandeur, beginning with the smallest, simplest things, gradually unfolding into more complex life, often interrupted by some great upturning of nature, but never losing the continuity of purpose, the steady progress toward the culminating glory of all: the spiritual life of man.¹⁸⁵

The following description of Condon, provided by his daughter, gives evidence of his almost religious devotion to his work:

It gave Mr. Condon real pleasure to sit down beside a rough block of sandstone with only the corner of one glistening tooth in sight, to pick and chip and chisel until another tooth and part

¹⁸⁵Ellen Condon McCornack, ed., "The Life of Thomas Condon," in <u>Oregon Geology: A Revision of "The Two Islands</u> by Thomas Condon" (Eugene: University of Oregon, 1908).

of the jaw were seen, to continue with careful skill until the beautiful agatized molars were laid bare, to work patiently on until there stood before him, no longer the shapeless mass of stone, but a fine fossil head to add its testimony to the record of the past. . . He had the artist's eye for seeing the beautiful in character and the enthusiasm of a sculptor for shaping rough faulty human nature until its beauty reflected the Divine.186

By 1870, Condon was communicating regularly with eastern scientists. H.S. Osborn, professor of mining and metallurgy at Lafeyette College of Pennsylvania, wrote to him. He commented that paleobotanist, Dr. Joseph Leidy had examined his specimens and had decided that they were of the Miocene similar to that of Nebraska. In early 1870, a letter came from Joseph Henry, who had learned of Condon from Harvey W. Scott, the editor of <u>The Oregonian</u>. Henry wrote that it would give him pleasure to correspond with Condon about geology. He promised to send circulars in reference to ethnology and natural history to Oregon. In his typical fashion, Henry added that the Institution would be pleased to receive any specimens or information that Condon might be able to provide.

Three months later, in response to Henry's letter, Condon filled a small box with leaves and a few fragments of bones and teeth and shipped it off by overland mail to the

¹⁸⁶McCornack, <u>Oregon Geology</u>, 21.

Smithsonian. As payment, he requested Hayden's and Leidy's research studies in the Eocene of Nebraska. He reported that he had sent some leaf impressions to Newberry from a leaf that must have measured 30 to 35 inches across. Henry wrote back immediately, expressing gratification for the gift, adding that the Institution would be willing to appropriate \$50 to make further explorations. Henry added that the requested publications were on the way. In closing, Henry spoke for Dr. Leidy, who wished to examine some of Condon's "unique fossil crania," promising that they would be promptly returned.¹⁸⁷

Condon's response to this request indicates the difficulties that West Coast collectors faced in their communications with Eastern scientists on the opposite coast. Condon had four heads, but they were too brittle to send by the overland route. The rock that contained them was a crumbling shale, and he had to reassemble them with flour paste and paper. He was certain that they would be destroyed on their trip to Washington, so he proposed to send photographs and bone fragments.

In June, 1870, Henry was in Europe, and Professor Spencer Fullerton Baird wrote to Condon, offering his thanks for Condon's recent box of fossils. He requested additional

¹⁸⁷McCornack, <u>Oregon Geology</u>, 22.

specimens and guaranteed their preservation in a fireproof building. Condon promised "a full suite of these mammalian and botanical specimens for the Smithsonian Institution," adding that he was sending five dollars to pay Wells Fargo express charges for Leidy's work on fossil mammalia. Baird wrote back immediately, returning the \$5, noting that "we cannot permit any one who promises to be so valuable a Smithsonian correspondent as yourself to be at the expense of freight."¹⁸⁸ Baird added that the Institution was also seeking ancient Indian relics, such as mortars, pestles, axes and arrowheads.

Condon continued to send boxes to the Institution. Dr. Leidy examined them and reported his findings to the Philadelphia Academy of Sciences. He reported Condon had found a new species of oredon which Leidy named Oreodon Superbus. The collection also included two species of rhinoceros and other pachyderms, one of which Leidy named Anchitherium Bairdi, in honor of the Assistant Secretary, as well as a new Anchiterium (a small dog-like animal) which he named A. Condoni. These scientists helped Condon to identify his bones and fragments.

Late in 1870, Condon received a letter from Professor O.C. Marsh of Yale College, who was visiting San Francisco.

¹⁸⁸Letter from Baird to Condon, 19 July 1870 in McCornack, <u>Oregon Geology</u>, 89.

Professor Marsh was an accomplished geologist, wealthy enough to work gratuitously for Yale. He wrote that he had known of Condon's work in vertebrate fossils for the past several years and had intended to make a side trip to Oregon to make his acquaintance and examine his "fossil treasures." He wrote that he was now long overdue at his institution, but would be sending one or two of his students to call upon him. He told of Yale's "Nearly eight hundred students and probably the finest geological museum, in many respects, in the country." He enclosed a draft for \$100 to use "in any way you think best in securing specimens,"¹⁸⁹ adding that he would send more funds at any time that Condon wished.

