DOCTOR SAUGRAIN HELPED LEWIS AND CLARK

As the decades pass, interest in the Lewis and Clark Expedition increases. Every section of the country is ready to welcome the discovery of documents, inscriptions, or scraps of information. Family traditions of contacts have long proved favorite elements of elation or exploitation, such as that of Francis Rivet, an early settler in Oregon.[1]

Occasion has arisen for the discussion and possible establishment of one such family tradition of fascinating contacts with the leaders of the expedition in St. Louis during the period of preparation for the great adventure.

At the conclusion of a recent address before a convention of physicians and surgeons in Seattle, the speaker was approached by a local physician, P. V. von Phul, who produced a cherished clipping from a St. Louis newspaper praising the achievements of a pioneer physician and man of science, Dr. Antoine Francois Saugrain.

"Does that man mean anything to you?"

"Yes, indeed, he helped Lewis and Clark; but what does he mean to you?"

"He was my great-grandfather."

Here was opened an unexpected and most welcome opportunity of studying near at home one of those family traditions of early contacts with the Lewis and Clark Expedition. Doctor von Phul had saved two valuable pamphlets and a number of newspaper clippings about his distinguished ancestor. He kindly permitted photostat copies to be made for use in historical studies.

An early and widely read statement of Doctor Saugrain's helpfulness to Lewis and Clark was dramatically set forth by Mrs. Eva Emery Dye in her book, *The Conquest,* published by A. C. McClurg & Company in November, 1902. In Chapter V, "The Cession of St. Louis," she describes how the Doctor shocked his good wife by demanding their mirror for the glass and quicksilver with which to make thermometers and barometers for the use of the explorers. He also took sulphur-tipped splints of wood and dipped them into phosphorus. Mrs. Dye declares: "When all the world depended on flint and steel, Paris and Dr. Saugrain made matches. He made matches for Lewis and Clark that were struck on the Columbia a generation before Boston or London made use of the

1 Reuben Gold Thwaites, *Original Journals of the Lewis and Clark Expedition,* V, page 350, note, quoting Mrs. Eva Emery Dye as informant.

secret." A third item of helpfulness related to medicines, especially to kine-pox with which to combat smallpox raging among the Omahas and other tribes of Indians. Dr. Saugrain's amiability and sociability are also mentioned, as well as his ingenious experiments with electricity.

Here, then, are the elements of a laboratory man, an experimental scientist, a progressive and wide awake physician, whose biography is entitled to high esteem among those of other pioneers of the Mississippi Valley. If, in addition, Mrs. Dye's cordial and emphatic statements of helpfulness to the Lewis and Clark Expedition can be established, Dr. Saugrain's biography will be lifted into a place of respect and affection by all who are devoted to that great epoch of American history.

Mrs. Dye's *The Conquest* was a book of peculiar timeliness. Published in November, 1902, it preceded the centennial anniversaries of both the Louisiana Purchase and the Lewis and Clark Expedition. Great interest was aroused throughout the world in both those anniversaries by the Louisiana Purchase Centennial Exposition in St. Louis in 1904 and the Lewis and Clark Centennial Exposition in Portland, Oregon, in 1905. There followed also a distinct revival of published literature on both of those significant events in the development of the American Republic.

The two topics are closely related. The treaty for the cession of Louisiana by France to the United States was concluded in Paris on April 30, 1803. The historical background of that important diplomatic achievement is not yet completely deciphered. Professor Gilbert Chinard, of Johns Hopkins University, author of *Thomas Jefferson, The Apostle of Americanism* (1929), is at present working among the Jefferson papers in the Library of Congress and is finding unpublished materials about the Purchase of Louisiana.

The background of the Lewis and Clark Expedition is more completely established as an evolution in the brain of Thomas Jefferson, beginning with his letter to George Rogers Clark dated at Annapolis, December 4, 1783, and asking if he would like to explore from the Mississippi to California. Then followed his experience with the Yankee, John Ledyard, in Paris (1786), his suggestion that started Meriwether Lewis and Andre Michaux on a frontier journey in 1792 and his employment of Meriwether Lewis as his private secretary on becoming President in 1801. Then came his message to Congress dated January 18, 1803, asking for "an intelligent officer, with ten or twelve chosen men" and $2500 to pay expenses for an exploration of the Indian country to the

"Western Ocean."[2] Captain Meriwether Lewis asked for and obtained command and, later, Lieutenant William Clark was persuaded to share in the leadership.

