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MEDICINE IN TERRITORIAL ARIZONA

by

Frances E. Quebbeman

A Dissertation Submitted to the Faculty of the
DEPARTMENT OF HISTORY
In Partial Fulfillment of the Requirements
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1966
STATEMENT BY AUTHOR

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PREFACE

Medicine and surgery in the early communities of the Far West arouses some interesting speculation for the student of history. The Arizona mining frontier, especially, where innumerable scouts against the hostile Indians and the brawls and gunfights in rugged mining camps provided the surgeon with a wide range of clinical experience. The frontier doctor, more often the subject of fictional rather than factual study, stirs the imagination of the researcher as well. What manner of physician and surgeon would come to these remote communities, and why? Did the doctor have more pretensions to his title than professional qualifications?

The study of medical and surgical practices and the early day physician in Arizona during the territorial years has attracted the attention of a number of later day physicians. As long as fifty years ago, Dr. Orville Harry Brown became interested in the subject and began to collect some information on the territorial physician. Doctor Brown, coming to Phoenix from his native Kansas in 1916, began this collection of material along with his busy practice as a physician. The doctor also authored numerous papers on professional subjects and served as editor of Southwestern Medicine during his active professional career. He enlisted
the aid of Dr. William V. Whitmore, Tucson physician and a territorial physician as well during the latter two decades of that period. Doctor Whitmore compiled biographical sketches of physicians that he remembered, and wrote several articles on the practice of medicine and surgery as he had observed it.

The collection of personal and professional material, started by Doctor Brown, has continued to the present day under the aegis of the Arizona Medical Association. Physicians coming to Arizona during the later territorial years who have added their fund of knowledge to the store of material on early medicine include Drs. Nelson Bledsoe, Mead Clyne, and Van Smelker of Tucson, Dr. Roy Knotts of Yuma, and Dr. Emile C. Houle of Phoenix. Several second-generation members of territorial medical families who contributed to the collection of professional papers written and other memorabilia include Dr. Clarence E. Yount of Prescott, Dr. Zeneas Noon of Nogales, and Drs. Robert S. Flinn and Durmont W. Melick of Phoenix.

The belief that an account of early medicine in Arizona should be compiled from the sources available has been held by various members of the medical profession for some time. Dr. W. Albert Brewer, Phoenix surgeon, shared this belief and proposed the idea that a book-length work be undertaken in commemoration of the seventy-fifth anniversary
of the Arizona Medical Association. Doctor Brewer was supported in this idea by Dr. William B. Steen of Tucson, who was then serving as president, and Dr. Charles Henderson of Phoenix, the secretary of the Association. A committee was appointed to the task of seeing the project through to completion and included these doctors together with Drs. Nelson Bledsoe of Tucson, Robert S. Flinn of Phoenix, Clarence E. Yount of Prescott, and Roland F. Schoen of Casa Grande, all busy practicing physicians and surgeons of Arizona.

Dr. Brewer, as chairman, and the individual members of the committee gave unstinting support throughout the project. Mrs. Dorothy McNamee of Tucson, specialist in Western Americana, and Mrs. Weir Stevens, wife of a physician in Kearny, served as advisory members and gave many helpful comments throughout the progress of the research. Mr. Robert Carpenter, executive secretary of the Association, and Mr. Bruce E. Robinson of the Association's headquarters, smoothed the way many times in order for the researcher to obtain materials not ordinarily available. The financial support of the Arizona Medical Association made possible the overall task of research, and the continuing encouragement of the committee made the task of writing a pleasant and a most gratifying one.
Before beginning a work of this nature, the historical background of Arizona during the territorial years is a prerequisite to the study of any one distinctive aspect of that history. The writer completed the courses in American history at the University of Arizona, with the Spanish heritage presented by Professor Russell C. Ewing, head of the Department of History at the University. Professor J. A. Carroll brought the Arizona frontier into focus in the overall history of the American West; Professors Herman E. Bateman and James E. Beatson furnished the broader aspects of national history during the period under consideration; Professor Conrad Joyner, of the Department of Government, gave the political implications of territorial government; and Professor J. Gregory Oswald presented the European background which provided wider dimensions to the particular happenings in Arizona. The writer is doubly indebted to these mentors for their interesting and complete presentations and for their personal interest and encouragement during the progress of this project.

Numerous and diverse fields of study enter into a presentation of this work on territorial medicine. Dean Willis Brewer of the School of Pharmacy, University of Arizona, checked the medicinal properties of native plants and advised on old prescriptions; Dr. Bernard L. Fontana of the Arizona State Museum gave assistance in the matter of
ethnic backgrounds; Mr. George Roseveare, of the Bureau of Mines, advised on mining operations; Colonel B. McKay Greeley and Major Harry Wolanin advised on military operations and history. The writer appreciates the time given to answering many questions by these men who are specialists in their respective fields. The writer is indebted to many physicians and surgeons, both military and civilian, over the years who have provided her with observations of medical practice throughout her career as a graduate nurse.

Many individuals gave personal attention during the period of research, volunteered information, and expressed interest and gave assistance. Mrs. Nova Alderson, librarian of the Arizona Pioneers' Historical Society, Miss Phyllis Ball of the Special Collections Division of the University of Arizona Library, Mrs. Margaret L. Cooley, Arizona State Librarian and Archivist, and Joseph Miller, of the state archives, among others, assisted in obtaining and finding materials on early physicians in Arizona. Bert Fireman, of the Arizona Historical Foundation, proved an enthusiastic supporter of the project from the beginning.

*Medicine in Territorial Arizona* can be considered only as a beginning in the exploration of a fascinating subject. Of the three thousand and more practitioners of medicine who came to Arizona during the territorial years, only a few hundred are named in the text of this study.
Some twelve hundred are listed in an appendix and partially identified there. It may be said, then, that many fruitful areas of research remain open to scholars who would engage in continued investigation of medical history on this frontier.
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ABSTRACT

Three centuries of Spanish domination had little effect upon the curing practices of Indians on the Sonora frontier. Contact with the Europeans, however, did have a profound effect upon all native populations as epidemics of smallpox and measles decimated the Indians who had no immunity whatever to the diseases brought by the invader. The absence of physicians on New Spain's northwestern perimeter relegated the treatment of disease and injury to the missionary and settler. A system of folk medicine evolved for the European, a combination of Old World remedies and native herbs used by the Indians. The majority of Indians relied, as always, upon their own medicine and medicine men.

Anglo-American physicians joined the ranks of westward migration during the gold rush in California. Military surgeons gave medical assistance to the immigrants along the wagon roads across New Mexico Territory; physicians accompanied the boundary and railroad surveys; others came to the mining frontier on their own, to seek fortunes or for mere adventure. Medicine at this time was at best of a transient quantity and quality.
Rich mineral deposits discovered in the western counties of New Mexico was instrumental in the establishment of Arizona Territory as a separate entity. More military troops were required when Indians resisted the encroachment of the Americans on their lands. When Indians were pacified and placed on reservations, physicians were hired to vaccinate against smallpox and later to provide a dispensary type of health service at the various Indian agencies. Not until the closing years of the territorial period was a beginning made in an overall health service for the American Indian.

The early territorial doctors engaged in mining pursuits, invested in ranch lands, and initiated such business ventures as mercantile establishments, freighting lines, and irrigation canals. Mining operations began on a large scale when the Indian menace had abated and the railroads crossed the Territory. As towns and villages grew from the mining camps and ranch settlements, health problems multiplied. Physicians settled down to treat the old and familiar maladies visiting the frontier communities; surgeons were called upon with greater frequency to attend the victims of mining accidents, the every-day accident and injury, and the numerous gunshot wounds.

Arizona's climate attracted the health seeker from the beginning. Improved transportation brought the health
prospector in greater numbers and the problem, as well, of how to prevent the spread of tuberculosis. The climate attracted not only the health seeking patient but the health seeking physician, many of whom possessed outstanding professional qualifications. Attracted also by the many health seekers were the charlatan and the quack who promised ready cures for the diseases which baffled the serious minded physician.

Serious minded physicians organized to rid the profession of the unqualified and to support a program of public health which would prevent the spread of contagious diseases. Medicine in Territorial Arizona is an account of how these objectives were accomplished and of the numerous problems encountered by the territorial physician in medical and surgical practice. Germ pathogenesis dictated many changes in medical treatment, made possible surgical intervention in conditions once thought beyond the scope of the surgeon. The medical meeting, on a territorial or county level, provided the means whereby the latest methods of diagnosis and treatments were disseminated among the medical practitioner. This aided the advance of scientific medicine throughout the Territory.
CHAPTER I

SPANISH SURGEON AND INDIAN SHAMAN

The ancient Toltecs originated the art of medicine in Mexico. They were the wise ones who understood everything about herbs—which were to be especially esteemed, which were generally useful, and which were merely decorative plants.\footnote{Pray Bernardino de Sahagun, General History of the Things of New Spain, trans. by Charles E. Dibble and Arthur Jo Anderson. Book X of the Florentine Codex (The School of American Research and the University of Utah, 1961), p. 167.} Thus the medical heritage of the Aztecs was very old, handed down for centuries before the conquest of Mexico by the Spaniards in 1520. The botanical gardens in Montezuma's capital were impressive indeed, not only for their lush beauty but for the interesting uses of the many medicinal plants found growing there. The Spaniards, however, were far more interested in Aztec treasure than in native traditions of healing. For a generation the desire uppermost in the mind of every Spanish captain was to find another store of gold to rival the riches of the Valley of Mexico. The great conquistador Cortes was still not satisfied when he departed Mexico for
the last time in 1540; and when Coronado led his large expedition northward in that year he was seeking the fabled golden cities described by the itinerant Cabeza de Vaca. Coronado's army of exploration included 800 Indians as well as 300 Europeans. This fact quickly dramatized a basic problem of the frontier—that of health and disease—as the two cultures, Indian and European, met and blended. Each culture entertained its own ideas of healing which, while different in theory, were not too far apart in practice.

The first Spanish surgeon to enter the San Pedro Valley, or what later became a part of the Territory of Arizona, came with the expedition of Francisco Vasquez de Coronado in 1540.² His name, however, does not appear as surgeon on the muster roll, and little is known of his qualifications. Pedro de Castenada, historian of the expedition, chose to leave the surgeon nameless—but far from blameless. Some of the wounded died as a result of "inefficient care of the poor surgeon who was with the Army," Castenada wrote, and the rather precipitate return of the explorers to New Spain was also attributed to the physician attending Coronado when he fell from his horse.³

² The medical and surgical exploits of Cabeza de Vaca prior to 1540 are noted, but whether he crossed the region later included within the boundaries of territorial Arizona is questionable.

³ George P. Hammond and Agapito Rey, Narratives of the Coronado Expedition: 1540-1542 (Albuquerque, New Mexico: University of New Mexico Press, 1940), p. 229.
Grumblings of discontent among the soldiers were com-
municated to the Captain-General by the surgeon, Castenada
recorded, and the decision made to return at once. A
modern historian has provided the surgeon on this arduous
journey with the name of Doctor Ramos. His qualifications
remain a subject of inquiry—whether he was a surgeon
qualified to treat the wounded in camp and field, in the
Spanish tradition following the Moorish Wars, or a physician
educated at the academies or universities then coming into
prominence in Spain.

This was the century of Spain's Golden Age—of
exploration and colonization, of eminence in the arts and
sciences. After centuries of dependence upon physicians of
Islam under the Western Caliphate, Spain, with the rest of
Europe, was beginning to embark upon serious anatomical
investigation. At the Court of Charles I, Andreas Vasaliius,

4. Ibid., p. 267. Castenada makes a distinction
between the "poor surgeon who was with the Army," and the
physician and surgeon attending Coronado. Coronado may have
had his own personal physician accompany him. The dis-
tinction existed in Spain where educated men were called
physicians and those with technical training were called
surgeons.

5. Herbert E. Bolton, Coronado: Knight of Pueblo
and Plains (Albuquerque: University of New Mexico Press,

6. Aristides A. Moll, Aesculapius in Latin America
(Philadelphia: W. B. Saunders Company, 1944), p. 90. Sur-
geons were also being trained in Mexico City by 1525 under
a barber-surgeon hired for that purpose.
the greatest anatomist of all time, held the position of court physician. Regulations regarding the practice of medicine were edicts of the Emperor with an official board—the protomedi—examining all candidates for positions with the nobility. Hospitals and universities were founded in Mexico, and the regulations for medical practice which applied in Castile were to apply in the colonial empire as well. The scarcity of physicians of all gradings led to considerable variation in the qualifications for licensure—both in Spain and in her dominions overseas.