Condon wrote Marsh that he would retain the money "and use it and say more of it by and by." He sent another letter, a week later, noting that "a new field is opening to me"¹⁹⁰ and would be sending fossils from the Valley of the John Day River. In his letter acknowledging receipt, Marsh wrote that the horse fossils were in an excellent state of preservation, as were the mastodon and rhinoceros bone fragments.

Marsh must have been unduly impressed by Condon's specimens, for at the end of April of 1871, he wrote that he

¹⁸⁹Quoted in McCornack, <u>Oregon Geology</u>, 95.

¹⁹⁰Letter from Condon to Marsh, 5 December 1870 in McCornack, <u>Dregon Geology</u>, 97. had decided to come to Oregon in the fall, proposing that Condon join him in the fossil field. Marsh would bring several students and hoped that Condon could join them for a month. Condon wrote back a long letter, telling Marsh that he would be happy to join him on the proposed expedition.

That fall, Marsh arrived and Condon was his guest during the entire trip. The met at Canyon City, where Condon found time to give one sermon and two lectures to the townspeople. Some of Marsh's party were young college men, sons of wealthy parents who were enjoying their first trip to the "Wild West." The party had already been digging for five months in Kansas and Wyoming and, unfortunately, they arrived too late for favorable summer weather in Oregon and missed many interesting localities, including Turtle Cove. They did travel to The Dalles, where they spent a few days studying the Condon collection before their return to Yale.

In the Spring of 1871, Condon began a correspondence with another fossil expert, Professor E.D. Cope, Corresponding Secretary of the Philadelphia Academy of Sciences and, for many years, an arch-rival of Marsh in their chosen field of science. As was the case with Marsh, Cope sent publications and funds to Condon and asked him to send fossil specimens.

In 1871, Condon published two articles, "The Rocks of the John Day Valley" and "The Willamette Sound," both in the

Overland Monthly. These short works relate his explorations and discoveries about Oregon's geological history. "The Rocks of the John Day Valley," published first, acknowledges the then-controversial origin of species. Condon refused to take sides in the piece; he pointed out that the geological field of the Columbia River basin offered its history to the world. He wrote, "history written by lakes and rivers commenced, in the storing away of specimens of tree, and beast, and bird, and their effectual preservation as material facts in an unerring record."¹⁹¹ The article related for the layman a geological tale, rich in metaphors and filled with awe for the wonders of nature. Condon speculated about the lakes, now gone, which once occupied the John Day Valley, and the creation of the hills and mountains through violent volcanic action. In the conclusion he pondered the history of the area, convinced the "this Columbia basin is destined yet to be the great battleground of conflicting theories, upon the question of the Origin of Species."¹⁹²

"The Willamette Sound," published in November of 1871, attempted to study "the evidence of the more recent changes of level along the coast of Oregon and Washington." Condon

¹⁹²Condon, "John Day Valley," 6.

¹⁹¹Thomas Condon, "The Rocks of the John Day Valley," Overland Monthly 6, no. 5 (May 1871): 1.

compared these changes with evidences of similar changes in the interior. To investigate further, Condon visited the Shoalwater Bay area of southern Washington, made famous by pioneer ethnologist, James G. Swan, in his Northwest Coast. Finding marine remains in high bluffs above the waters of the bay, Condon pointed out that at one time in history, those waters were one hundred feet higher. Not noticing any signs of any violent geological cataclysms, such as volcanic eruptions or earthquake, Condon speculated that the changes took place quietly, over a long period of time. He also postulated the existence of a huge lake in the interior portion of Oregon during "the days of the mammoth and the broad-faced ox." Condon believed it extended south from Portland to Eugene, and he called it the Willamette Sound. He proposed that this vast inland sea was created by two hundred feet of elevation in the waters of the Columbia River. Condon pointed out that the shores of this sound teemed with life of that age. He marvelled that so many recent excavations have found bones, teeth and tusks.

In the summer of 1871, a Portland minister visited Condon, along with a representative of an eastern college who wished to purchase his geological cabinet. Condon, of course refused, although the men expressed wonder as to how a poor minister could refuse their liberal offer. In frustration, they even pointed out that fire could destroy

his wooden house, along with his collections. This worried Condon, and he immediately made preparations to deal with a fire. He acquired a tank of water, carpets and lumber for scaffolding.