Lewis arrived at Wood River, or River Dubois, near St. Louis and went into camp on December 12, 1803. Five months elapsed before the Expedition got under way. In one sense the negotiations after the Louisiana Purchase caused that delay. It is true that Lewis wrote in his diary on September 8, 1803, discussing Clark's rank after consenting to accompany him, that he expected to winter in the Illinois and would hear from the President "by the spring of the year or before the Missourie would be sufficiently open to admit of my ascending it."[3]

That recorded purpose does not wholly explain the five-months pause near St. Louis. The first entry of the great Journals says: "Their original intention was to pass the winter at La Charrette, the highest settlement on the Missouri. But the Spanish commandant of the province, not having received an official account of its transfer to the United States, was obliged by the general policy of his government to prevent strangers from passing through the Spanish territory. They therefore encamped at the mouth of Wood river, on the eastern side of the Mississippi, out of his jurisdiction, where they passed the winter in disciplining the men and making the necessary preparations for setting out early in the Spring, before which the cession was officially announced."[4]

The Louisiana Purchase was first divided into the "District of New Orleans" and the "District of Louisiana," the latter being sometimes referred to as "Upper Louisiana." The official transfer of this upper portion was made to Captain Amos Stoddard at St. Louis on March 9 and 10, 1804. Captain Meriwether Lewis was present and it is said that his name is affixed as a witness to the document of transfer.[5]

Further evidence of the activities of Lewis and Clark in St. Louis during those five months is shown by a study of that "disciplining the men." There are saved a number of "detachment orders," signed by one leader or the other placing command in the hands of Sergeant John Ordway "during the absence of the commanding officers in St. Louis."[6]

2 Richardson, *Messages and Papers of the Presidents*, I, pages 352-354.
3 Miles M. Quaife, editor, *The Journals of Captain Meriweather Lewis and Sergeant John Ordway, Kept on the Expedition of Western Exploration*, 1803-1806, State Historical Society of Wisconsin Collections, XXII (1916), pages 39-40.
4 The original edition of 1814, edited by Nicholas Biddle and finished by Paul Allen whose name is on the title page, as republished by McClurg in 1902, with James K. Hosmer as editor and by Barnes in 1904, with John Bach McMasters as editor.
5 Elliott Coues, editor, *History of the Expedition Under the Command of Lewis and Clark* (Francis P. Harper, 1893), I, page xxxiv, note.
6 Thwaites, *op. cit.*, I, pages 8-14.

Mrs. Dye, in *The Conquest,* gives a graphic picture of curses and tears when the Spanish flag was lowered and the French flag was flown a day and a night before those ceremonies of March 9-10, 1804, were concluded by permanent salutes to the Stars and Stripes.[7]

With a general knowledge of the abundant literature on the subject, it was deemed an easy task, in the summer of 1931, when Dr. P. V. von Phul revived an interest in the case, to trace the facts of Dr. Saugrain's efforts to aid the Lewis and Clark Epxedition. Such has has not proved to be the truth. In would undoubtedly be different if either Lewis or Clark had kept a diary for those five months. Mr. Milo M. Quaife, while preparing to publish Sergeant Ordway's diary, discovered the diary of Captain Lewis covering the trip from Pittsburgh down the Ohio and up the Mississippi to St. Louis, August 30 to December 12, 1803. This diary he publishes in full, adding "With the entry for December 12 the narrative journal of the preliminary expedition to this point closes. Apparently no journal was kept during the five months' stay at the camp on River Dubois. The journals of the expedition proper begin with the departure from this camp in May, 1804."[8]

There is no mention of Dr. Saugrain in the *History of the Lewis and Clark Expedition* edited by Elliott Coues (1893). That is one of the very best editions of the Lewis and Clark journals. In checking the main lines of the Saugrain helpfulness, it was found that the matches are not mentioned although the journals relate two instances of Indians' obtaining fire by friction (pages 564 and 574). Kine-pox and vaccine are omitted, but on page 75 there is mention of the devastation by smallpox among the Omahas. Dr. Saugrain's thermometers and barometers are without record and yet there are thermometrical observations in the Coues edition and in nearly every other edition of the Lewis and Clark journals.

In 1918, light was thrown on one phase of the thermometrical observations. The tables of such observations apeared in the 1814 Biddle or Allen edition with an explanatory footnote, which has been repeated in almost every subsequent edition always following the date of May 14, 1804. That persistent footnote is as follows:

"Here is a hiatus in the MS., which is not in our power to fill up, viz., from the 14th of May to the 19th of Sept. The party were then just beginning the ascent of the Missouri, and it is prob-

7 *The Conquest,* pages 164-5.
8 Quaife, *op. cit.,* page 76, note.

able that, among the many other important things which engrossed their attention, this was omitted."[9]

The footnote was not repeated by Thwaites in the *Original Journals* (1904-1905) but he substituted a brief one of his own at the same date of May 14, 1804, as follows:

"The diary for May is found in the same places as that of April. For some unexplained reason no notations were kept after leaving River Dubois, until September 19, 1804."[10]

The light of 1918, mentioned above, is found in the *Department of History Collections of South Dakota,* Volume IX, where Doane Robinson gives (pages 514 to 596) the record of "Lewis and Clark in South Dakota." When writing the record of Sunday, September 16, 1804, he says: "In overhauling the goods they came upon the thermometer, which had been hidden since the 14th of May, the day they started up the stream, and thereafter the temperature was recorded twice daily."[11] Mr. Robinson says more about the thermometer as will be shown later.