Royal botanical expeditions sent from Spain collected numerous plants from the New World which added cinchona, cacao, ipecac, jalep and copaiba to the world's

7. Andreas Vesalius (1514-1563), a Belgian by birth, was educated in the medical schools of Paris. He was noted for his works on anatomy rather than his duty as court physician.

8. Moll, Aesculapius, pp. 88-94. Many of the nobility had their own personal physicians. Hernando Cortes had Ojeda as physician during his conquest of Mexico; a surgeon named Maestre accompanied the troops from Cuba to Mexico. Antonio de Mendoza, first viceroy of New Spain, had his personal physician as well as an impressive household of vassals and retainers in Mexico City. See, Arthur Scott Aiton, Antonio De Mendoza: First Viceroy of New Spain (Durham: Duke University Press, 1927).

9. Moll, Aesculapius, p. 184. The hospital founded by Cortes in Mexico City in 1527 is still in existence. The University of Mexico, founded in 1553, with Fray Augustin Farfan, author of the first medical book written in America, graduating from that University in 1567. The oldest of all universities founded in America was that of San Nicholas de Hidalgo, founded in Parzcuaro in 1540 and established in Monelia in 1580.
medical armamentarium. Sarsparilla, included among the healing herbs, was used for centuries afterward in numerous pharmaceutical preparations.¹⁰ Physicians in Europe prescribed and apothecaries compounded innumerable preparations for all the ills of mankind. As drugs formerly used fell into disfavor, new ones were adopted. Antimony, once the drug of choice, had come in for some castigation during the sixteenth century when many claimed that it was a poison; its use continued, however, with mercury replacing the metal as the principal basis of the chemical remedies used throughout Europe and America after the seventeenth century.¹¹

Disease was believed to be caused by corruptions of the air or the vitiation of body humors, and dosing with numerous botanical and galenicals was deemed advisable as a


means of prevention. Bleeding became universal and purgations were the remedy for any and all ills. Plague was primarily an Act of God and a punishment for sin, according to one viewpoint; human and natural causes were attributed to abnormal weather conditions, emanations from the bodies of dead men or animals, exhalations from stagnant waters, or eruptions from the bowels of the earth.  

Sixteenth century surgeons cut for stones, did trephining operations, excised external cancerous growths, repaired anal fistulas, drained pleural exudate, and dressed wounds. Up to that time, gunshot wounds had been considered to be poisonous and were cauterized, the usual method in the form of boiling oil. Surgery as practiced by Spaniards at this period is not too well known, but their treatment of wounds by first intention is recorded.


13. Ambrose Pare (1510-1590) published his treatise on the method of treating wounds made by the arquebuses in 1545. He employed soothing emollients rather than the cautery of boiling oil, and found that healing was promoted thereby.

Spain made two questionable contributions to medicine and surgery in the New World—the introduction of epidemic diseases and gunshot wounds. Spain found in this new domain a few new diseases and some very old ammunition. Smallpox broke out in Mexico not long after Cortés landed, exacting a heavy toll from the native population with a lesser mortality among the Spaniards. Smallpox and measles undoubtedly did more to decimate the Indians than the missiles of the arquebuses. Rocks were most effective in keeping the men on Coronado's expedition at bay when they stormed the pueblo at Tiguex. Poisoned arrows were greatly feared from the time that the expedition crossed into Sonora, for the arrows dipped in the sap of a "strange and venomous" tree caused a death of horrible agony.

"We discovered that quince juice was a good remedy against the poison of the locality," Castenada recorded, citing the case of a soldier named Mesa who suffered an arrow wound: "Although it was a deadly wound infected with

15. The first epidemic of smallpox in 1520 was attributed to a member of the Narvaez expedition. While Spain cannot be blamed for the introduction of all European diseases in America, credit for this first epidemic surely belongs to that country.

the fresh poison and it was more than two hours before he was attended to, he did not die, thanks to the juice."\(^{17}\) Mesa's wound was on the wrist and the flesh dropped off, "leaving the bones and tendons bare, with a pestilential stench."\(^{18}\) Another man sustained an arrow wound in the eye and would have died from the poisoned arrow had he not been given the juice.\(^{19}\) Quinces were plentiful in Sonora, but which group of Indians suggested the remedy was not mentioned.\(^{20}\)

Another sixteenth century explorer attested to the efficacy of quince juice as an antidote for the poison of Sonora. Obregon gave a detailed description of the tree and the successful treatment of the wound to counteract the poison. Quince juice was to be taken internally and "raw corrosive sublimate" applied to the wound "until the damaged

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17. Hammond, Narratives, p. 273, "The wound was in his wrist and the poison had reached his shoulder before he recovered, and all that portion was left without flesh." Donald E. Worcester, "The Weapons of American Indians," New Mexico Historical Review, XX (July, 1945), pp. 227-228, states that Opatas used poison arrows; that the practice of poisoning arrows was not generally popular among the Indians of North America.


19. Ibid., p. 278. Juan Gallego, attempting to despoil a dying Indian, was wounded on the eyelid. He lost his eye but not his life.

flesh should disappear." The natives also had an anti-
toxin for the poison in the form of a root which they
esteemed highly.

One should carry medicinal remedies to cure
diseases and wounds that usually occur in time of war,
Obregon warned those going on an expedition, and good coats
of mail were a necessity as were helmets, breastplates, and
jackets of buckskin. Poisoning by mushrooms was also
cautioned against for even the General was deprived of his
senses after eating them one night and had to be restrained.
It was better to eat horseflesh than acorns or mushrooms,
Obregon advised, and, as the horses gave out they were bled
frequently and the blood consumed. Epidemic disease was

21. George Hammond and Agapito Rey, Obregon's
History of Sixteenth Century Explorations (Los Angeles:
Wetzel Publishing Co., 1928), p. 232. The description of
the poisonous tree by Obregon answers the descriptions of
similar trees and shrubs of the latex variety of tropical
shrubs. See page 171 of Obregon's History: "The tree is
always green, beautiful, and flowery. It is two estados
high, more or less. He who falls asleep under its shelter
puffs up and dies from swelling if he is not given some
medicine as a cure. Its sap is white and coagulated like
sour milk. It is extremely poisonous, containing pernicious
qualities. When arrows are dipped in it the wounds they
inflict, however small, occasion such terrible and painful
suffering that the injured die in mild convulsions." T. H.
Kearney and Peeples, et. al., Arizona Flora (Berkeley:
University of California Press, 1951), p. 511, labels the
tree "Sapium Biloculare," growing in southern Maricopa
County, western Pima County, to southern Yuma County. It
was called yerba-de-fleche, was very poisonous, and was used
by Apaches for arrow poison.

not mentioned among the perils of extensive exploration by Obregon; nor were there any records of outbreaks of contagious diseases accompanying the Coronado expedition in 1540.

How far beyond the initial point of contact the first epidemic of smallpox spread in 1520 can only be estimated. Beginning at Cempoalla, the disease spread rapidly through the neighboring country until it reached the Aztec capital and then swept on toward the Pacific with untold victims in its wake. The natives perished in "heaps" according to one account, and the flight of many others could well have carried the disease far beyond the regions then claimed by Spain. Since most Indians maintained some exchange of goods with neighboring tribes, the disease might well have been far more widespread than the chroniclers of that time would have reckoned.

Measles became epidemic in Mexico in 1531 and again in 1595 and 1596. How many succumbed were not recorded, but the death rate was considered to be high. One epidemic of


unspecified cause or diagnosis which lasted six months in
1545 caused an estimated dead of some 800,000 natives. The
disease, unknown in previous times, was attributed to super­
natural phenomena—a comet in the sky and eruptions of
volcanoes. This pestilence, called Matazhuatl, appeared
again in 1575, relentless in its course, the victims burning
with an intense heat and the onset characterized by a
violent headache and tenacious fever. The doctors were
unable to control the spread of the disease or to provide
symptomatic relief, and whole towns were decimated. Bleeding
was usually resorted to, and prayers and intercessions made
without ending until the epidemic appeared to have spent
itself by 1580. The estimate of more than two million
natives dead, with no Spaniards affected, places this
pestilence as the greatest scourge ever to afflict the
Indians of North America.  

Historians have noted that the native peoples of
America had no experience with such viral diseases as
smallpox and measles before the Europeans arrived. Medical

25. Ibid., II, p. 529. Typhus, plague, or yellow
fever have been offered as possibilities for this pesti­
rence, but why Spaniards were not affected cannot be
determined.

26. Ibid., pp. 657-659. The general estimate was
that half the natives died during this period of time.
Famine followed in the wake of the pestilence due to scarcity
of workers.
authorities are in agreement that the viral diseases were unknown in America prior to the Discovery, and that such contagious diseases as scarlet fever, diphtheria, typhus, and plague were unknown as well. The presence of malaria and yellow fever in pre-Columbian times is debatable. Malaria, endemic throughout Europe, may well have been known in America where the anopheline mosquito appeared in abundance, or perhaps it was the European who brought over the Plasmodium for the first time. Yellow fever, called the American plague, was generally thought to have been brought to the West Indies by slaves from Africa, and then carried to both North and South America wherever the appropriate mosquito vectors could propagate. Tuberculosis and other communicable diseases are also debatable as to their prevalence in America before the Discovery; skeletal remains

27. See Ales Hrdlicka, Physiological and Medical Observations Among Indians of Southwestern United States and Northern Mexico (Washington: U.S. Government Printing Office, 1908); Corlett, The Medicine Men of the American Indian. Other medical authorities agree that it is impossible to compile an accurate list of diseases prevalent on the two American continents prior to the advent of the European invader. The first observers were not highly trained physicians, and many diseases were not recognized as distinct entities at that time. Plague covered a number of epidemic diseases, and fevers were recognized by their pattern of fever and skin eruptions.

consistent with tuberculous spondylitis have been found, but the evidence is not considered conclusive. The origin of syphilis remains highly controversial. The preponderance of proof is that the disease existed in Europe and elsewhere long before Columbus came to the New World.

The healthy Indian was not completely free from disease despite the usual picture of his robust constitution and stories of his extraordinary stamina. If he survived beyond maturity, he was relatively free from many minor afflictions and illnesses which plagued the European, but stomach disorders were his frequent lot. He was prone to arthritis, neuralgia, pleurisy, pneumonia, and the whole


gamut of functional disorders. The hazards of his environment and way of life produced fractures and dislocations, concussions and bruises, and the bites and stings of snakes and insects. Ophthalmic conditions due to smoke and sand, osteomyelitis and periostitis due to bone injury, and infection from wounds were all likely to befall him.

Curing practices and the treatment of injuries among the aborigines varied and depended upon the total cultural context of the tribe. Among the more highly developed cultures, Indians treated wounds and injuries in much the same manner as sixteenth-century Europeans. Splints were applied to fractures and dislocations, wounds were cleansed with water or the decoction of some plant, and the dressings to wounds were applied in a variety of ways with lint and leaves. In New Spain’s northwest, Obregon gave such a

31. Early observers were impressed with the healthy appearance of the Indian, but few abnormalities were noted. Diseases such as Uta, the dreaded ulcerative disease, and verruga peruviana found in South America were not prevalent in Central America or Mexico. Pinta (Carate) was found in Central America and Mexico and may have affected the Indians to the North but were not recognized by early writers. Moll, Aesculapius, p. 56.

32. Richard A. Leonardo, History of Surgery (New York: Froben Press, 1943), and others, give such credit for the treatment of wounds and injuries by Indians of the higher civilizations. Trephining, for example, was concluded to have been done in connection with ceremonial rites and not for empirical reasons.
description for the treatment of arrow wounds. How much of this procedure Obregon adopted from the Spanish and how much was borrowed from the Indians can only be surmised, for the Spaniards were known to have adopted quite readily many plant remedies found in Mexico.

There was no rush to colonize the far north after Coronado's momentous journey but a continuous advance northward from the Basin of Mexico, valley by valley, until the end of the sixteenth century. One missionary expedition was made to the North in 1581. A rescue party the following year, led by Antonio de Espejo, brought the latter explorers across the region between the Rio Grande and the Rio Verde. The first official colonization movement began under Juan de Onate who left Mexico with 400 men and considerable equipment, including 500 pesos worth of medicine and surgical supplies. Onate established the settlement


35. G. P. Hammond and Agapito Rey, Juan de Onate (Albuquerque: University of New Mexico Press, 1943), pp. 104-107. The medical supplies are listed in detail together with their value. Included were laxative pastes of processed citrus and apple; rose, borage, plantian and fennel waters; camomile, myrtle, worm, quince and rose oils; ointments of many varieties; turpentine, sarsparilla, sulphur, alum and verdigras. Six syringes and six lancet cases were included among the surgical supplies.
on the upper reaches of the Rio Grande by August of 1598.