A fire did break out, a few days later, at the Globe Hotel. Condon erected his scaffold and fought the fire. Soon, twenty men ran to his help and fought the fire, despite the fact that much of the town was being consumed around them. When the fire was over, Condon returned to the confusion of his home, discovering that the shelves holding the cabinet were almost bare. For next two weeks, however, dozens of adults and little children visited Condon, carrying oredon heads, teeth, horse and rhinoceros bones, sea shells and dog heads. They had rushed into the house and took the collection out into the streets, where they would be safe.

Fire was not the only thing that threatened Condon's collections. Travel was fraught also with peril. While lecturing in Portland in 1872, in order to raise funds for his work, Condon wrote of an accident: "the first day out, the stage in which I travelled, overturned, smashed things generally and especially my chest, lungs and collar bone. I

was brought home a poor, badly damaged geologist."193 $_{\rm A}$ huge man was seated next to Condon and, when the stage overturned, he fell on top of him, inflicting much of the damage.

In 1874, in recognition of his geological work, the Oregon State legislature appointed Condon State Geologist for the next two years. He would receive compensation of \$1,000 per year, his duties to make explorations and to provide biennial reports, maps and drawings of his discoveries. In his preliminary report to the Legislative Assembly in Salem in 1874, Condon made note of the relatively small appropriation (it had been reduced from an initial \$2,000). Tactfully, Condon pointed out that the bill approved by the legislature intended "rather to aid me in work in which I was known to have been engaged for years, than to ask for any new researches."¹⁹⁴

Perhaps the mention of limited funding helps explain Condon's move in 1874 to Pacific University in Forest Grove. Condon was probably comfortable at a religiously- affiliated pioneer university. The position, most likely provided a

¹⁹³Letter from Thomas Condon to O.C. Marsh, 11 June 1872, "Bean Family Papers: Thomas Condon Papers," Special Collections, University of Oregon, Eugene.

¹⁹⁴Thomas Condon, "Preliminary Report of the State Geologist to the Legislative Assembly," Eighth Regular Session, 1874, Salem, Oregon, 5.

decent stipend and a place for his cabinet. However, an 1875 visit to Eugene City, which had plans to start a state university, inspired Condon to seek a change.

McCornack writes that "some of its [the university's] official friends had already asked Mr. Condon whether, if the State University were established, he would accept a place on its faculty."¹⁹⁵ However, a different version of Condon's affiliation with the University exists. In a letter sent from Cottage Grove on February 18, 1875, he informed President of the University's Board of Regents, Judge Matthew P. Deady, that he was finishing up his tenure at Forest Grove and was looking for a position.

In this letter, an assertive Condon wrote, "While visiting Eugene City, recently, I became interested in their efforts to start the State University and the thought has since been growing upon me that my collection and my work might well be employed in connection with that institution."¹⁹⁶ He added, "You are the president of its Board of Regents. Have you any place for the organization of its department of Natural Science inconsistent with

¹⁹⁵McCornack, <u>Thomas Condon</u>, 179.

¹⁹⁶Letter from Thomas Condon to Matthew P. Deady, Carl Smith Collection, Special Collections, University of Oregon, Eugene. (Copied from an original letter on file in the Oregon Historical Society Library.)

giving me its Chair of Geology and Natural History?"197 _{"As} Spring approached," Condon added, he needed to know where he would move and what to do "with an already overpowering burden of rocks."¹⁹⁸

Soon a letter came from Judge J.J. Walton, Secretary of the Board of Regent's, informing Condon that he had been elected to the chair of Natural Science of the State University. Condon settled in Eugene and, in addition to his teaching duties, he and his family spent summers at the ocean near Yaquina Bay. A cluster of small cottages became known as Nye Brook, and friends from Albany, Salem and Eugene joined the Condons. In their explorations of the Oregon Coast they often found Miocene sandstone full of fossil shells.

Condon's work at the new university had its drawbacks. Space was limited and although Condon's collection was available for use in teaching, lack of room made it impossible to spread it out for full inspection. Groups of specimens were placed in shallow wooden boxes and stacked against a wall with a card across one end, indicating the contents.

¹⁹⁷Letter dated 18 February 1875 from Thomas Condon to Matthew P. Deady, Carl Smith Collection.

¹⁹⁸Letter dated 18 February 1875 from Thomas Condon to Matthew P. Deady, Carl Smith Collection.

In his teaching, Condon viewed all of nature as his geological laboratory. He utilized the area around Eugene to bring his students for short geological lectures. His classes often travelled south of town accompanied by the town's citizens, in buggies, hacks, wagons or on horseback, to the foot of Spencer's Butte. There, they would climb the steep trail to the summit, over a thousand feet above the valley, and listen to Condon's lecture on the geological history of the surrounding area, followed by a picnic lunch.