His statement about the rest in camp and the overhauling of baggage is verified by the diary enteries of the leaders. None of them, however, mention finding the thermometer. The latest journal to be published, that of Sergeant John Ordway, tells about the rest, about hunting, and the rearrangement of baggage on those days, Sunday and Monday, September 16 and 17, 1804, but says nothing about the thermometer The twice daily temperature entries in the meteorological tables, which ended on the day of the expedition's start up the Missouri, May 14, were resumed on September 19, without any mention or explanation in the official journals. The entries in the tables are continued each day until September 6, 1805, when they cease although the tables continue with entries for wind and weather for the rest of the journey. A curt but sufficient explanation is found in the "Remarks" accompanying the meteoroligical entry for September 6th as follows:

"6th. *Thermometer* broke by the Box striking against a tree in the Rocky mountains."[12]

The singular form of the word and the italics are significant for this study of the sources to show Dr. Saugrain's participation in the expedition. They evidently had but one thermometer and when that was broken their recording of temperatures ceased.

It is far from the present purpose to offer any suggestion that

9 Repeated as "(Orig. note.)" in Coues, *op. cit.*, page 1267.
10 Thwaites, *op. cit.*, VI, page 173.
11 Doane Robinson, *South Dakota History Collections,* IX, page 557.
12 Thwaites, *op. cit.*, VI, page 197.

Dr. Saugrain invented the thermometer. Almost any encyclopedia will give the information that Galileo began measuring temperatures in 1592 by a tube filled with air and the bulb thrust in water and that mercury was used for such measurements as early as 1670. Fahrenheit's scale of measuring was invented in 1721, followed by Reaumur and Celsius, with their additions leading to the centigrade scale. The instrument was therefore well known by the winter of 1803-1804. President Jefferson was aware of the usefulness of the instrument. He made a draught of instructions for Captain Lewis in April, 1803, and on June 20th the document was signed. Among the "Other objects worthy of notice" is found the following: "Climate, as characterized by the thermometer,"[13] wind, weather, etc. In compiling the estimate of expenses that made up the $2500 requested from Congress by President Jefferson, Captain Lewis set down as the first item, "Mathematical Instruments, $217."[14] It does not appear that a thermometer was to have been included among those instruments.

As is well known, the journal kept by Sergeant Patrick Gass was published in Pittsburgh by David McKeehan in 1807. It was the first of the journals to be published but it is silent about the helpfulness of Dr. Saugrain and does not mention the thermometer, matches or kine-pox. He tells about the rest in camp on September 17th, 1804, when the thermometer was found in the baggage and restored to use, but that fact is not mentioned. The present search included the third edition, 1811, and the beautiful reprint edited by James Kendall Hosmer, 1904.

These smaller items should be mentioned. Although they throw no light on Dr. Saugrain or his thermometer, they reveal the wealth of the original sources. Dr. Elliott Coues read before the American Philosophical Society on January 20, 1893, a paper on the original manuscripts of the expedition which were uncovered as his own work was being printed. He gives a detailed classification of the books and papers.[15] Similarly Dr. Reuben Gold Thwaites gave before the American Historical Association in 1903 a paper entitled "The Story of Lewis and Clark's Journals" in which he reviewed the older works and told of the newer materials discovered for his projected edition of the original journals.[16] Professor Frederick J. Taggart, while serving as Curator of the Acad-

13 Coues, *op. cit.*, I, page xxviii.
14 Thwaites, *op. cit.*, VII, page 210.
15 *Proceedings of the American Philosophical Society*, XXXI, reproduction in separates March 7, 1893.
16 *Annual Report of the American Historical Association* for the year 1903, pages 105-129, reprinted in separates, 1904.

emy of Pacific Coast History, University of California, gave before the Pacific Coast Branch of the American Historical Association (1908), a paper entitled "Notes Supplementary to Any Edition of Lewis and Clark." With much care and research, he shows how others had traversed the first portion of the great journey prior to the work of Lewis and Clark.[17] Dr. Saugrain gets the briefest possible mention in the *Original Journals.* Clark, whose journal for that date was not used by Biddle or Coues, writes on Sunday, May 20th, 1804, that Captain Lewis arrived in camp accompanied by "Several Gentlemen of St. Louis." Among these he included without comment "Dr. Sodrang." Editor Thwaites in a footnote says: "Dr. Antoine Francois Saugrain (the 'Sodrang' of Clark) was a French chemist and mineralogist, who had made several voyages to America, for scientific purposes, from 1784 to 1788. In 1790, he was one of the French colonists who settled at Gallipolis, O., and finally located with his family at St. Louis where he practised medicine until his death in 1820. See W. V. Byars's *Memoir* of Saugrain's life (St. Louis, 1903)."[18] That *Memoir* was published by Benj. von Phul, uncle of the Seattle physician from whom a photostat copy has been obtained. It will be discussed later.