The corridor was opened between the City of Mexico and Santa Fe, a supply route for provisions and emigrants to and from the colony in New Mexico. The supply route was also the means by which disease travelled from one settlement to the other, and along the trail as well. There were difficulties in administering this colony so far away from the seat of government of New Spain, and considerable internal dissension resulted. Epidemic disease was followed by famine until starvation became a serious threat in New Mexico in the late 1670's. There was also a menace to the work of the missionaries in that Indian medicine men still held sway at many pueblos. This proved to be a great deterrent in keeping the Indians in the missions. An attempt to suppress pagan practices among the Indians resulted in the capture of forty-seven medicine men who were charged with witchcraft and sorcery. The governor hanged

36. Petition of Fray Francisco de Ayeta, dated Mexico, May 10, 1679, in Adolph F. A. and Fanny Bandelier, Historical Documents Relating to New Mexico, Nueva Vizcaya, and Approaches Thereto to 1773 (Washington: The Carnegie Institute, 1937), III, p. 302. During the famine Spaniards as well as Indians had to eat hides and straps of carts, "preparing them for food by soaking them... toasting them in the fire with maize and boiling them with roots." Since the epidemic killed many Indians who planted and harvested crops, no food was grown.
three of the medicine men as a warning. Under the leadership of Pope, one of the medicine men allowed to go free, a full-scale revolt was planned and was so effective that the settlements in New Mexico were wiped out in 1680, with all Spaniards not killed forced to abandon the colonies for a decade.

Spain's advance along the western corridor had reached Sonora by the beginning of the seventeenth century. The Society of Jesus, founded by Ignatius Loyola in the same year that Coronado ventured north from the Valley of Mexico, had missionaries in Sinaloa by 1591, and by 1631 missions existed among the Yaqulis and the Mayos of southern Sonora. Outbreaks of contagious disease followed the advance of the Jesuits up the Pacific coast. In 1693 an official informed the viceroy that an epidemic of measles in its worst form had visited Sinaloa and had resulted in a


38. Ibid. Numerous reasons for the revolt are advanced by Hackett. Among them were differences between the missionaries and the Spanish administrators, and the attempt to suppress religious beliefs and change the habits and customs of the natives. The prevalence of disease, with its attendant devastation, contributed no little to the general dissatisfaction among all classes of people. The reconquest of New Mexico was fairly well accomplished in 1691.
very great mortality among the natives. The Indians were holding powwows, he reported, and had begun to run away because they believed that the Gods of the Spaniards were angry with them. Another report of this same epidemic concluded that the measles had destroyed more than a third of the native population of the area.

The country to the north, between the Yaqui and Gila rivers, was the home of the Pima Indians. The region was divided naturally at the Altar and San Ignacio rivers, with the area north of these streams called Pimeria Alta—the home of the high Pimas. Extending from the San Pedro River on the east to the Colorado on the west, this was the area explored and christianized so effectively by Eusebio Francisco Kino, the great Jesuit missionary, in the last years of the seventeenth century and the first decade of the eighteenth. Following a revolt of the Pimas in 1695 which cost the life of Father Francisco Saeta at his mission at Caborca, Kino restored peace to the frontier and


established good relations between the Indians and the Spaniards. From his headquarters at Dolores, Father Kino made more than thirty expeditions northward, locating missions and visitas among the Pimas as far distant as San Xavier del Bac at the present site of Tucson. He noted many of the healing herbs to be found in Pimeria Alta and recorded illnesses and deaths in all rancherias that he visited, but no major epidemic disease was reported.

After Kino's death in 1711, Pimeria Alta was ignored for some twenty years. Not all Spaniards, or missionaries for that matter, regarded the Pimas in the same friendly light that Kino had. The discovery of silver deposits between Sario and Guevavi in 1736 brought an influx of treasure-seekers who gave the name "Arizonac" to the mining district, and about this time a new spurt of missionary activity on the part of German-born Jesuits.

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42. H. E. Bolton, Kino's Historical Memoir of Pimeria Alta (Cleveland: Arthur H. Clark, Co., 1919). The healing herbs are mentioned on pages 55 and 267.

43. Mission work continued to some extent, but the differences of opinion between the Spanish residents, Spanish authorities, and the missionaries continued. The settlers wished the Indians to work for them, but the missionaries brought the natives into their rancherias and thus depleted the labor force.
resulted in the christianization of more Pimas. One of them, Father Jacobo Sedelmayr, made extensive tours as far north as the Gila in the late 1740's. Sedelmayr was at his headquarters at Tubatama when the Pimas revolted again in 1751 under a medicine man who had the reputation of a sorcer. On this uprising, which cost more than one hundred lives, a Jesuit observed: "One single malcontent was sufficient to cause the ruin of the whole nation."

The friendly Pimas had other scores of long standing against the Spanish invader which were not included among the proximate causes of the 1751 revolt. Epidemic disease

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44. Jacobo Sedelmayr's extensive travel was curtailed because of the protests of the Franciscans who were allotted the Pueblo mission field. H. H. Bancroft, The History of Arizona and New Mexico, pp. 365-368. The Moquis, or Hopis as they came to be known, were beyond the Gila and Colorado field under Jesuit domain. See also: Jacobo Sedelmayr, Explorer, Arizona-Sonora-1744-1755: Four Original Manuscripts, translated and annotated by Peter Master Dunne (Tucson: Arizona Pioneers' Historical Society, 1955), p. 32.

45. Russell C. Ewing, "Investigations into the Causes of the Pima Uprising of 1751," in Mid-America, An Historical Review, XXIII (April, 1941), pp. 138-151, gives the full account of the revolt and the causes. Among the causes were the inability of the Spaniards to protect the Pimas against Apache raids, the stern discipline meted out by the missionaries, and wranglings between civil and church authorities. Rudo Ensayo, written by an unknown Jesuit in 1763, translated by Eusebio Guiteras (Tucson: Arizona Silhouettes, 1951), p. 54, states that Luis had the reputation of a sorcer. Luis also had the practice of leading the Pimas into the hills where they engaged in drunken orgies, according to the missionaries, and the padres sought to suppress the practice.
had assumed a fairly consistent pattern by that date as mission settlements brought more Indians into the ranchoerias near the missions. The interchange of missionaries and presidial soldiers provided a favorable means of communicating the diseases. Matlazahuatl had become widespread in 1736, affecting mission fathers as well as the natives. Smallpox spread from San Ignacio to the northernmost missions in 1737 and appeared again in some of them in 1751. Measles was epidemic in 1744 and 1749, each outbreak taking its toll among adult Indians as well as children. The establishment of more missions and more garrisons, bringing additional settlers from central Mexico, provided a corridor for the spread of disease from that region throughout Pimeria Alta. How much strife these devastating diseases caused between the natives and the Spaniards can only be estimated; it is reasonable to assume that some association was apparent between the invader and the pestilences which arrived in his wake. 46

46. Henry Dobyns, "Tubac Through Four Centuries: An Historical Resume and Analysis" (unpublished study, the Arizona State Parks Board, 1959), I, pp. 94-168. Dobyns traces the causes of deterioration of Northern Pima culture and society during the two centuries following 1520 to radical alterations of environment and the total destruction of centers of native culture as a result of innovation and indoctrination by the Spanish conquerors.

The Pimas had acquired a fear of death by 1730, according to Dobyns, which was not present in the early 1500's. This was evident in the manner in which their houses were constructed. Originally these had been of
Garrisons were established in Tubac and Altar in 1752 and an uneasy peace maintained. Two missions were also established in the Santa Cruz Valley, at Guevavi and San Xavier, with the rancheria of Tucson a visita of the latter. The increased number of mission farmers and ranchers who settled nearby attracted the raiding Apaches, and while the Pimas may have welcomed the presidial troops, the missionaries found them ineffectual in protecting either livestock or mission property.

Father Ignaz Pfefferkorn, who served at Guevavi in 1763, wrote that the country was wonderful but had little good to say for the Spaniards. In Sonora, he reported, there were neither doctors nor surgeons, and hence no one who could "open the vein of a sick person." Yet there was little reason to complain; a certain herb, hierba anis, when boiled and taken, cured dangerous inflammatory fevers substantial adobe requiring a considerable expenditure of labor. The simple brush construction of later years—which they burned after a death had occurred, whereas formerly a corpse was cremated within the village—was proof that the Indian considered death to be a haunting spectre from which to flee.

47. Bancroft, History of Arizona and New Mexico, p. 344.

"without a waste of blood which doctors in Spain draw off in streams in case of such illness." There were healing herbs for every illness and discomfort—herbs for the relief of stomach distress appeared in the majority—among the many remedies that he recommended. The leaves, flowers, roots, or the entire plant were administered as laxatives, as vermifuges, and as antidotes for the bite of snakes and the sting of scorpions and other poisonous insects. Poultices, internal decoctions, extracted juices, or the pulverized plant itself were all sufficient for whatever ills or injuries might befall the people of Sonora. Mescal leaves, Pfefferkorn thought, were infallible as an anti-scorbutic, and pleasant spirits distilled from roots of the plant were equal to the finest wine—good not only for digestion and strengthening of the stomach, but a real healing remedy if used moderately.

Another Jesuit, the author of Rudo Ensayo, suggested additional remedies for the various ailments of Sonora. Some miraculous cures might be attributed to a few herbs.


50. Ibid. Latin names and Indian names were applied to the native plants of Sonora; the botanical names bestowed by the different padres were sometimes at variance.
which were used by Spaniards and Indians alike. For years the "most deadly epidemics in Sonora" had been the arrow of the Seri and the spear of the Apache. Arrow wounds were sucked and then filled with the pulverized root of the peyote; two days later the wound was cleansed with cotton attached to a little stick, and the wound again filled with the powder. This procedure was repeated three times every two days, and the wound was then covered with the pulverized root of the lechuquilla. Balsams were extracted from this same herb as well as from the maguey, the mescal, and the date tree. Rolls of lint were then soaked in the balsams—the roll being the exact size of the wound—and by "making these penetrate tightly to the bottom of it, the wound heals perfectly well." No wound would fail to be cured by renovating the rolls once every day unless it had penetrated the chest.

51. *Rudo Ensayo*, written by an unknown Jesuit. Theodore E. Treutlein, in Father Joseph Ochs' memoir published as *Missionary in Sonora* (San Francisco: California Historical Society, 1965), p. 185, "Alberto Francisco Pradeau of Los Angeles documented the authorship of the work although Nentwig's role as author has been suspected . . . ." Juan Nentwig served at Guasava, near the Yaqui Indians, in 1763, about the same time that Pfeifferkorn and Ochs served in Sonora.


53. Ibid., p. 69. The lechuquilla, chewed as gum, provided a somewhat adhesive coating.
A decoction of the manso grass, guaguat in Opata, cured the toothache if kept in the mouth. Taken internally, the manso grass relieved the heartache and "the anguish of certain chronic disorders produced by it." The herb fried in tallow was good for women recently delivered, and it healed fresh wounds as well. The herb could be pulverized and applied thus to the wound.  

Water, the Jesuits wrote, caused many of the ills in Sonora. There were no wells, and water for drinking was obtained from brooks which usually flowed through swampy ground or ran through gloomy places. When streams flowed over stones and gravel, no one was troubled by the ague, but still the water should be boiled before drinking.  

Ague, inflammatory fevers, sore throat, indigestion, and convulsions accompanying the fevers were the most prevalent diseases. Smallpox was deadly, but it came only every nine or ten years. The disease was best had in childhood, Pfefferkorn thought, and the Indians had such fatal results because their skin was thicker and the eruption of pustules were thereby hindered. More natives died of neglect, however,  

54. Rudo Ensayo, p. 44. This may have been the same herb that Pfefferkorn called the matudura herb, or wound herb, which derived its name from its excellent healing powers. Pfefferkorn, Sonora, p. 63.