In April, 1877, Condon wrote to a friend who was trying to entice him into a position at a rival college, that the university paid him "enough to live on and give me a hearty welcome."¹⁹⁹ Condon was loyal to the university, although the Oregon Legislature had failed to make adequate appropriation for its maintenance. The professors, who had been promised a salary of two thousand dollars had to accept fifteen hundred for each of the next few years. At one point, University president, J.W. Johnson actually asked the professors for donations to pay off debts to prevent foreclosures. The university and its buildings were even listed for sale for a time!

At this gloomy time, A.J. Anderson, President of the State University of Washington, asked Condon to take over

¹⁹⁹Undated letter from Condon to "a friend," in McCornack, <u>Thomas Condon</u>, 190.

his position, as he was leaving to become head of Whitman College. Despite the situation in Oregon, Condon decided to remain, perhaps due to the recent invigoration provided by Henry Villard. Soon, a new building was constructed, named in honor of Villard. At this new location, Condon had his cabinet and taught his classes.

The geology professor continued to collect specimens and make valuable contacts. Oregon Governor Whiteaker had found a large number of fossils on an 1876 camping trip to Lake County in central Oregon. The following summer, he provided Condon with equipment to explore the area. Condon's guide was one of his most able students, Charles Whiteaker, son of the Governor. The party found the remains of elephants, camels, horses, birds, and fish. They discovered the specimens on the sands of Silver Lake beds, often lying uncovered on the surface. Among the fossils, they found obsidian arrowheads, as well as freshwater shells. Condon wrote to Professor Cope, telling of his find. He added that C.H. Sternberg, working for Cope, had also begun working at Fossil Lake only a few weeks after Condon's group had left. In 1879, Cope visited Oregon. collecting at Fossil Lake and in the Crooked River country. While in Oregon, he visited the Condon home. Condon later loaned Cope some of his own bird fossils and had to write

several letters and wait decades--until after Cope's death, to get them back.

In 1880, Albert Bickmore, Director of New York City's American Museum of Natural History, contacted Condon. He was seeking specimens for his fledgling institution, which he had helped to organize ten years earlier. As was often the case with museum directors pressed for funds, Bickmore was asking Condon to sell his fossil collection for the "lowest cash price." After Condon refused, the Museum decided to send archaeologist James Terry to Oregon and Washington to do some collecting of his own. Beginning in 1881, Terry wrote several times and, over a period of ten years, visited Oregon and Condon, who eventually did send specimens and pictures back to Terry for the Museum.

By the 1890s, Condon, now in his seventies, had become famous. He often hosted visits from renowned Eastern scientists. Professor William Dall of the Smithsonian came to Oregon and visited Condon. Strolling together along the banks of the Willamette River, a mile from the University, Dall found a large fossil Scalaria shell, which he later named Scalaria Condoni. Others came too--among them, C.A. White, paleontologist of the U.S. Geological Survey, and J.S. Diller, also of the Survey.

In the late 1890s, a "Summer Education Association" was established at Nye Beach. There members of the Association

could raise a tent or rent lodgings and attend a variety of classes in the organization's twenty-five departments. The the Association goal was "to supply the great and growing demand for some place which congenial persons of refined tastes may assemble for study and recreation."²⁰⁰ Membership was open to "any person with a good moral character by paying the membership fee of \$1.50."²⁰¹ Amona the classes taught by local experts and professors were art, astronomy, Bible study, biology, bookkeeping, botany, European history, elocution and geology. The catalog noted that the work in Condon's class would principally comprise popular lectures on the geology of America. Frequent excursions for nature study would be taken and, the catalog exhorted, "it is unnecessary to add, will be intensely interesting. . . . Newport and Cape Foulweather will be the only textbooks."²⁰² Condon, by then sporting a long white beard, was described as "a picturesque figure with his tall alpenstock in his hand, his broad hat and loose raglan coat."203

²⁰¹"Education Association," August 2-31, 1897.
 ²⁰²"Education Association," August 2-31, 1897.
 ²⁰³McCornack, Oregon Geology, 25.

^{200&}quot;Catalog of the Summer Education Association," Newport, August 2-31, 1897, Special Collections, University of Oregon, Eugene. 201"Education Association," August 2-31, 1897.

In 1902, at the age of eighty, Condon published <u>The Two</u> <u>Islands</u>,²⁰⁴ a volume written for laypersons which described Oregon's geological evolution. The book studied fossils, animals, and birds and related the creation of volcances. In 1906, "A New Fossil Pinniped"²⁰⁵ was published. This article recounted his discovery of a rare, foot-long seal skull that he found on the coast. Condon traced its lineage and determined that it was, indeed, related to modern seals. At the time of his publication, Condon was eighty-four and still a professor at the University.