The *Original Journals* also mention kine-pox, but before the explorers arrived in St. Louis. President Jefferson's instructions include the suggestion that Captain Lewis use it among the Indians "Wherever you winter," and Captain Lewis, writing from Cincinnati on October 3, 1803, requests President Jefferson to send him a fresh supply, saying: "I would thank you to forward me some of the Vaxcine matter, as I have reason to believe from several experiments made with what I have, that it has lost its virtue."[19]

As shown above, Mrs. Dye in her book, *The Conquest,* gives a graphic and substantial account of Dr. Saugrain's helping the expedition with a thermometer and with matches which he made and with a supply of kine-pox and medicines. Her book was published in 1902, two years before Dodd, Mead & Company published the first volume of the *Original Journals.* It is difficult to understand why Editor Thwaites omits the tribute by the former author to Dr. Saugrain. He gives Mrs. Dye herself much credit. The present writer remembers an interview with Mr. Thwaites in the summer of 1901 when he told about Mrs. Dye's enthusiastic researches in the library of the State Historical Society of Wisconsin. Among his later tributes to Mrs. Dye he says: "Mrs. Eva Emery Dye, of

17 *Annual Report of the American Historical Association* for 1908, I, pages 183-195.
18 Thwaites, *op. cit.*, I, page 22.
19 *Ibid*, VII, pages 250 and 278.

Oregon City, Oregon, has contributed most liberally from the surprisingly rich story of historical materials which, with remarkable enterprise and perseverance, she accumulated during her preparation for the writing of *The Conquest;* her persistent helpfulness has laid the Editor under unusual obligations."[20] Other mentions of her helpfulness are in the form of footnotes throughout five of the seven volumes. One item is a complete letter written by William Clark on May 21, 1804, to his brother-in-law Major William Croghan. It was furnished by Mrs. Dye. Probably the secret reason for Editor Thwaites's omission of Mrs. Dye's beautiful statement of Dr. Saugrain's helpfulness at St. Louis is revealed in his "Bibligraphical Data," where he ends the full statement of *The Conquest* with these words: "Historical fiction with considerable antiquarian detail."

Doane Robinson repeats the tribute to Dr. Saugrain and his thermometer in his "Lewis and Clark in South Dakota." In the entry for Sunday, September 16, 1804, after telling about finding the thermometer and putting it in use again, as mentioned above, he says: "This instrument had an interesting history. When they arrived in St. Louis they found there Dr. Saugrin, a French scientist of note, who was a refugee in America from the terrors of the Revolution. He convinced the captains of the necessity of having a thermometer in their kits, but there was not a single one in the Mississippi Valley. Madame Saugrin possessed among a few articles she was able to bring from France, where they had lived in luxury before the Revolution, a French plate mirror, which was the joy of her heart, but she heroically consented to sacrifice it in the interest of science. Dr. Saugrin carefully scraped the quicksilver from the back of the mirror, melted up the glass to make the stem of the thermometer and putting the quicksilver into it and graduating it by careful tests, determined from the freezing point and normal human temperature. Judging by known temperatures of this period the instrument seems to have been fairly accurate."[21]

Mr. Robinson does not cite his authority for that statement. In a prefatory note he cites generally Thwaites, Coues, Wheeler, Hosmer, and Gass. We have shown that none of those give this information. While this present search was in progress, the surmise that he must have used Mrs. Dye's book was confirmed by Mr. Robinson in a letter dated at Pierre, South Dakota, August 28, 1931, in

20 *Ibid,* page lix; for the other tributes to Mrs. Dye see I, page xcii; III, page 178; IV, page 215; V, page 350; VII, page 301.

21 Doane Robinson, *op. cit.,* pages 557-558. The misspelled "Saugrin" for Saugrain promised a source independent of Mrs. Dye's *The Conquest.*

which he says: "I got the Dr. Saugrain thermometer story from Mrs. Dye's *The Conquest.* This she confirmed to me by letter. In fact there is not much in the book that is not pretty good history, though stories are frequently lifted out of their relation to other events." With that statement, it would seem that, in the extensive Lewis and Clark literature, the interesting story of Dr. Saugrain and his home-made thermometer depends upon Mrs. Dye's book, *The Conquest.*

In that book she also relates, to Dr. Saugrain's credit, stories about his making phosphorus matches for the explorers and about his furnishing them supplies of kine-pox and medicines. Mr. Robinson did not repeat these stories nor are the items mentioned by the editors of those editions of the journals published after the appearance of Mrs. Dye's book.