55. Pfefferkorn, Sonora, p. 219; Rudo Ensayo, p. 139.
as the family usually placed some water and pinole nearby and then left the sick person to get well or die. 56

For the sore throat, or garrotillo, a poultice of maize was best. Empacho, or indigestion, was a dangerous and frequent ailment caused by overeating, chilling, and drinking bad water. Numerous remedies were available. A small amount of indigo dissolved in urine and given to the sick person often accomplished its purpose. 57 Another treatment was massage on the stomach until whatever it was that distressed the victim was forced out. Pfefferkorn tried this treatment once, but when he became fearful that the sufferer would "give up the ghost" he stopped and sought milder remedies. 58

Pasmo, a "critical fit" or convulsion which involved the entire body, often accompanied the fevers. Yerba del pasmo, cooked and drunk especially after the first seizure, was most effective. This malady affected more Spaniards than Indians, and Pfefferkorn thought that the germ of the malady was already there and the seizure was brought on by chilling. Fumigating the room with remolino was also a good preventative. 59

56. Pfefferkorn, Sonora, p. 219. Pinole is the ground corn or flour of the mesquite bean.
57. Ibid., p. 214.
58. Ibid., p. 215.
59. The herb used in this remedy for the chills of malaria was described only as having large round leaves. Pfefferkorn, Sonora, p. 214.
Several undiagnosed maladies afflicted the people of Sonora in 1760 and 1765. The latter epidemic was thought to have been brought in by pestilential winds from the south. High fevers and delirium were the chief symptoms. If the man began to vomit, all hope was lost; if he bled from the nose, it was an infallible sign of recovery. Pfefferkorn, who lost only eighteen men in his mission, attributed this fact to the use of lemon juice.\(^60\) The yellow vomit, as the disease was called, was described by other missionaries in Sonora. Father Joseph Ochs treated the disease with an atole made of orange peel, dried and ground.\(^61\) The author of Rudo Ensayo also used this remedy, given to him by Father Ochs, as well as another consisting of an atole of the ashes of dry estafiate. The Opatas called this herb eupíso, and the Spaniards had to be sure not to get the other herb of that species called tuparo. Both were a kind of wormwood, but the latter had no known virtue except the power of driving away bedbugs.\(^62\)

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\(^{60}\) This may have been yellow fever, but the exact location of Pfefferkorn's mission at the time he treated the patients is in doubt. It may have occurred at Guevavi, which would be an unlikely place for an epidemic of yellow fever. Pfefferkorn, Sonora, p. 218, gives the reason for this remedy. On autopsy, a man having died with the disease was found to have a worm in his liver which could be killed only by using lemon juice.

\(^{61}\) Ochs, Missionary in Sonora, p. 170.

\(^{62}\) Rudo Ensayo, p. 130.
Father Oohs had a special remedy for hematemesis: dried mouse droppings mixed with sugar and administered in considerable doses. Oohs fed the mice gourd and melon seeds to keep them away from his books, with now and then bits of peach, apple, and quince preserves. Whether all mouse droppings were beneficial, or only those fed with such dainties, was a matter to be tested.\textsuperscript{63} All in all, the Jesuits wrote favorably of Sonora. Despite the indolence of the Spaniards, it was a wonderful country with a most desirable climate. Minimized were the hazards of life on the frontier. "I had at all times to be the doctor," wrote Father Oohs, "and my cures turned out moderately well."\textsuperscript{64} Oohs lost only fourteen Indians, and most of the sickness at his mission was cured by using the hartshorn as the panacea.\textsuperscript{65} Only in cases of diarrheas did his arts seem unavailing, but when he used cool remedies rather than warming remedies he had better results.

The author of \textit{Rudo Ensayo} reported that the older Spanish women of the province constituted "the College of

\begin{itemize}
\item \textsuperscript{63} Oohs, \textit{Missionary in Sonora}, p. 172.
\item \textsuperscript{64} Ibid.
\item \textsuperscript{65} Hartshorn: ammonia in water solution, formerly obtained from the antlers of deer. Oohs probably used a similar preparation.
\end{itemize}
Physicians of Sonora." These women had discovered many of the native remedies and medicinal virtues of the plants of the area. Pfefferkorn also called them the doctors of Sonora in that they prescribed for all the ordinary ills. Yet there were medicine men, or curanderos, who passed themselves off as doctors. Not a few were cured by them, Father Ochs reported, and even Spaniards were deluded by them and had recourse to them. Pfefferkorn also reported that such Indians, boasting of their curing prowess, gained the respect of their countrymen and procured food without any trouble. He conceded that they generally had some knowledge of beneficial herbs and occasionally gave the sick person some relief. But by blowing through a tube and sucking, saying that they had blown or sucked the illness away, they gave irrefutable proof of their quackery.  

The banishment of the Jesuits from all dominions of Spain in 1767 brought Franciscan missionaries into Sonora. Fray Francisco Garces travelled much throughout Pimeria Alta in subsequent years. He was stationed at San Xavier

66. Rudo Ensayo, p. 44. The absence of physicians and surgeons in Sonora was mentioned by all Jesuit missionaries.


69. Pfefferkorn, Sonora, p. 221.
del Bao in June of 1768, accompanied the overland expeditions of Captain Juan Bautista de Anza to the Colorado in 1774 and 1776, and made many tours to the Gila and elsewhere. Fray Garces baptized the dying during an epidemic of measles in 1770, but in his diary he made few pertinent observations on sickness or the treatment of disease. On one occasion he did note that an Indian, wounded by an arrow, was martyrized a second time in the attempt to remove it, and that the medicine man played his part by running, blowing, and gyrating.

Garces lost his life, together with three other missionaries, during the revolt of the Yumas in 1781. His biographer, Juan Domingo Arricivita, was far from kind in appraising Pimeria Alta as it was toward the end of the eighteenth century. The hostility of the Apaches was bad enough, but "not less hostile to health and life" were the natural conditions of the area. Since the water was alkaline and the air was constipating, all who went there to live were subject to very severe chills and fevers. Many

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were sure to die, and those surviving would be reduced to skeletons.\textsuperscript{72}

The mission at Guevavi with its visitas at Tumacacori and San Cayeto de Calabasas, the mission at San Xavier with a rancheria at Tucson, the presidio at Tubac which was moved to Tucson in 1776, represented the northernmost extent of Spanish control in Pimeria Alta. Sonora, New Mexico, and the provinces of Coahuila, Nuevo Leon and Texas were organized into the Provincias Internas according to the recommendations of Inspector General Jose de Galvez of New Spain.\textsuperscript{73} They were also the most difficult problems in colonization in the Americas. The Comanches warred in all directions, and the Apaches, Utes, and Navajos were hostile in Sonora and New Mexico. A new line of presidios was established for defense against the hostile tribes. Administrative problems were compounded by the disagreements between the commanding general of the Provincias Internas

\textsuperscript{72} Juan Domingo Arricivita, "Biography of Garces," in Coues, The Diary of Francisco Garces, p. 5.

\textsuperscript{73} Frederick Webb Hodge, George P. Hammond, and Agapito Rey, Fray Alonso de Benavides (Revised) Memorial of 1634 (Albuquerque: University of New Mexico Press, 1945), p. 117 lists the supplies needed of medicine and equipment; p. 279, the pestilence of 1780-81 also noted in the introduction, A. P. and F. Bandelier, Documents, "Declaration of Father Fray Juan Alvarez," dated January 12, 1706, reports that Fray Joseph Narvaez Valverde was the lay brother in charge of the hospital, formerly a convent in Santa Fe, now a general hospital for the missionary religious.
and the viceroy of New Spain. Pestilences continued to visit the settlements and take their toll of settlers and Indians alike with doctoring at the hands of mission fathers and settlers.

Spain directed her attention to the Pacific Coast during the latter part of the nineteenth century and the colony at San Francisco was founded in 1776, the same year that a new nation came into being along the Atlantic Coast of the North American continent. The closing years of that same century saw Spain's power and glory diminish as other European nations rose to prominence. Changes in administration did not effect the anticipated control of the borderlands in North America. The change in Indian policy, initiated by Galvez, with gifts and intoxicating liquors for the Apaches, brought only lulls in the hostile raids. Even fire arms and powder—always of inferior quality—were provided the Indians according to the recommendations of Galvez, for it was an error to suppose that a gun in the


hands of an Indian was any more deadly a weapon than the bow and arrow.  

Eighteenth century medicine, called an age of "theorists and system makers," was, by the end of that century, assuming the characteristics of scientific medicine as the natural sciences—chemistry, physics, and biology—were being revived by new discoveries. Medical schools in England, France and Holland came into prominence with outstanding men. William Cullen's minute classification of disease exerted influence well into the next century. Herman Boerhaave became renowned as a teacher and physician at Leyden. Joseph Priestley discovered oxygen. William Lind published his treatise on the cause of scurvy in 1753. John Hunter gave impetus to the advancement of surgery in London. Edward Jenner, one of Hunter's pupils, made one of the greatest contributions to mankind with the development of vaccination against smallpox.

76. H. H. Bancroft, History of the North Mexican States and Texas, I (San Francisco: A. L. Bancroft & Co., 1884), pp. 648-649. These were the recommendations of Jose de Galvez.


78. Inoculation or variolation was practiced in England as early as 1718 with matter from the pustules of a smallpox victim introduced into the tissues of a healthy individual. Jenner tested his cowpox vaccination in 1796.
Spain remained in isolation from the scientific progress of northern Europe, preserving the classical theories for a century or more. In the Western Hemisphere, medical schools had been established in the British colonies as well as in New Spain, with eminent physicians in the larger cities of both overseas empires. But for the majority of the population in America, a system of folk medicine prevailed. In time, new ideas of scientific medicine filter down to folk medicine from the higher centers of learning, but in New Spain, Indians and Spanish settlers on the frontier were beyond the periphery of these waves of new ideas; the majority, as well, were beyond the small circle that had access to the services of a graduate physician. As for the native Indians, they continued as before with their own curing practices and medicine men.

Indians in northern Sonora at the end of the eighteenth century, continued to occupy much the same regions they had occupied since time immemorial with but few exceptions. Apaches had moved farther to the West from the time that Coronado had first explored the area. By 1800 the Apaches were well entrenched in the mountainous regions between the upper Little Colorado, Gila and Salt rivers, with

the two groups designated as Western and Chiricahua Apaches, located within this broad region. Their relatives, the Navajos, were found along the Chama River in New Mexico when first encountered by the Spaniards but had adopted the pastoral life and lived along the washes to the northeast of the Little Colorado along Canyon de Chelly. The Hopis, originally called Moquis, remained in the same territory they had occupied for centuries before the arrival of the Spaniards, northwest of the Navajos and at the foot of the Mesas in their several pueblos. Their masonry pueblos were moved to the top of the mesas after the Pueblo Revolt of 1680, from which they ventured forth to cultivate their crops of corn, beans, squash and melons in the valley below.

The Pimas, believed to be the descendants of the "Ancient Ones," lived always along the Gila and Salt rivers, where they continued to practice agriculture with the aid of the irrigation canals begun during prehistoric times. Corn, beans and squash were raised in abundance; cotton furnished the material for their woven cloth. The Sobalpuris, a tribe which at one time occupied the Santa Cruz and San Pedro valleys at the time of Coronado, no longer maintained a separate existence but merged with the Pimas and Papagos, in the desert regions south and west of Tucson. 80

Yumas and Yuman-speaking people followed the Colorado River and were living on both sides of that river when Alarcon made his voyage to the head of the Gulf and beyond, in conjunction with Coronado's expedition. Other Yuman-speaking tribes, located along the upper reaches of the Colorado, with the Havasupais on the southern rim of the Grand Canyon, the Walapais further west, and the Mohaves in the valley along the Colorado southwest of the Walapais. Yavapais ranged from the Colorado to the Rio Verde, with the Yuman-speaking Maricopas, who formerly lived near the juncture of the Rio Colorado with the Gila, merging with the Pimas at a later date.

Spain had little contact with the Yuman-speaking people who lived along the Rio Colorado north of the Gila, except for those isolated explorations and journeys by the missionaries, who made no settlement among them. All other native people resisted Spain's attempt to subjugate them, either by mission or presidio system or both, at one time or another. The Hopis joined their fellow pueblos in the revolt of 1680, by the Indians along the Rio Grande. Navajos drove Spanish settlers from their lands and remained troublesome, thereafter. Apaches, most noted of all to resist any forms of Spanish control, were appeased temporarily with rations, gifts or other bribes during the latter years of Spanish control of New Spain. A few Apaches settled
peacefully near the missions from time to time but the majority were well deserving of the name of having barred Spain's advance farther along than Tucson in Pimeria Alta. The uprisings of Pimas and Yumas were also effective in halting Spanish advance and in closing the overland route to California.