The following year Condon passed away. The following excerpts reveal the joy he had in his work. Fellow professor C.H. Chapman wrote:

No visitor to the University in the days when Professor Condon was in the vigor of his beautiful old age can forget the enthusiasm with which he would conduct one from case to case in that wonderful room where he kept his fossils and taught his classes, lecturing, explaining, glowing with joy over the beauty and the truth of science. It was a privilege never to be forgotten to hear him describe his collections. He would take one specimen after another and handle them with all the tenderness of a mother caressing her child.²⁰⁶

²⁰⁶C.H. Chapman, "Tribute to Thomas Condon," in McCornack, <u>Oregon Geology</u>, x.

²⁰⁴ Thomas Condon, The Two Islands.

^{205&}lt;sub>Thomas Condon, "A New Fossil Pinniped (Desmatophoca Oregonensis) from the Miocene of the Oregon Coast" <u>University of Oregon Bulletin</u> III, supplement, no. 33 (May 1906): 1-14.</sub>
Another colleague, Irving M. Glen, provides a glimpse

of Condon's enthusiasm:

A lucky accident took me past Professor Condon's door at the time when the case containing the Rocky Mountain Nautilus had just arrived from the Black Hills, and the venerable Professor invited me in to "help him hurrah," as he expressed it. But as the contents of the case were unpacked, and specimen after specimen, in an almost perfect state of preservation, came into view, he forgot the presence of others, forgot everything except the beauty and wonder of the opalescent objects that glowed in his hands, or the possibilities that the unwrapped packages might contain; and as he hovered over his treasures, laying one carefully here, another lovingly there, whistling all the while softly into his beard, a little comfortable tune that defies reproduction, I thought that I had never before seen such enthusiasm, such rapt absorption as this man had in his work. He straightened up once and a rare smile lighted his face as he came over to me and, laying his hand on my shoulder, said, as if in explanation, "Oh, the tune inside of me is too big for my whistle." He returned to his shells and I to my class room, realizing that the message from the Black Hills must indeed have been of rare eloquence so deeply to move the soul of this high priest of nature.207

An excellent new biography on Thomas Condon has just appeared that uses most of the sources of this thesis as well as additional material from other manuscript collections. The work, by Robert D. Clark, former University of Dregon president, offers insight into the

²⁰⁷Quoted in McCornack, <u>Oregon Geology</u>, viii.

importance of Condon's life and work.208 In the conclusion, Clark quotes from a letter written by university alumnus, Carey Martin of Salem, class of 1893. Writing in honor of Condon's seventy-fifth birthday, Martin salutes his former teacher as a prophet. He wrote that Condon had preached God in nature, in the rocks, in animal and vegetable life, and God as a pervasive force, an energy, a spirit that caused change, and developmental uplift. Condon had predicted then that it would require the orthodox fifty years to accept such views. However, in less than ten years, the conclusions of geology and biology had become widely accepted in the American church.²⁰⁹

Another student, summarized the importance of Condon's work in an indirect manner. Bernard C. Jakway, winner of the university oratorical contest of 1900, spoke on "The Revelation of Science;" he didn't mention Condon, but the theme was his. Jakway said, "In the story of the cosmos-the history of Nature, science reads the mighty purpose of the ever-living God." Priests, he said, "with minds fettered in the chains of out-worn creeds, have cried out that science would destroy religion." They had railed

²⁰⁸Robert D. Clark, <u>The Odyssey of Thomas Condon: Irish</u> <u>Immigrant, Frontier Missionary, Oregon Geologist</u> (Portland: Oregon Historical Society Press, 1989).

²⁰⁹Clark, <u>Odyssey of Condon</u>, 423.

against Copernicus, Galileo and, most recently, against Darwin. The conflict still continues, Jakway added, but "the best and wisest men began to find evolution a true comprehension of God's plan."²¹⁰

Condon came to the Western frontier to explain the mysteries of the universe to man. As a missionary, trained to interpret the universe as God's plan, Condon discovered seemingly conflicting evolutionary evidence in his fossils. Men such as Henry Cummins saw religion, if not God, refuted by science. However, for Condon, he managed to incorporate this new information into his religious framework; evolution was further proof of God's plan for the universe. Today, Condon's memory is kept alive by the Museum of Natural History of the University of Oregon in Eugene. Shortly after his death, the University purchased his large collection of rocks and fossils from his daughter, Ellen Condon McCornack. Condon's Eugene residence, relocated two miles, has been turned into a duplex. Sadly, it is in poor repair, and no plaque announces that a great scientist and teacher once lived there.