However, in the same volume with his tribute to Dr. Saugrain, Mr. Robinson (accepted authority on South Dakota history) edits an article about Fort Tecumseh and Fort Pierre and under a record of September 24, 1831, supplies a note mentioning early vaccination as follows: "So far as I know, Dr. Martin was the first physician to practice in South Dakota. He was in the employ of the government and it is notable that at this early date a benevolent government had undertaken to eradicate small pox from these remote savages."[22] That note for a record of 1831 seems to preclude the probability that Lewis and Clark used kine-pox in 1804. Furthermore, no one undertakes to rate Captain Lewis as a physician and yet it should be noted that he acted as such on at least five occasions. On July 4, 1804, one of the men was bitten by a snake, "a poultrice of bark and gunpowder was sufficient to cure the wound." Three days later: "One man very sick, Struck with the Sun, Capt. Lewis bled him & gave Niter which revived him much." With peculiar spelling, Lieutenant Clark records for October 22, 1804, that about midnight he was attacked by rheumatism in the neck and got "temporey" ease when Captain Lewis applied a hot stone wrapped in flannel. Clark's record of December 21, 1804, relates that an Indian woman brought a child with an abscess on the lower part of the back "and offered as much Corn as she Could Carry for some Medison, Capt. Lewis administered &c." Private Joseph Whitehouse's journal for January 9, 1805, states that one of the native hunters gave out and was left behind. "His feet was froze verry bad. They got him to out fort. Capt. Lewis doctored him."[23] All

22 *Ibid,* page 161.
23 Thwaites, *op. cit.,* I, pages 66, 70, 202, 239; VII, page 74.

this gives scant hints of medicines furnished by Dr. Saugrain and no hint at all about the kine-pox.

One important source cited by Editors Coues, Thwaites, and other workers in the Lewis and Clark field is Frederic L. Billon's *Annals of St. Louis.* The frontispiece is a portrait of the author at the age of 45, "taken at Philadelphia, 1846." This shows that he had attained the age of 87 years when his book was "Printed for the Author, 1888." After his name on the title-page is the line "A Resident of St. Louis, Exceeding Seventy Years." He had formerly published a work *The Annals of the French and Spanish Period* of which this later book is a continuation. *The Annals of St. Louis* is evidently a rare book. The St. Louis Public Library made their copy available for the present study through an inter-library loan.

The hope proved vain that this book would throw a flood of light on the story of Dr. Saugrain's thermometer, matches and kine-pox for the Lewis and Clark Expedition. There is a reference (page 112) to Dr. Saugrain's notice of May 26, 1809, that he was ready to vaccinate indigent persons gratuitously but no mention is made of his hobbies in science. In biographical items about others may be traced the marriages of the Saugrain daughters, including that of Rosalie to Henry von Phul on June 10, 1816 (page 265). a beautiful bit of evidence that Dr. Saugrain was popular is found on page 190 where it is recorded that Antoine Michau named his eldest son, born in 1814, Saugrain Michau. It is also known that John Hamilton Robinson named his third son Anthony Saugrain Robinson in 1810.

The book contains many references to Captain Meriwether Lewis and Lieutenant William Clark. There is a brief biography of each (pages 374 to 381) without referring to their relations to Dr. Saugrain. Most of the other items refer to their careers in St. Louis after the completion of their great exploration. It it well known that each filled the office of Territorial Governor and that Clark, who survived the longer period held other offices, notably in the Indian Service.

In this effort to establish a record of Dr. Saugrain's helpfulness to the explorers, having shown the almost unique importance of Mrs. Dye's book, it is well here to discuss briefly its validity. The present writer remembers vividly a conversation with the author soon after her book was published. She said: "There is not a footnote in my book. I have not written a history but a story to be read and enjoyed." That absence of citations to her authorities is

undoubtedly the main reason why her book was not taken more seriously by the subsequent writers in the Lewis and Clark field. When the City of Portland was the center of Lewis and Clark interest during the Centennial Exposition in 1905, Mrs. Dye's book was much discussed. The newspapers then announced that she had deposited with the Oregon Historical Society documents to prove the authenticity of every important statement in *The Conquest.*

The nearest approach made by Mrs. Dye to the technique and standards of the historian was her "Note of Acknowledgment," dated, Oregon City, Oregon, September 1, 1902," and published in the first edition of her book. There she acknowledged help from relatives of the explorers, from libraries, from the original journals of Lewis and Clark which Mr. Thwaites is now editing," and also from "the descendants of Dr. Saugrain." Taking those statements into account and supposing the newspaper item of 1905 was correct, an appeal was sent to Mrs. Dye for definite citations as to the sources of the Dr. Saugrain stories of the home-made thermometer and matches. Her prompt and gracious reply, dated at Oregon City, August 25, 1931, includes the following:

"No, I never filed with the Oregon Historical Society documents to prove every important historical statement in that book, it would have been impossible, too voluminous, for I went through so much material in so many collections, in many libraries, &c. In regard to the Saugrain matter, that was found in the libraries and historical collections of St. Louis, and in newspaper accounts of Dr. Saugrain. He was a very important and interesting scientist as you know, and I utilized every incident bearing upon my story. An inquiry similar to yours came to me from some college in Kentucky, but I never knew whether the writer went to St. Louis to investigate."

Her modest but positive denial of filing documents of proof with the Oregon Historical Society is false to a degree as yet only partially determined. Still believing that the newspaper item of 1905 had some basis in fact, an appeal was sent to George H. Himes, the venerable and beloved Curator of the Oregon Historical Socity. His characteristically helpful reply, dated at Portland, September 9, 1931, establishes some truth for the old newspaper items. Among other statements, his letter includes the following:

"Fully thirty years ago, when I was Mrs. Dye's guest and learned that she was planning for literary work, particularly that phase of it relating to the sentimental or story side of it in Oregon —as a matter of fact she had already begun her first work—I said:

'Doubtless you will have a good deal of correspondence as you go on with it, and I hope you save it for the Oregon Historical Society. It will have served your purpose in the prosecution of the special line you have decided to follow and will be of great value to others, later, who will choose to work along strictly historical lines.'

"She thanked me for the suggestion and saved many letters. At length, possibly ten years later, she said to me: 'Following your suggestion, there is a box of letters for you to take.' I took the box, and possibly another box some time later. At any rate, I know that in all there is probably 800 letters, all in a box or boxes, but, so far as I know, not arranged for examination."

An appeal was then sent to Miss Nellie B. Pipes, Librarian of the Oregon Historical Society in an endeavor to check the possibilities of source information in that collection of letters. Under date of September 23, 1931, Miss Irene Upson, Assistant Secretary, writes as follows:

"Miss Pipes is on her vacation and you letter has come to me. The Dye materials are arranged for consultation and quite completely indexed, but apparently they contain no reference to Dr. Saugrain, his thermometer, matches, etc. When I failed to find his name in the index, I telephoned Miss Pipes, who is still in the city, and she says she remembered no mention of Dr. Saugrain. I am afraid Mrs. Dye neglected to deposit the substantiation of this point with us."

The Kentuckian, mentioned in Mrs. Dye's letter, may have gone to St. Louis to investigate, but the present writer cannot do so. In lieu of such a desirable opportunity, dependence must be placed upon the St. Louis clippings and pamphlets saved by Dr. Saugrain's great-grandson, Dr. P. V. von Phul of Seattle.

The Sunday issue of the St. Louis *Republic* of March 24, 1895, carried an illustrated article of four columns headed "An Important Early Settler." It is devoted to Dr. Antoine Francois Saugrain. One illustration is his portrait and another is a picture of his escape from death at the hands of Indians. Here are gathered from surviving members of the family paragraphs showing how the Doctor left Paris as a Royalist refguee from the French Revolution. He bore a letter from M. Le Veillard to Benjamin Franklin. For that great American, Dr. Saugrain cherished a memory of kindliness and inspiring helpfulness. Dr. Saugrain was the first postmaster of Sa. Louis, receiving the mail in a large, blue cotton handkerchief. Although Lewis and Clark are not mentioned one significant item in this *Republic* clipping is worth repeating

here: "The first Lucifer matches that were ever made in this country were made by Dr. Saugrain. These matches were made by dipping them, one at a time, in a bottle of combustible substance, and were ignited by friction, as the matches of today are. He also made the first thermometers that were used." The reader may find in almost any encyclopedia some such statement as this: "The first really practical friction matches were made in England in 1827 by John Walker, a druggist of Stockton-on-tees." Since this date is seven years after Dr. Saugrain's death, the evidence adds to the claim that he was an experimental scientist well ahead of his times.

Evidently the people of St. Louis are appreciative and rather proud of the career of Dr. Saugrain but the authentic records of it have suffered as have those of many other pioneers. He was born in Paris in 1763, and died in St. Louis in 1820. The span of his years covered the American Revolution, the French Revolution, the Purchase of Louisiana, the Lewis and Clark Expedition and the Purchase of Florida. Great changes, great expansions! Newspapers were small and not numerous, especially in the Mississippi Valley at the beginning of the Nineteenth Century. Moreover, Dr. Saugrain was not a diarist. Written or published records of his achievements are scarce. Fortunately there is a rich heritage of family tradition. He was blessed with six children. One of his two sons and one of his four daughters approached closely their hundredth birthdays. One of the daughters who assisted the Doctor with his experiments in chemistry and electricity cherished his remark: "We are working in the dark, my child. I only know enough to know that I know nothing."