Spain discovered, on more than one occasion, that the medicine men among the native tribes were a power to reckon with as attempts to displace them resulted in open revolt, plunder, and murder. The Indian was possessed of a good deal of common sense when it came to his relationship with his environment. The examples cited of his treatment of ordinary injuries, wounds and the use of herbs for illnesses for which there was apparent cause, impressed the missionaries. His ceremonies and rites for curing, in other instances, brought forth attempts to suppress the infidel and pagan practices, with charges of witchcraft and sorcery as evils to be eradicated at all costs. The Indian appeared to be willing to accommodate to the white man's way in almost every instance, except that which disturbed his relationship with the supernatural. The medicine men were

81. A. F. Bandelier, Final Report, I (Cambridge: John Wilson & Sons, 1890), p. 250, "The Indians have their chiefs and their spokesmen, their war captains, and above all, their medicine men."
the intercessors for the Indian, the means by which an appeal could be made to the supernatural, to straighten things out and bring him back into the right relationship with his environment. 82

The Indian attributed the illnesses from which he suffered to various causes; some were readily apparent as when he suffered exposure or injury. But when it came to those illnesses for which there were no apparent cause, he immediately associated the condition with some supernatural agency over which he had no control. Supernatural agencies required supernatural techniques as only the medicine men possessed. Evil ghosts caused illness, a disregard of taboo, or a ceremonial lapse as well. The ill will of persons or animals could bring on illness, in some tribes, with the badger, deer, coyote or dog being the cause of a specific illness. There were medicine men for diagnosing and others for curing in some tribes, or there might be a consultation of medicine men—both to diagnose and to prescribe or perform the necessary treatment. Curing societies, rather than the individual medicine man, were favored by some tribes where the single medicine man was

suspect; the members of the curing society being called to ascertain the illness and prescribe the cure.

Foreign objects were exorcised. Singers chanted the appropriate song as a propitiation for bringing the Indian back into proper relationship with the supernatural agency. Sand paintings were made; chanting and dancing were performed, fetishes were placed at appropriate places, pipes were smoked, and sweat baths and numerous other measures used. The system worked well, it can be surmised, until the arrival of the European and the diseases brought with him. Wholesale deaths had but one solution, and that was to flee! The Spaniard noted this response by the natives of New Spain with some surprise; yet it had ever been the response in Europe to plague and pestilence.

Medicine men acquired their power in different ways. Some obtained it by inheritance, as among the Pimas; others received their medicine in a vision or from natural objects as Apache medicine men did; some bought their power at a heavy price from a teacher or acquired it by having been cured of a sickness, of a rattlesnake bite, or other similar experience. The major difference between the various tribes in Spain's northwest was whether a highly specialized medicine man or plain tribesman was engaged in the curing
practice. Among the Hopis, communal doctoring served both the individual and the group; the individual medicine man had little or no power, but when united they were all powerful. The Apaches had a medicine man for every purpose and a ceremony for nearly everything in life. The Navajos' belief that they were performing the very songs and rituals of the gods with the performance of the ritual exactly as prescribed, required a properly indoctrinated singer or chanter. Their mythology and theology, as expressed by a rather beautiful symbolism, still reveals their emotional and esthetic appreciation of all nature.

The medicine men had other duties besides curing and diagnosing. Among their responsibilities were the location of misplaced articles, the insuring of good weather for crops, and tribal ceremonial rites. Complete faith in his practice by the practitioner and by those who sought his assistance, the picturesque ceremony replete with paraphernalia symbolic of the tribe, the sedative effect of chanting, and the support of all his clansmen in the curing rite


85. Ackerknecht, Short History of Medicine, p. 17.
undoubtedly contributed to the cure. In instances where the administration of herbs were employed, there was always some measure of ceremony accompanying the procedure. Physical therapy in the form of massage or sweat baths was also performed according to a certain ritual.

During the closing years of Spanish rule little change was noted regarding the medical practices among the Indians of Upper Sonora and New Mexico. What little Old World medicine reached the Indian at the hands of the missionaries could largely be discounted. Major changes in the living pattern of the native peoples brought them into closer proximity of the mission rancherias which facilitated the spread of communicable diseases. Spain had very little to offer in the way of curing practices—the Spanish surgeon was absent from the frontier and the Indian shaman was very much there. The Spaniard brought the new and deadly diseases, but had no cure. The Indian, who was to suffer greatly, doubtless adhered more closely than ever to his own medicine, for the white man's medicine was no better.
CHAPTER II

MEDICINE AND MULE TRAINS

In the first decade of the nineteenth century, Zebulon Montgomery Pike unlocked much of the mystery of the southwestern regions of the North American continent which, under Spain's rigid control, was not known by the United States of America or by other nations of Western Europe. Pike's 1806 explorations beyond the Mississippi River, conducted courteously but firmly by the Spanish officials at Santa Fe, terminated in Chihuahua. Pike was able to give a detailed account of the territory as he

1. Zebulon Montgomery Pike, An Account of the Expedition to the Sources of the Mississippi and through the Western Parts of Louisiana; To the Sources of the Arkansas, Kansas, La Platte and Pierre Juan Rivers; Proposed by Order of the U.S. Government during the Years 1805-1806-1807, and a Tour Through the Interior Parts of New Spain When Conducted through these Provinces by Order of the Captain General in the Year 1807 (Philadelphia: C. & A. Conrad & Co., John Binn, Printer, 1810). Not a literary masterpiece, according to Elliott Coues whose edition of The Expeditions of Zebulon Montgomery Pike (New York: Francis P. Harper, 1895) was the third one to be published, the work having been printed in French and Dutch versions prior.

2. The entire expedition was somewhat controversial in that it was instigated by General James Wilkinson, Governor of Louisiana, at the time of the Burr Conspiracy (1804-1807), and Burr had consulted with Wilkinson at one time in Louisiana.
observed it, and later published his report for all those interested to read. Unauthorized though they were proclaimed by the government, his exploits were commended and his reports closely scanned. If Lewis and Clark were the advance publicity agents for the American Northwest, Pike certainly earned that title for the Southwest. Soon the Anglo-American would penetrate the Spanish provinces for a variety of reasons. Anglo-American doctors were a part of that vanguard which came to the Southwest and Far West before the country was claimed for the United States.

Doctor John H. Robinson joined Pike's expedition unofficially shortly before the party reached Santa Fe, where their presence in New Spain aroused the suspicions of the officials.\(^3\) Pike was greatly impressed by the doctor and fully expected that Robinson would write up his scientific observations of the expedition which he failed to do. He was not the first doctor to venture into Spanish territory, as Pike discovered, for the party had met with

\(^3\) John H. Robinson was sent by William Morrison to collect a sum of money from one Baptiste Lelande, a very slim excuse for going to Santa Fe, according to Coues, probably a pretext for a romantic adventure. Robinson later joined Mexican Revolutionary Forces.
a Doctor Zerbin in San Antonio who had migrated from Natchez some years previously. ⁴

Interest in the West followed the War of 1812 as attention to European affairs was now diverted to that great expanse of land beyond the Mississippi. Water routes offered by the mighty river systems of the West were followed by the intrepid trapper in search of beaver pelts. Boundary lines did not exist as the lone trapper, or groups of them, ventured farther and farther beyond the familiar woodlands and cultivated acres, across the prairies and into the Rocky Mountain streams. ⁵ The Adams-Onis Treaty of 1819 established boundary lines between the United States and Spain's claim to this vast region. Spanish patrols were few except near Santa Fe, and by 1822, when Mexico became an independent nation, trading policies were more liberal. The Santa Fe trade was sanctioned, and so was fur trapping, by the granting of licenses, but how many trappers and traders came without

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official knowledge will never be known. St. Louis to Independence and then to Council Grove became the stopping off place to the Far West adventure, and the gathering place for caravans of mule trains beginning their trek to Santa Fe.

The very first trappers on the scene were probably not officially recorded; but few kept a record of their adventures in Santa Fe and beyond. James Ohio Pattie's account of his trip from Santa Fe, across the Gila and Colorado rivers, and then to California by 1828, was adventurous enough to inflame others with the fever. His exploits alone in vaccinating 20,000 Californians at one dollar per head may have impressed some physicians with the need for their services in the West. From Pattie's


7. When the fur trade started in the Southwest, officially or otherwise, is not settled but Spanish officials had seized the furs of Auguste P. Choteau, Julius DeMunn, and Joseph Philbert as early as 1817. The men were taken into custody and their furs confiscated.

8. James Ohio Pattie, Personal Narrative, The 1831 Edition unabridged (Philadelphia: Lippincott, 1962), with introduction by W. H. Goetzmann. James and his father, Sylvester Pattie, joined the caravan enroute to Santa Fe, spent some time at the Santa Rita mines where his father remained while James continued his adventures along the Gila. Father and son then went to California where the father died.

9. Pattie's account of vaccinating so many persons might mystify later day physicians as to the source and
account, the reader gathers that trapping was a highly individualistic operation, that negotiations with Mexican officials and with the Indians were not always advantageous, and that trappers rarely banded together even for mutual protection against the hostile tribes. The main concern was for beaver pelts, a return to the rendezvous for the exchange of the pelts—usually in the form of trade goods and supplies—and a start on the trail again. Pattie retired at the end of his adventure, but others remained to cast their lot with the future of this new and strange land.

Josiah Gregg was one adventurer who elected to return to Mexico after several trips across the plains to Santa Fe in the interests of trade with that city. Gregg was among the first of the health seekers to test the efficacy of the vaccine which he reported that his father had on hand. The fact that vaccination against smallpox was acceptable and welcome at this period was an event in medical progress. Pattie never did receive his pay for this tremendous accomplishment.

10. Ceran St. Vrain was one who elected to remain in Santa Fe. The more famous trappers listed by Cleland, *The Reckless Breed*, include such names as Miguel Robbins, Peg-Leg Smith, Old Bill Williams, Ewing Young, and William Wolfskill, in the Southwest.

From the beginning there was ill feeling between New Mexican officials and American traders; the Anglo-Americans treated Mexican laws and institutions with contempt, hunting without passports or permits, and disappeared into the regions of the Gila and Colorado rivers. Cleland, *This Reckless Breed*, pp. 147-150.
"sanitive effect" of the country beyond the Mississippi. After making four trips across the plains, Gregg wrote his account of the land, the people and his experiences along the way. His interest in medicine and all things scientific accounted no doubt for his detailed observations on health and medical matters. There were doctors as travelling companions to Santa Fe—a French doctor at one time, and a doctor from Massachusetts noted who was travelling for his health.

A living was not to be made by practicing medicine in Santa Fe, Gregg observed, for local remedies were used in the cure of all illnesses. Some foreign physicians had located in Santa Fe but soon gave up the attempt at medical practice as both the destitute and the affluent liquidated their bills by saying Dio se lo pague—may God pay you.


12. Gregg reported the hazards of the trip to Santa Fe with no doctors in attendance. A Mr. Broadis sustained a gunshot wound in his arm with the bone shattered; the man refused amputation until the entire arm was gangrenous. The only instruments available were a hand-saw, a butcher knife, and a large iron bolt—the latter used to sear the vessels. The French doctor sustained a frightful injury when his carriage overturned on him, "crushing and mashing him most frightfully." The doctor was taken out senseless but he survived. Commerce of the Prairies, p. 33.

The Massachusetts doctor had pulmonary disease, Commerce of the Prairies, pp. 121-122; became involved in embranglement with Mexican officialdom in 1840.

Gregg completed a course of medicine in 1845, returned to practice in Saltillo, Mexico, after service with the Missouri Volunteers during the War with Mexico, but after a year he was off again on a botanical expedition with Dr. George Englemann of St. Louis.  

Beyond Santa Fe only the most daring would venture to cross Apacheria, but many made the journey unmolested. John Marsh crossed from Santa Fe to California in 1836, but he may not have been the first "doctor" to cross by this route. Marsh was not a doctor of medicine but he did possess a Bachelor of Arts degree from Harvard, and he had always intended to study medicine. His diploma from Harvard sufficed for a license to practice in California, as none could read the Latin. When it was sent to the missions for translation into Spanish, there were few who could read that, and the Pueblo Ayuntamiento granted the permit for him to practice medicine.

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14. Gregg completed a course of medical instruction at The University of Louisville in 1845, received an honorary degree in 1846; died while on this expedition with Dr. Englemann at Clear Lake, 1850.

15. James H. McClintock, Arizona, Prehistoric, Aboriginal, Pioneer, Modern, I (Chicago: The S. J. Clarke Publishing Co., 1916), p. 84, states, "In 1827 a Doctor Anderson passed down the Gila to California leading a considerable party," but no additional information has been discovered in regard to this party.