²¹⁰Clark, <u>Odyssey of Condon</u>, 423.

CHAPTER VI

CONCLUSION

Between 1860 and 1870, three Pacific Northwest pioneers, Henry Cummins, James Gilchrist Swan, and Thomas Condon joined the collector-correspondent network of Spencer Fullerton Baird, the Smithsonian's Assistant Secretary. These men had ventured west for practical reasons: Cummins, with his parents, to seek rich farmland, Swan, to discover wealth in the California goldfields, and Condon, to serve as minister to the new settlers. However, within a few years of their arrival, they had become collectors, working to study, classify, and exhibit natural and cultural artifacts for the American people.

Baird, a great collector and scientist in his own right, played the diplomat during the furor between "increase" and "diffusion" factions at the Smithsonian. Secretary, Joseph Henry, represented the group of older scientists who wished to keep the Institution devoted to research, while C.C. Jewett represented the younger scientists hoping for a national museum. Baird's tenure straddled both camps. However, the Civil War stirred up a popular democratic culture which brought soldiers and the public to the new National Museum. This situation firmly converted Secretary Henry to the goal of diffusion. Cummins, Swan and Condon each combined a romantic fascination for nature with a positivist faith in scientific method.

The three collectors utilized scientific discoveries either to supplement or to supplant religion. In an age when scientists experimented in order to explain the mysteries of the universe, many began to question the purpose of God. The publication of Charles Darwin's <u>Origin of Species</u> in 1857 upset many orthodox Christians, who feared that science would supplant The Supreme Being. Darwin, originally a geologist, had a profound effect on all three collectors.

Henry Cummins' flirtation with pseudoscience and science echoes the popular spirit of his era. Initially involved with Spiritualism, Cummins utilized it to explore the ill-defined boundaries of mid-nineteenth century science. He soon recognized limitations and hazards--Spiritualism at mid-century often degenerated into burlesque performances and Spiritualists were shunned by professionals. Next, Cummins formed his own "Christian Evidence Society," becoming an "Infidel"--an inquiring middle ground in his search for understanding. Ultimately,

he decided that his new religion would be science, with the "Pantheon of Science" its temple.

Cummins was a romantic infused with a populist spirit. The Pantheon was his effort to bring the new positivism to the people of the Far Western frontier. His studies and his collecting were eclectic, demonstrating a youthful, romantic vigor. Although the Pantheon of Science was only a brief venture for the youth (his correspondence with Baird was the briefest of the three collectors'), it anticipated the great role that museums and science would play in the next few years. Science remained important to Cummins during the rest of his life. After he left the frontier, he relocated to New York, where he built a business career based on applications of new scientific discoveries.

James Gilchrist Swan also had a romantic fascination with the Pacific Northwest. His fifty-year career, documenting the lives of the native Americans of the Pacific Northwest Coast (he wrote the first book from the region) applied Darwin's notion of survival of the fittest to ethnology. Recognizing that, like earlier animal species, entire races could become extinct, he communicated with Secretary Baird for over a quarter century, attempting to preserve the dying culture of the local Indians for the American people.

In Swan's era, collectors generally had to be content with gratuitous contributions to science. Yet despite great poverty, Swan sustained his research, ultimately gaining support for two great collecting expeditions. Toward the end of his life, he was recognized for his great museum contributions. President Hayes, General Sherman, the great ethnologist, Franz Boas and the historian Hubert Howe Bancroft were among his guests. Today, the thousands of items he sent to Baird from his 1876 and 1883 collecting journeys are carefully guarded Smithsonian treasures.

Thomas Condon came West as a missionary with his young bride. However, he soon took up pick and shovel to explore the local geological formations. Darwin's <u>Origin of Species</u> had a profound influence on the new science of geology and on religion. Like Henry Ward Beecher, Condon soon accepted Darwin's tenets of a changing natural world, seeing God s hand in the process. Theories of evolution helped geologists to better understand the formation of rocks and fossils. Previously, fossils had been regarded as nature's abortions, not once-flourishing species.

Discoverer of the John Day Fossil Beds, Condon built up a large collection of rocks and fossils. In order to learn more about his new field, he corresponded with Eastern scientists and, eventually, with Baird. After a few years, scientists, recognizing Condon's authority came west to

explore the region with him. In 1876, the newly-created University of Oregon demonstrated growing support for science and collecting by creating a professorship for Condon, a position he held for almost thirty years. At the University, Condon gained fame as a dedicated and fascinating teacher, taking students and townspeople on collecting expeditions and teaching additional classes at a summer institute at Nye Beach.