These family traditions were used by William Vincent Byars who gleaned also from early newspapers and gathered up the known written documents to form a pamphlet that was published in St. Louis in 1903 by Benj. von Phul. The title of the pamphlet is *A Memoir of the Life and Work of Doctor Antoine Francois Saugrain.* In the upper left corner of the title page is printed: "The First Scientist of the Mississippi Valley." This, in turn, has served as a source for other writings, notably by N. P. Dandridge, M.D., of Cincinnati, in his Presidential Address before the American Surgical Association at the meeting in St. Louis, in July, 1904. His address was also published in pamphlet form.

Both pamphlets were published after the appearance of Mrs. Dye's *The Conquest* and yet the compilers apparently were unwilling to accept the results of her researches. Dr. Dandridge does not mention the Lewis and Clark Expedition and Mr. Byars makes one

brief, equivocal reference. It is on page 14 of his pamphlet as follows: "It is said that he supplied thermometers and other scientific apparatus as well as the medicines to the Lewis and Clark Expedition." This is disappointing for the present needs, but, except for the lack of a Lewis and Clark chapter, the two pamphlets establish a valuable biography for Dr. Saugrain.

The family is traced back to the beginning of the Sixteenth Century in France. There is a Saugrain memorial tablet in Paris bearing the date of 1518. They were librarians and booksellers and booksellers were important in those times. They often hired authors to write books for them. Franklin's famous experiment in electricity with his kite in 1752 set Europe agog during the intellectual conflict between "philosophy" and "mysticism." Antoine Francois Saugrain was born on February 17, 1763. It is not known whether the school boy met Franklin in Paris but letters have been saved showing that the great American became a friend later. The Saugrain family still possess the Nini terra cotta medallion of Franklin of 1777 presented to Dr. Saugrain by Franklin during a visit in his Philadelphia home in 1788.

One other biographical item was not greatly relished by the older Saugrain family. One of their daughters, Marie Louise Saugrain, became the wife of Dr. Joseph Ignace Guillotin, whose efforts to contrive a painless form of death for condemned criminals resulted in his name being used for the odious guillotine.

Dr. Saugrain made three trips from France to America. The first one "in his twenty-first year" under Spanish auspices is only vaguely known through scant references during the second journey, 1788. This was with the Franch botanist Pique, who was sent to the Ohio River region to study its natural history. Dr. Saugrain kept a brief diary of this trip. It has been saved as a precious document starting at Pittsburgh, March 19, and closing with a return to Franklin's home in Philadelphia, July 20, 1788. Botanist Pique was killed by the Indians and Dr. Saugrain had had a narrow escape. His third, and last, trip to America was in connection with the project of founding Gallipolis, Ohio. His passport to leave France has been saved. It is dated April 27, 1790. Gallipolis was not a success, but Dr. Saugrain became noted throughout the settlements of Kentucky and Ohio for his scientific knowledge. Seven years after his death, the Cincinnati *Saturday Evening Chronicle,* of July 14, 1827, published an article saying:

"Dr. Saugrain acquired a great reputation among the inhabitants of Kenawha by his success in inoculation for the small-pox,

and many flocked to Gallipolis to be cured He had, besides, many other resources. He had brought with him a quantity of phosphorus, glass tubes and quicksilver. With the first he made phosphoric lights, which he sold to the hunters. With the other articles, he made aerometers and barometers. He blew his glass in the winter; a friend graduated the instruments. All these objects were disposed of by wholesale for Kentucky and elsewhere or at retail to the traders and others who came from different parts to visit the colony. Saugrain married at Gallipolis a very young and amiable member of a family which had come with him. He always shared his means with the rest."[24]

He removed from Gallipolis to Lexington, Kentucky, to aid a society that was starting an iron works. After six years he moved (1800) to St. Louis, which was to be his home for the rest of his life. He built a stone house which became a center of science and hospitality.