Doctors of medicine were apparently welcomed in Mexican territory, but there were some regulations existing regarding the license to practice. This would all be changed in the ensuing years when even the semblance of regulation disappeared with other Mexican laws as doctors and pseudo doctors of every description came with the westward migration before California and the Western territories effected restraining laws. During this interim period, the quack and the savant were on equal terms. Fortunes were to be made by means other than the practice of medicine and many real doctors shed their professions in the hunt for gold or other better paying positions. Many adopted the profession without any preparation whatsoever, as a matter of expediency or livelihood, and there were none to question any man's pretensions to the profession.17

The love of adventure afflicted the physician together with many adult males during the first half of the nineteenth century. Dr. Adolph Wislizenus described this yearning to see what existed on the other side of the line of civilization which coincided with the western boundaries

17. Henry Harris, California's Medical Story (Springfield: Charles C. Thomas, 1932), pp. 73-86. Harris reckons that approximately 1,300 to 1,500 medical men of all sorts and descriptions came with the gold rush to California, the majority interested in gold.
of Missouri, Arkansas and Louisiana. His first journey was to the Oregon country in 1839; his second venture was to the Mexican provinces where he found himself in the middle of the War with Mexico in 1846, and joined the expedition of Colonel Alexander W. Doniphan after being rescued from a Mexican jail. The doctor's report of scientific observations made during that expedition form a part of the United States documents of western exploration. Wislizenus was content after these adventures to return to serious practice of medicine in St. Louis for the remainder of his life.

War with Mexico in 1846-48 brought the Army surgeon into the Southwest. The first accompanied military expeditions across the Northern Mexican states, and later served as post surgeons at the new military establishments.

18. Adolph Wislizenus, A Journey to the Rocky Mountains in the Year 1839 (St. Louis: Missouri Historical Society, 1912). Doctor Wislizenus received his degree in medicine in Switzerland and came to America in 1835, where he began to practice medicine in St. Louis.

19. Wislizenus joined the Albert Speyer expedition to Mexico in 1846 where he was arrested and put in jail. His journeys until he joined the Doniphas expedition were at his own expense. His report: A Memoir of a Tour to Northern Mexico (Washington: Tippin & Streeter, 1846) was also printed by the 30th Congress, 1st Session, Senate Misc. Doc. No. 26. In Mexico Wislizenus met his friend Dr. Josiah Gregg who came with the Missouri Volunteers.
Doctor John Strotter Griffin accompanied the Army of the West from Fort Leavenworth to San Diego in 1846-47. Horses were traded for mules as the Army neared Santa Fe, and the first official mule train crossed the desert country to the Pacific under Colonel Stephen Watts Kearny. Griffin drew straws with Dr. George Sanderson to see whether he or the latter surgeon would accompany Kearny or the Mormon Battalion under Captain Philip St. George Cooke. Griffin drew Kearny's expedition and Sanderson accompanied Cooke's column to establish a wagon road to the Pacific.

The command under Colonel Kearny was remarkably healthy, Griffin recorded in his diary; there was little sickness along the Gila-Colorado trail—the only trouble was in keeping the mules and beef cattle from the Indians. By the time the expedition reached the Colorado, the men were nearly naked and barefooted, Griffin wrote, and

Their feet are sore and leg weary. They have been marching, many of them, for the last five hundred miles. Our mules are all so that they can scarcely get along with a pack or a man on their back, only the sick have been allowed to ride lately. This is rather a bad picture, for men who have a hard campaign before them, but then our powder is dry, and guns in good order and if they don't pile an unreasonable number up before us—we will be able to give them a good sound threshing.20

20. John Strotter Griffin, A Doctor Comes to California, diary edited by Dr. George Lyman (San Francisco: California Historical Society, 1943), p. 37. Griffin was
The command did encounter a stiff force at San Pasqual and Doctor Griffin was concerned, thereafter, with the men most seriously injured by the knives and lances of the Mexican force. \(^{21}\) Their transportation to San Diego was an ordeal which was remarkable in that the men survived it.

The treatment of the wounded, recorded by Doctor Griffin, consisted in purging and bleeding with the local application of blisters and cupping. \(^{22}\) Special attention was given to the dressing of the infected wounds and the abscesses which developed were incised and drained. Nursing care and attention by the doctor appeared to ameliorate the patient's condition despite the poor hospital accommodations in San Diego. Diets of the most nourishing quality supplemented by brandy, wine and milk punch were furnished the wounded.

Typhoid and dysentery were rampant in the camp; mercury in the form of blue mass and calomel were the drugs of choice. Blistering and cupping were again employed to

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21. The Battle of San Pasqual occurred on December 6-7, 1846, with severe casualties for the Americans.

22. Blistering and cupping, counter-irritant measures then in vogue to relieve congestion and fever.
relieve the distress of the fevers; turpentine stupes and mustard plasters were applied as palliative measures to relieve gastro-intestinal discomforts. Influenza became prevalent in San Diego and Doctor Griffin noted that some of the men were nearly naked and quite barefooted.23

Mercury was the bane of the Mormon Battalion under the medical attendance of Doctor Sanderson.24 Two men died due to the administration of calomel, the men believed, for the Mormons had received counsel not to take calomel but to rely on their own customary measures in case of sickness. The officers in charge of the Battalion soon stopped the men doctoring themselves and threatened their very lives, one journal recorded, and the doctor was reported to have said that he would send as many to hell as he could.25 Other than

23. Griffin, A Doctor Comes to California, p. 75. Mustard plasters, or sinapsis, and turpentine stupes were applied to the abdomen to relieve gaseous distention.

24. Frank Golder, editor, The March of the Mormon Battalion (New York: The Century Company, 1928), p. 163, from the journal of Henry Standage; B. H. Roberts, The Mormon Battalion (Salt Lake: The Deser News, 1919), all tell of the differences of opinion between the men and Doctor Sanderson who was evidently not too well pleased with his assignment. Sanderson was born in England, entered military service in Missouri as Assistant Surgeon of Volunteers, resigned in August, 1847.

25. Golder, March of the Mormon Battalion, p. 168, Lieutenant Smith discovered two or three sick in a wagon who took medicine without the doctor's orders; the lieutenant threatened to cut his throat if he did that again; p. 168, "Brother Alva Phelps died . . . I believe that calomel killed him"; p. 215, "David Smith killed with calomel, administered to him by Dr. S."
an encounter with some wild bulls near Tucson, the Battalion did not engage in battle; their feat in establishing a wagon road to the Pacific, however, was a remarkable accomplishment.\textsuperscript{26}

Gold seekers followed the trails broken by Kearny and Cooke or came across from Santa Fe on the Old Spanish Trail. Mules and oxen were the draft animals that pulled the heavy wagons of the trains across the long and desolate expanse. For the road was only a route to be followed, marked where wagon wheels dug deep into the surface or the bones of animals indicated that the trail had been followed previously. During the Mexican War, pack mules had been found to be the most expedient means for transporting supplies over the rugged terrain, and mules were plentiful in Mexico.\textsuperscript{27} Mules were expendable; they were lost or gave out in great numbers, were run off by the Indians or wandered off, and furnished a necessary supply of food for the desperate Argonaut. Wagons gave out too and were abandoned along the trail. There were riders on horseback who could


travel faster, but for durability and staying power, mules carried the heaviest burden and were used in greater numbers to transport the immigrant to western territories.\textsuperscript{28}

Cholera also followed some of the trails—at least in those caravans made up at the ports of disembarkation in New Orleans. Texas seemed to be the gathering place for those following the southern route across the continent. Here, caravans were made up of immigrants who had disembarked at New Orleans, and were looking for a way westward.\textsuperscript{29} Whether or not the disease was cholera, which caused the greatest mortality, or some other disease communicated from one immigrant to another, cannot be known. How many died from cholera or other diseases enroute to the western lands, how many died from sheer exhaustion, from Indian attacks, or, were murdered for whatever possessions they may have had, can only be conjectured. Too many, it would seem, were buoyed by the prospect of gold with the spirit of adventure outweighing any practical considerations for the demands of the journey.

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28. Wagons were drawn by eight mules, which carried a heavier load than a pack mule, but wagons often had to be abandoned.

29. The United States Government investigated the prevalence of cholera in America on two occasions: 22nd Congress, 1st Sess., House Report No. 226 in 1832, and the 43rd Congress, 2nd Sess., House Executive Document No. 95. In both reports there was a wide variance in describing the symptoms of cholera which indicates that other diseases were often included; typhoid probably caused a greater mortality than cholera and was sometimes confused with that disease.
Many caravans counted doctors among the travellers with some parties headed by a doctor. Whether the titles were bestowed gratuitously or not is not known. A Doctor Cook was the vice-president of the Fremont Association crossing in 1849, and Doctors Thomas and Lincoln were members of the party. Doctor Gardner was in charge of a company from Georgia; Dr. William T. Brent headed a party from New Orleans. Doctor Abel Lincoln built a ferry on the Colorado at Yuma in 1850 and was killed in April of that year. Doctor John Le Count met the Royce Oatman family enroute to Yuma in March of 1851 and went on to Yuma to secure aid for that family which was attacked by Indians

30. G. P. Hammond and Edward P. Howes, editors, Overland to California on the Southwestern Trails (Berkeley: University of California Press, 1950) presents the journals of some of the 1849 travellers. "The Diary of Edward Eggleston," pp. 75-180, cites the instance of Dr. Cook treating a gunshot wound, accidental, and Ambrose Jones, who was bitten by a small black and red spider. The Fremont Association was organized in New York for the journey west.


32. Alta Californian, May 21, 1859 and June 16, 1860; Douglas Martin, Yuma Crossing (Albuquerque: University of New Mexico Press, 1954), for accounts of the murder; Arizona Sentinel, December 16, 1894, gives a brief account of the ferry and the murder of Dr. Lincoln together with John Clanton who joined Lincoln in the ferry business, all murdered except three who escaped the Indian attack. Also, Bancroft, History of Arizona and New Mexico, pp. 487-489.
at a point two days journey beyond the Pima villages. 33

Doubtless there were many others.

A camp was established near the juncture of the Gila with the Colorado River by the end of September in 1849 to afford some protection for those immigrants crossing the continent by the southern routes. Named Camp Calhoun originally, then Camp Independence, and lastly Fort Yuma, the military post had a precarious existence due to the scarcity of supplies and the depredation by Indians. There were also marauders and desperadoes, who posed as great a threat as the Indians, to the garrison and to the immigrants making the crossing. 34 A "well adapted" hospital was a part of the camp from the beginning, with Assistant Surgeon Henry Bancroft, History of Arizona and New Mexico, pp. 484-485, mentions only a John LeCount who passed the Oatman family, and by whom a letter was sent to Major Heintzelman at Port Yuma; J. Ross Browne, Adventures in Apache County (New York: Harper & Brothers, 1874) calls the man Doctor LeCount, and that he explored extensively along the Pacific Coast. The 33rd Congress, 2nd Sess., Report of Scientific Explorations (March, 1854), credits Dr. J. L. LeConte with contributing various specimens from California; William B. Atkinson, The Physicians and Surgeons of the United States (Philadelphia: Charles Robson, 1878), lists one Dr. John LeConte, born in 1818, graduate of the College of Physicians and Surgeons in New York in 1841; professor of physics at the University of California in 1868; president of that same institution in 1876.

34. Camp Calhoun was established by Lieutenant Cave Couts who accompanied Lt. Whipple on his survey; Couts also established a ferry. The camp site was moved several times; the river changed its course, and the jurisdiction of the camp was later in question—whether it belonged to Arizona or California. So closely aligned with the history of Arizona, Fort Yuma is considered a part of Arizona.
Hewitt the first post-surgeon. The doctor urged that more fresh vegetables be furnished to ward off the scurvy and diarrhea affecting the troops; he also requested that cotton clothing be furnished and that the troops be excused from parading in full dress. 35

When the fort was moved to the top of the bluffs, the hospital consisted of two tents covered with brush and supplied with sufficient furniture for twenty men. Assistant Surgeon John Jefferson Milhau became post-surgeon when the fort was re-garrisoned in February of 1852, and again the surgeon requested that antiscorbutics be provided as he sent six men to San Diego for treatment of scurvy. 36 With the overflow of the Colorado in July, certain plants, chiefly pigweed—*chenopodium album*—were discovered to be an excellent antiscorbutic. An adobe house covered with canvas was a decided improvement, but a driving rain washed away two sides of the hospital and verandas were added in the restoration as a protection.