Cummins, Condon, and Swan took up collecting during the second half of the nineteenth century--an era in which museum directors sought to capitalize on the new popular culture. All three, infused with a romantic, positivist spirit, sought to transmit their new-found knowledge to the American people. Interestingly, unbeknownst to each other, their common vehicle was the Smithsonian Institution through its agent, Spencer Fullerton Baird.

All three pioneers had practical as well as idealistic motives for collecting. Cummins, a gregarious, highly intelligent youth, relished public adulation. Swan, a poverty-stricken outcast, looked to Baird for salaried positions or grants. Condon, a minister, first took up geology as a hobby, but it gradually became his professional career. However, the theme that links all three collectors is their wonderful, romantic fascination with natural

science and their great desire to document, collect, and exhibit their discoveries in the new American museum.

BIBLIOGRAPHY

Manuscripts

- Bancroft, Hubert H. "Olympia Club Conversations." Suzzalo Library, University of Washington, Seattle.
- Bancroft, Hubert H. "Washington Sketches: Statement of James G. Swan." Suzzalo Library, University of Washington, Seattle.
- Bean. "Family Papers." Special Collections, University of Oregon, Eugene.
- "Catalog of the Summer Education Association." Newport, August 2-31, 1987, Special Collections, University of Oregon, Eugene.
- Condon, Thomas. "Papers." Special Collections, University of Oregon, Eugene.
- Cummins, Henry. "Diaries." Special Collections, University of Oregon, Eugene.
- Cummins, Henry. "Papers." Special Collections, University of Oregon, Eugene.
- Kincaid, Harrison. "Sunshine and Shadow." Unpublished memoirs, University of Oregon, Eugene, 1915.
- Smith, Carl. "Collection." Special Collections, University of Oregon, Eugene.
- Swan, James G. "Correspondence with Spencer Fullerton Baird: 1860-1887." Suzzalo Library, University of Washington, Seattle.
- Swan, James G. "Diary of a Journey on the Government Steamer Otter, 1883." Suzzalo Library, University of Washington, Seattle.
- Swan, James G. "Diary of a Journey on the Steamer <u>Wolcott</u>, 1876." Suzzalo Library, University of Washington, Seattle.

Primary Materials

- Bancroft, Hubert H. <u>Literary Industries</u>, Vol. 39. San Francisco: History, 1890.
- Barnum, Phineas T. <u>Struggles and Triumphs, or Forty Years</u> <u>Recollections of P.T. Barnum Written By Himself</u>. Buffalo: Courier, 1875.
- Condon, Thomas. "A New Fossil Pinniped (Desmatophoca Oregonensis) from the Miocene of the Oregon Coast, " <u>University of Oregon Bulletin</u>, Supplement to Vol. III, No. 3., Dept. of Geology, May 1906, pp. 1-14.
- Condon, Thomas. <u>Preliminary Report of the State Geologist</u> <u>to the Legislative Assembly</u>. Oregon Congress: Eighth Regular Session. Salem: Oregon State Legislature, 1874.
- Condon, Thomas. "The Rocks of the John Day Valley." <u>Overland Monthly</u> (May 1871): 1ff(?)
- McCornack, Ellen C., ed. <u>Oregon Geology: A Revision of</u> <u>"The Two Islands of Thomas Condon</u>." Eugene: University of Oregon Press, 1910.
- Swan, James G. "The Haida Indians of Queen Charlotte Islands, British Columbia." <u>Smithsonian Contributions</u> <u>to Knowledge</u> 21, art. 4 (1874): iii.
- Swan, James G. "The Indians of Cape Flattery, at the Entrance to the Strait of Fuca, Washington Territory." <u>Smithsonian Contributions of Knowledge</u> 16, art. 8 (1869): xvi.
- Swan, James G. <u>The Northwest Coast: Three Years' Residence</u> <u>in Washington Territory</u>. Seattle: University of Washington Press; 1857, reprint, 1972.

Secondary Materials

- Clark, Robert D. <u>The Odyssey of Thomas Condon: Irish</u> <u>Immigrant, Frontier Missionary, Geologist</u>. Portland, Oregon: Oregon Historical Society Press, 1989.
- Cole, Douglas. <u>Captured Heritage: The Scramble for</u> <u>Northwest Coast Artifacts</u>. Seattle: University of Washington Press, 1985.