Chemistry and electricity were his hobbies while medicine was his business or vocation. The *Missouri Gazette* for May 26, 1809, has the following item: 'Dr. Saugrain gives notice of the first vaccine matter brought to St. Louis. Indigent persons vaccinated gratuitously."[25] Soon after his arrival in St. Louis he was appointed physician of the garrison by the Spanish Commandant. This recognition of his skill was again recognized after the Louisiana Purchase when, in 1806, President Jefferson appointed Dr. Saugrain a surgeon in the American army.[26] One playful use of the electricity hobby is thus recorded: "On one occasion some Indians came to see him at work. The doctor placed a gold piece on a metallic plate and told the chief that he might have it if he could pick it up. He received a severe electric shock and ran howling away. The doctor, to their astonishment, then picked it up and put it in his pocket."[27]

The Indian experiences were not always so pleasant. The daughter, Mrs. Marie Saugrain Kennerly, died in St. Louis in 1893 at the advanced age of 94 years. She felt that she had never fully recovered from a childhood shock of seeing an Indian remove the scalp of a victim killed near the Saugrain residence.[28]

St. Louis was at that time a frontier settlement. A quaint and effective statement of this fact is the last entry (Tuesday,

24 Quoted by W. V. Byars in his pamphlet, *The First Scientist in the Mississippi Valley*, pages 14-15.
25 Dr. N. P. Dandridge, pamphlet edition of his American Surgical Association, *Presidential Address* of 1904, page 16.
26 *Ibid*, page 16.
27 *Ibid*, page 16.
28 Byars, *op. cit.*, page 17.

Sepember 23, 1806) in the Lewis and Clark Journals on the return from the great adventure: "descended to the Mississippi and round to St. Louis, where we arrived at twelve o'clock, and having fired a salute, went on shore and received the heartiest and most hospitable welcome from the whole village."[29]

There is no doubt of Dr. Saugrain's stone house being an attractive and important portion of that frontier village of St. Louis. There is abundant evidence that his experiments with electricty and chemistry, as well as his practice of medicine, made him a well known character before that Lewis and Clark winter of 1803-1804. It is also established that both Lewis and Clark spent much of their time during that winter in St. Louis. It is inconceivable that Captain Lewis was not familiar with Dr. Saugrain's hobbies and vocation or that he was not frequently welcomed in the Doctor's home and laboratory. In his Memoir of Captain Lewis [1813], Jefferson tells of the trip to Philadelphia for studies of astronomy and natural history and of the trips to Lancaster to supervise the making of firearms, adding, "he had the benefit of daily communication with Mr. Andrew Ellicot, whose experience in astronomical observation, and practice of it in the woods, enabled him to apprise Captain Lewis of the wants and difficulties he would encounter, and of the substitutes and resources offered by a woodland and uninhabited country."[30] Surely, after such experience in preparation, Captain Lewis would not overlook a man of Dr. Saugrain's capacity and willingness to help.

Dr. P. V. von Phul has a clear memory of the family traditions. He says the well known and interesting story, *The Rose of Old St. Louis,* by M. Dillon, published by The Century Company, had as heroine Rosalie Saugrain von Phul, and that she was the daughter of Dr. Antoine Francois Saugrain instead of "ward" as set forth in the story. He has boyhood memories of the last years of his famous grandmother.

When the present researches encountered so many difficulties through the absence of dependable source materials, Doctor von Phul agreed to appeal to his father, Philip von Phul, still living in St. Louis at the advanced age of eighty-seven years. This resulted in the receipt of a letter, a telegram and a folder of type-written extracts from printed records. In the telegram, the elder von Phul says: *"The Life of Doctor Saugrain* says he made thermometers and matches for Lewis and Clark Expedition. Fox of Ohio Uni-

29 James K. Hosmer, editor, *The Expedition of Lewis and Clark,* 1904, II, page 461.
30 *Ibid,* I, xlvi.

versity accepted this account and wrote it in *History of Scientists of Mississippi Valley.*" In a letter, he says: "My mother [Rosalie Saugrain von Phul] told me all about her father and what he did for the Lewis and Clark Expedition. Unfortunately Byars's sketch says 'It is said.' Now put the following down as correct: Dr. Saugrain made what was called lucifer matches for the Lewis and Clark Expedition, also thermometers and medicine. Your great grandfather and your grandmother put up the medicines for the Lewis and Clark Expedition."

The printed material sent consists of another copy of William Vincent Byars's *Memoir of Doctor Saugrain* already studied, and the folder of typewritten extracts from various records. This is the property of Elise Waddell, granddaughter of Frederick Saugrain, and great granddaughter of the famous old Doctor Saugrain. The additional materials in these extracts are similar to those already mentioned. They are based almost entirely upon family traditions.

Readers, who have been patient enough to follow thus far, will probably be willing to accept as final the following four conclusions about Dr. Antoine Francois Saugrain:

First—that he was an interesting man and a pioneer among scientists in the Ohio and Mississippi Valleys.

Second—that his hobbies of chemistry and electricity were attractive to the pioneers and Indians and must have been especially so to such a man as Captain Meriwether Lewis who was near him from December 12, 1803, to May 20, 1804.

Third—that family traditions, abundant and persistent through three generations, must be largely depended upon in lieu of the scant written or printed contemporaneous records.

Fourth—that Doctor Saugrain did supply the Lewis and Clark Expedition with a home-made thermometer, some experimental lucifer matches and packages of medicines.

EDMOND S. MEANY