The post-surgeon at Yuma treated the malaria which prevailed, the gastric "derangements" which persisted, and several cases of cerebral congestion and insolation (sun-stroke) which were fatal. Drownings were frequent in the

35. Post Medical History, Fort Yuma, AGO Records Group 94.

36. Ibid.
Colorado's treacherous current; the arrival of troops from the coast always resulted in a heavy sick call at the post-hospital. The steamer *Uncle Sam* required fourteen days for its first voyage from the mouth of the Colorado to Fort Yuma—delays due to an earthquake and an accident to the boiler, but it made the return trip downstream in fifteen hours.\(^{37}\) The post was well supplied with foodstuffs and other necessities after the Colorado steamers began making regular calls.

New Mexico Territory, created by Congress on September 9, 1850, gave a name to the expanse of territory between Texas and the Colorado River above the Gila River; below the latter river was Mexican territory, until 29,670 square miles of land was purchased from that government in December of 1853.\(^{38}\) The new territory extended from the Rio Grande to the Colorado and contained some of the most troublesome Indians known at that time. Fort Defiance was built by troops under Colonel Edwin Sumner in September of 1851 as a base of operations against the troublesome Navajos. Located in Canyon Bonito, the post had ten assistant and acting assistant surgeons on duty at various

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37. *Post Medical History, Fort Yuma.* The *Uncle Sam* made its maiden voyage upstream in December of 1852.

times during its ten years of existence, surgeons engaged for the most part on detached service with the troops in the field, on escort duty, or filling in as other military posts were established in the Territory. 39

Assistant Surgeon William J. Sloan, medical director of New Mexico Territory, was hard pressed to find enough surgeons for the numerous expeditions against the Navajos and Apaches. When an expedition to Tucson was ordered in September of 1856, Sloan contracted with Doctor Lewis Kennon to accompany Captain Richard Stoddart Ewell, and his troops, as Kennon was the only physician available in the Territory. 40 Doctor Kennon became the first post-surgeon at Fort Buchanan, or Camp Moore as it was called, when established in November of 1856 near the Sonoita River, in what was a recent acquisition of territory from Mexico. Kennon was relieved in December of 1857 by Assistant Surgeon Bernard John Dowling Irwin, the "fighting surgeon," known professionally for his surgical skill, militarily for his

39. AGO Record Group 94, Post Returns, Fort Defiance, include: David L. Magruder, P. G. S. Ten Broek, W. J. H. White, Elisha P. Longworthy, Jonathan Letterman, B. J. D. Irwin, P. A. Quinlan, J. Cooper McKee, H. H. Bill, and C. H. Alden. The fort was abandoned in April, 1861, and "left in charge of the Navajo Indians," the note read on the last post return from Fort Defiance.

40. Endorsement on contract of Lewis Kennon from Surgeon William J. Sloan to Surgeon General Thomas Lawson, 1 September 1856. AGO Records, Group 94.
role in leading a relief expedition to Apache Pass.  

Doctor Irwin performed three amputations during his tour of duty at Buchanan, resected part of the ramus of the lower jaw, and performed several other minor operations during this period. A detailed account of two amputations of the arm at the shoulder joint were written up for the leading medical journal of that time; and his complete description of Fort Buchanan, and the surrounding country as well as the people inhabiting it, was a masterful composition in every respect.  

Silas St. John, an employee of the Southern Overland Mail Company, was engaged in the construction of the Dragoon Station for that company in September, 1858, together with three other men assisting in the work and three Mexican boys also hired by the company. The men were attacked while sleeping by the Mexican lads who were almost successful in murdering all three of the men with blows from axes and hammers. St. John received two severe blows to his body from an axe until he scared off the attackers; his partners were either dying or dead. One axe blow almost

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41. Martin L. Crimmins, "The Fighting Doctor," Military Surgeon (March, 1928), Reprint. See Appendix II.

severed the left arm from his body, but, somehow, he managed to stop the hemorrhage. Assistance did not arrive until the sixth day when the mail stage arrived and found the victims. Doctor Irwin was sent for and arrived the next morning—nine days after the attack—to find St. John's wounds "undressed and stiffened, and full of loathsome maggots. "

Hydroic measures were called for, and the Doctor proceeded at once to amputate the partially severed arm.

Since there was no chloroform for anesthesia, forty drops of tincture of opium sufficed. Some sacks filled with corn served as an operating table and assisting were the four members of the escort party from Buchanan, one of whom compressed the axillary artery during the operation. Irwin used a catling--a double edged knife--to sever the arm through the original wound; tied off the arteries and removed the head and neck of the humerus with a flap to cover the wound taken from the anterior and inner aspect of the arm. The wound was closed with interrupted sutures and


St. John was a robust 24 year old man, healthy but weak from loss of blood when Irwin saw him. He recovered completely and was appointed agent for the Pimas and Marl- oopas the next year. The Weekly Arizonian (Tubac), April 14, 1859.

See also: Robert B. and M. B. Conkling, The Butterfield Overland Express, II (Glendale: Arthur H. Clark Co., 1947), p. 137, for details of the stage station construction and attack.
adhesive plaster; cold water dressings and a light bandage applied with instructions left for subsequent dressings; a repeat of the tincture of opium for sedation, and stimulants of brandy. Six days later the patient arrived at the fort, travelling in a common wagon over rough roads the major portion of the way. Twenty-four days post-operative, the patient was walking about despite two attacks of intermittent fever.

The second amputation was of a hand that was partially blown off by a gun exploding. During an alarm that Apaches were coming, one man loaded his gun with "an enormous charge" with the result that when he fired it the next day, the gun exploded taking part of his hand with it.44 The third, and second shoulder-joint amputation, was performed at the fort, the cause being a gunshot wound that shattered the humerus with infection setting in as the doctor attempted to save the arm. The patient evidently had septicemia as Irwin developed an infection during his treatment of the case, and the patient died suddenly after two attacks of intermittent fever.45

44. Weekly Arizonian, May 19, 1859.

45. B. J. D. Irwin, "Gunshot Wound of the Arm, Amputation at Shoulder Joint; Severe Effects to Operator from Inoculation with Matter from Wound," American Journal of Medical Sciences, XLII (October, 1861), pp. 337-340. The post-mortem examination revealed profuse hydropic congestion and peritonitis.
Doctor Irwin had an injury from an oak splinter before operating on the second arm amputation, the injury no larger than a common pin prick, but it became painful and swollen and caused much discomfort. Irwin sent for the only other physician nearby—Doctor C. B. Hughes, a civilian practicing at Tubac. A report of the treatment of his infection was also written up for the medical journal: cold water dressings locally, bromine and potassium iodide internally in large doses, until the doctor's condition was complicated by intermittent fever and he became delirious. Doctor Hughes incised the abscess and irrigated the wound with chlorinated water. Blue mass and quinine were administered, stimulants were given in the form of wine and spirits of ammonia, and the patient recovered forty-six days after the initial injury with a partial ankylosis of the second joint of his finger.

Doctor Hughes was proclaimed as a graduate of the "best medical college of Cincinnati," as having had extensive experience, would be found attentive and trustworthy, and a highly skillful physician. From his office

46. Ibid. Doctor C. B. Hughes, always referred to as "C.B.," although records at Arizona Pioneers' Historical Society list his name as Clarence B. Hughes.

47. Irwin thought that the residual complication would be irremedial except for surgery, p. 340, American Journal of Medical Sciences, XLII.

in Tubac, the doctor attended the sick and injured of the Sonora exploring and Mining Company located near that place, in addition to his calls to attend patients in the surrounding area. John Ware and his partner, ranching in the Santa Cruz valley, were attacked by a party of Mexicans. Doctor Hughes attended Ware whose wounds proved fatal; the doctor also acted as secretary of the citizens organization which met to decide the fate of the captured attackers. Civil authorities were elected at this meeting—a constable and Justice of the Peace—and the consensus of the meeting was that the murderers should be removed to Fort Buchanan and turned over to the authorities there. 49 Hughes later removed to Tucson where he bought a house on Calle Principal, remaining until the fall of 1862 when he removed to San Francisco. 50

There were two other men who listed their occupations as physician on the 1860 census report; D. C. Glasscock resided in Tucson and Isaac Cotton resided in Sonoita, but there is no record of their practicing medicine. 51

49. Ibid., June 30, 1859.

50. Oury Property Record, 1862-1864, p. 36. Recorded on September 4, 1862, was the purchase by Dr. Hughes of Lot No. 71, originally taken up by D. Curly with a house built and other improvements . . . . The property was sold by Dr. C. B. Hughes on April 20, 1864, to Eliza Duffield; the doctor was then a resident of San Francisco.

51. U.S. Decennial Census, 1860 lists: D. C. Glasscock, age 42, male, physician, $10,000 worth of property, born
Mexican population had no regular physicians among them, and their few remedial agents were entirely of a domestic nature, according to the report of Assistant Surgeon Irwin. Irwin also reported that the State of Sonora, with an estimated population of some 200,000 souls, had only three regular physicians. As for the Indians, pulmonary affections were very common as were diseases of the eyes; intermittent fever prevailed among them as with all groups in the Territory. There were no reports of Indians being treated by the Army surgeons at this time.

The soldiers at Fort Buchanan suffered more from malaria than from any other affliction. During the year 1858, there had been 769 cases of disease among the troops of which 453 were cases of fever—354 of quotidian and 96 tertian. Diarrhea and dysentery were next in frequency after the intermittents, some of a severe form with a tendency to become chronic. The location of the fort itself was in the lovely valley of the Santa Cruz, on a small plateau from which one could view the wild, picturesque and bold country,

in Virginia; Isaac Cotton, age 47, male, physician, $2000.00 worth of property, born in Mississippi.
These two physicians with Dr. C. B. Hughes, age 34, born in Ohio, worth $1000.00, were the only ones listed besides the army surgeons in Arizona County in the Territory of New Mexico.

but a far from satisfactory site according to the surgeon. Built of jacal—temporary hut structures of pickets placed perpendicular to the ground, the chinks filled in with mud—the quarters of both officers and men were abominably miserable. The structures were scattered about without regard for permanent occupation, stables, corrals, pig-pens, root-houses, open latrines, and dwellings without plan; policing was as good as circumstances would permit. The fort enjoyed the prevailing southwestern winds but drainage from the swamp was also in line with the southern breeze which carried the effluvia over the camp and regaled it with this poisonous compound.\textsuperscript{53}

Two other military posts were established in the western counties of New Mexico Territory prior to the Civil War: Fort Breckinridge on the Arivalpa and San Pedro rivers in May of 1860, and Fort Mohave on the east bank of the Colorado River at the head of Mohave Valley in the summer of 1859. Assistant Surgeon Kirtley Ryland served as post-surgeon at the former during the short time it was in existence, and Assistant Surgeon John J. Milhau was assigned to the latter, which was established to protect the immigrants using Beale's Wagon Road across the northern territory.\textsuperscript{54}

\textsuperscript{53} Ibid., p. 211.

\textsuperscript{54} Breckinridge was established in May of 1860; abandoned in July, 1861.
Surveys and explorations of the new territory began with Kearny's military expedition in 1846 with Major W. H. Emory making notes of the military reconnaissance, his report dealing with all aspects of the country traversed. Following the conclusion of the War with Mexico, boundary surveys were initiated in accordance with the provisions of the Treaty of Guadalupe-Hidalgo with John Russell Bartlett beginning the survey at El Paso, crossing into Sonora and then to California from 1851-1854. A new type of physician-naturalist appeared on the scene as scientist, zoologist, mineralogist, or botanist, or a combination of all of these sciences. All were doctors hired for the purpose of making scientific observations as the survey party continued its work—and to attend the members of the party as physician. Doctor Thomas Webb served as secretary of the Boundary Commission under Bartlett, treated numerous patients along the way for sickness and injury including Bartlett himself when he developed typhoid fever. Doctor John M. Bigelow, Ohio-born surgeon and naturalist, accompanied the survey party of Lieutenant Amiel Whipple along the Gila.