- Dall, William H. <u>Spencer Fullerton Baird: A Biography</u>. Philadelphia: Lippincott, 1915.
- Doig, Ivan. <u>Winter Brothers: A Season at the Edge of</u> <u>America</u>. New York: Harcourt Brace and Jovanovich, 1980.
- Easterwood, Thomas J. "Henry Cummins, Constant Reader." <u>The</u> <u>Call Number</u> (Fall 1961): 19-23.
- Harris, Neil. <u>Humbug: The Art of P.T. Barnum</u>. Boston: Little Brown, 1973.
- Hinsley, Curtis M. <u>Savages and Scientists: The Smithsonian</u> <u>Institution and the Development of American</u> <u>Anthropology, 1846–1910</u>. Washington, D.C.: Smithsonian, 1981.
- Huth, Hans. <u>Nature and the American: Three Centuries of</u> <u>Changing Attitudes</u>. Berkeley: University of California Press, 1957.
- Katz, Herbert, and Marjorie Katz. <u>Museums, U.S.A.: A</u> <u>History and Guide</u>. New York: Doubleday, 1985.
- Knuth, Priscilla. "Cavalry in the Indian Country, 1864." <u>Oregon Historical Quarterly</u> LXV (March 1964): 74-75.
- Lanham, Url. <u>The Bone Hunters</u>. New York: Columbia University Press, 1973.
- Lurie, Edward. Louis Agassiz: A Life In Science. Chicago: University of Chicago Press, 1960.
- Mason, Stephen R. <u>A History of the Sciences</u>. New York: Collier, 1956.
- McCornack, Ellen C. <u>Thomas Condon: Pioneer Geologist of</u> <u>Oregon</u>. Eugene: University of Oregon Press, 1928.
- McCullough, David. "The Man Who Rediscovered America." <u>Audubon</u> (September 1973): 51-63.
- McDonald, Lucille. <u>Swan Among the Indians: Life of James G.</u> <u>Swan, 1818-1900</u>. Portland: Binfords and Mort, 1972.
- McFeat, Tom. <u>Indians of the North Pacific Coast</u>. Ontario, Canada: Oxford University Press, 1966.

- McIntyre, Loren. "Pioneer of Modern Geography: Humboldt's Way." <u>National Geographic</u> 173, no. 9 (September 1985): 318-351.
- Moore, Lucia W., Nina W. McCormack, and Gladys W. McCready. <u>The Story of Eugene</u>. New York: Stratford House, 1949.
- Mitchell, Lee C. <u>Witness to a Vanishing America: The</u> <u>Nineteenth Century Response</u>. Princeton: Princeton University Press, 1981.
- Nash, Roderick. <u>Wilderness and the American Mind</u>. New Haven: Yale University Press, 1967.
- Orosz, Joel J. "Curators and Culture: An Interpretive History of the Museum Movement in America, 1773-1870." Ph.D. diss., Case Western Reserve University, 1986.
- Quimby, George I. "James Swan Among the Indians." <u>Pacific</u> <u>Northwest Quarterly</u> 61, no. 4 (October 1970): 212-216.
- Schneider, William. "Race and Empire: The Rise of Popular Ethnography in the Late Nineteenth Century." <u>Journal</u> of Popular Culture 11, no. 1 (Summer 1977): 98-109.
- Sellers, Charles C. <u>Mr. Peale's Museum: Charles Wilson</u> <u>Peale and the First Popular Museum of Natural Science</u> and Art. New York: Norton, 1980.
- The Smithsonian Institution. <u>The Smithsonian Experience:</u> <u>Science-History-The Arts</u>...<u>The Treasures of the</u> <u>Nation</u>. New York: Norton & Co., 1977.
- Somers, Dale A. "The Leisure Revolution: Recreation in the American City, 1820-1920." Journal of Popular Culture 5, no. 1 (Summer 1971): 125-147.
- Taylor, Alice Felt. <u>Freedom's Ferment: Phases of American</u> <u>Social History from the Colonial Period to the Outbreak</u> <u>of the Civil War</u>. New York: Harper and Row, 1944.
- Teakle, Thomas. "Thomas Condon: Oregon's Renowned Man of Geology." <u>Pacific Northwesterner</u> 13, no. 4 (Fall 1969): 49-55.
- Teakle, Thomas. "Thomas Condon: Oregon's World Renowned Man of Geology (Conclusion)." Pacific Northwesterner 14, no. 1 (Winter 1970): 12-16.

Washburn, Wilcomb. <u>A Cabinet of Curiosities: Five Episodes</u> <u>in the Evolution of American Museums</u>. Charlottesville: University Press of Virginia, 1967.

Werner, Martin. Barnum. New York: Harcourt, Brace, 1923.

Wortman, Robert. "Osteology of Patriofelis, a Middle Eocene Creodont." <u>Bulletin of the American Museum of Natural</u> <u>History</u> (May 1894): 13-16.