57. There was much contention over the first survey, disagreement over the terms of the treaty, charges that Bartlett made many unnecessary side trips or excursions.
Surveys for a railroad route across New Mexico Territory began with Captain Lorenzo Sitgreaves of the U.S. Topographical Engineers making a survey of the northern route in 1851. Dr. Samuel W. Woodhouse accompanied this expedition as physician-naturalist. He also became one of the first casualties of the deadly rattlesnake when one bit his finger as he was collecting a superb specimen. The doctor then proceeded to apply all the remedies and treatment advanced by scientific medicine and by those experienced in the matter. The wound was scarified, sucked, a tourniquet applied and strong ammonia water used to neutralize the poison. Advised by a member of the party to use the western remedy, the doctor tried that too but only became nauseated rather than drunk by the whiskey consumed. Both local and systemic remedies were resorted to—whiskey, brandy, and ammonia water internally, the finger again scarified and soaked in a cup of ammonia water with poultices of flaxseed applied intermittently. When this did not work, blue mass and extract of collocynth, Dovers Powders for pain, and potassium iodide were administered. The arm was elevated, the entire arm painted with tincture of iodine, and internal medicines of peppermint water, Sedlitz powders and magnesia.

cally were taken. The doctor survived the bite and the 
treatment with some residual sloughing of tissues and 
ankylosis of the joint of his finger. 59

Two deaths from injury were recorded by Doctor 
Woodhouse on the Sitgreaves expedition. One death was due 
to a clubbing about the head at the hands of Indians, while 
the other resulted from a concussion caused by a rock thrown 
by a member of the party. There were five arrow wounds, with 
the arrow heads proving extremely difficult to extract; one 
infected, which resulted when the doctor was forced to cut 
down and forcibly extract an arrow embedded in the bone. 
The party suffered from remittent, intermittent and bilious 
fevers; there was one case each of cholera morbus, colic, 
intercostal rheumatism, anascara, erysipelas and furuncu-
losis. 60 Dysentery and diarrhea were caused by the "entire 
use of fresh mule meat without condiments of any kind." 61 
Few required treatment and scurvy was a serious threat by 
the time that some antiscorbutics arrived from the Gila.

59. Doctor Woodhouse's report is appended to the 
official report, pp. 181-183. Woodhouse was a graduate of 
the University of Pennsylvania School of Medicine.

60. Cholera morbus was probably another condition 
of gastro-intestinal distress; anascara was dropsy. Sit-

61. Ibid., p. 183.
Doctor Woodhouse furnished the Smithsonian Institute with a collection of birds and reptiles; other surgeon-naturalists accompanying the railroad surveys made extensive reports and furnished specimens of the flora and fauna of the region from the Rio Grande to the Pacific coast. Only one explorer concluded that he had no need of surgeons. Edward F. Beale reported that there was no sickness in camp during his survey for a wagon road, that he had no need of a surgeon on the entire journey, and that the medicine chest proved only an incumbrance on the trip from Fort Defiance to the Colorado.

62. Surgeons accompanying the railroad surveys and other explorations: Surgeon John Hammond with Lieutenant Colonel John M. Washington and Lieutenant J. M. Simpson reported on the expedition to the Navajos in 1849 with a report on Pueblo Bonito; Captain R. B. Marcy employed a Doctor Julien Rogers of Wilmington, Delaware, for the exploration from Fort Arkansas to Santa Fe in 1849.

Doctor A. L. Heerman accompanied Lieutenant R. S. Williamson and Lieutenant John Parke along the 2nd parallel in 1854; Doctors J. M. Bigelow and C. B. R. Kennerly with Lieutenant J. C. Ives along the 15th parallel; Dr. D. T. C. Henry accompanied Captain Pope; Dr. Antisell was with J. G. Parke in 1853; Dr. J. S. Newberry with Parke and Williamson.

For reports of the physician-naturalists see: 31st Congress, 1st Sess., Senate Executive Document No. 64; 33rd Congress, 2nd Sess., Senate Executive Document No. 78; in addition to the 32nd Congress, 2nd Sess., Senate Executive Document No. 59, report of Sitgreaves.

63. 35th Congress, 1st Sess., House Executive Document No. 124, dated April 26, 1858, report of Edward Beale, Esq., "My surgeon having left me at the beginning of the journey, I did not employ one . . . nor did I have need of one on the entire road."
In addition to the official surveys and explorations, numerous individuals made their own reconnaissance of the territory. Samuel Woodsworth Cozzens set out from the Mesilla Valley in 1853 for a visit to the mining company in the Santa Rita mountains, his companions included Dr. Michael Steck, then superintendent of Indian affairs for New Mexico, and a Doctor Parker. 64 The Santa Rita Mining Company, ten miles east of Tubac, was managed by William Wrightson and was a part of the Sonora Mining and Exploring Company organized by Samuel Heintzelman and Charles D. Poston in 1856, a company exploring the old mining regions in the southern and western part of the New Mexico Territory. 65 A Doctor Titus and his brother were also interested in mining and had a ranch in Patagonia as well. 66

64. Samuel Woodsworth Cozzens, *The Marvelous Country; or, Three Years in Arizona and New Mexico, the Apache Home* (Boston: Shephard & Gill, 1873), pp. 62-69. Doctor Steck served as Indian agent for the entire Territory of New Mexico and visited the Apaches in Arizona county to negotiate treaties; there were several sub-agents or special agents for tribes in Arizona. Doctor Parker was from Virginia, the only identification made by Cozzens.

65. The Sonora Mining and Exploring Company was the major mining concern in the area during the ante-bellum period; there were several offshoots of the company and a number of interested persons. Heintzelman was president at one time, Samuel Colt became president when it was reorganized. Heintzelman, Poston, and Wrightson were all supporters of Arizona Territory. See B. Sacks, *Be It Enacted* (Arizona Historical Foundation, 1964).

66. J. Ross Browne, *A Tour Through Arizona*, p. 201, mentions a Doctor Titus of the Mowry Mine, Patagonia, whose owner was Sylvester Mowry. Charles D. Poston in the
Raphael Pumpelly came to Arizona in 1860 as mining engineer for the company, and together with Hiram S. Washburn, made the trip through Apacheland. Eighty miles south of Tucson, Washburn suffered an accidental gunshot wound with the bullet entering the inner aspect of the right thigh. A Papago Indian was sent on horseback to get the doctor; Pumpelly remained with the patient as Poston started for Arivaca, some forty miles across the mountains, to get an ambulance. The doctor could not come from Tucson and provisions were scarce as the two waited for the return of Poston. Food and provisions were obtained from the friendly Indians, the Papagos, until Poston returned with supplies two weeks later. The wounded man was transported to Saric in an ore wagon, his bed as comfortable as possible over the load of ore, with the oxen making slow progress. Eventually Washburn and Pumpelly met "an old Spaniard" who

Arizona Daily Miner, April 27, 1880, wrote a memorial to Dr. Charley Titus who came to Arizona with his brother in 1857, established a camp near Fort Buchanan. His brother left for the East and never returned. The doctor remained until besieged by Apaches at his ranch in 1864; he shot himself when no escape was apparent. The 1860 Decennial census lists Harry F. and Elliott H. Titus at the Sonolita Creek settlement but none by the name of Charles, or anyone listed as a physician by that name.

had some knowledge of surgery and who proceeded to cut out the ball. Nursed back to health by some Mexican women, Washburn recovered rapidly as did Pumpelly from an attack of malaria. 68

A semi-monthly mail service was inaugurated in 1857, from San Antonio, with passenger service included for those who could stand the rigors of the journey. 69 Phocian Way made the trip in 1858 and recorded in his diary the adventures along the way, the trip through Indian country replete with the constant fear of attack as the mules pulled the coach over the rugged terrain. Passengers were armed and ready for attack at all times, but there was an excitement about the whole affair that Way liked. 70

John Butterfield took over the mail and passenger service in 1858, the first coach of the Overland Mail Company arriving in Tucson in October of that year, with mail service increased to a semi-weekly period. A total

68. Raphael Pumpelly, Across America, p. 44, relates the entire harrowing experience of the travellers.

69. James E. Birch contracted for this semi-monthly mail service in 1857; service did not begin until the fall of that year. The Butterfield Overland Mail Company took over in 1858.

of 6,482 persons resided in Arizona County of New Mexico Territory in 1860, the people living in some thirty separate communities, with Tucson and Tubac, the two centers, having the greatest number of residents.\footnote{Bancroft, History of Arizona and New Mexico, p. 508. The New Mexico Legislature in 1850 gave the name of Arizona County to what had previously been Dona Ana County's western extension. Bancroft states that the Act was repealed two years later as no attention was paid to it.} The total census also included all soldiers in the military posts above the Gila River. Tucson was described by Phocian Way as a miserable place with no place to eat or sleep; Tubac was a paradise by comparison with its beautiful scenery and above all, plenty of good wholesome food.\footnote{"Diary of Phocian R. Way," in Arizona and the West (Summer, 1860), p. 157.} Laborers could find work at the Sonora Exploring and Mining Company, the \textit{Weekly Arizonian} advertised; the paper started printing in Tubac in March of 1859 and moved to Tucson in July of that year.\footnote{Weekly Arizonian, June 9, 1859, advertisement for carpenters and a few good American laborers.}

Ranching was a profitable enterprise if cattle could be kept from the Indians; the Overland Mail stations and military posts bought hay and grain in addition to beef cattle. The Elias G. Pennington family of father, four sons and eight daughters, arrived in 1857 to engage in
ranching in the Santa Cruz Valley. Settling near Fort Buchanan the Penningtons were successful at first but Apache raids soon deprived them of their cattle. A married daughter, Larcena Ann Pennington Page, was captured by the Apaches in 1860, left for dead, managed somehow to survive the ordeal and obtain assistance of some settlers who called Dr. C. B. Hughes from Tucson to attend her. The father and two sons fell victim to the Apaches in time, as did a number of ranchers and workmen in the mines.

All in all the year 1860 was comparatively quiet in Arizona County. The Apaches agreed not to disturb the Overland Mail Company; the Pimas raised grain for the military posts and for the Overland Mail Company under the direction of Silas St. John, who acted as special agent for them and obtained seeds and tools from the company for this purpose. Gifts had been distributed to all Indians in the Gadsden Purchase in 1859. The Navajos continued troublesome

74. Robert H. Forbes, The Pennington Family (Tucson: Archeological and Historical Society, 1919), traces the progress of this remarkable family which originated in the Carolinas, migrated to Kentucky, Tennessee, Texas, and then to Arizona.

75. Frank Russell, The Pima Indians, p. 32, Sylvester Mowry's report on the Indians in 1859. Mowry had been appointed to distribute the gifts to Indians in the Gadsden Purchase; John Walker also headed the Tucson Agency from 1859-1862; Silas St. John was a special agent to the Pimas also. See also: R. P. and M. Conkling, The Butterfield Overland Mail, p. 168, which reports that the Pimas raised 250,000 pounds of wheat in 1860, that tools and seeds were furnished by the Mail Company.
and bothered the Pueblos, and the Apaches continued their attacks on ranchers and settlers, drove off cattle as always, and managed to waylay the isolated traveller. 76

There were other organized bands of thieves and robbers who did the same, but the military rounded up some of these white desperadoes inhabiting the country and removed them to Yuma for trial. 77

When hostilities began between North and South in 1861, and regular troops were recalled to the eastern front, the Chiricahua chieftain Cochise began his avowed destruction of all white persons. Cochise, coming in to talk matters over with the military authorities at Apache Pass, escaped the attempt to take him prisoner and in the general melee which followed, Apaches and white men were held as hostages. 78 The execution of the hostages on both sides, which followed unsuccessful negotiations between Cochise and the military, was the beginning of full scale warfare between white and


77. The Weekly Arizonian, May, 1859, describes the roundup of murderers and other robbers and thieves around Sonoita, with five men captured by Colonel Reeves.

78. The Affair at Apache Pass, or the Bascom Affair, as it has been labeled, with details of the incident found in: Robert M. Utley, "The Bascom Affair," Arizona and the West, III (Spring, 1961), pp. 59-60; Benjamin Sacks, "New Evidence on the Bascomb Affair," Arizona and the West, IV (Autumn, 1962), pp. 261-278.
Indian, destined to continue for a score of years. As federal troops began to withdraw from the territory, destroying all buildings on the military posts, the Apaches concluded that they had gained the victory. Immigrant trains, mail stations and settlers were harrassed by the repeated raids. The Overland Mail Company withdrew from the southern territory; many settlers escaped to the larger mining camps for protection, or to Tucson, which afforded some protection, only because there were more people there. Forts Buchanan and Breckinridge were destroyed; Forts Mohave and Defiance were abandoned by July of 1861; Fort Yuma alone was left to guard the crossing.

A convention meeting in mid-year of 1861 declared in favor of the Confederacy with Lieutenant Colonel John R. Baylor taking possession of the Mesilla Valley. Captain Sherod Hunter arrived early in 1862 to make Tucson his center of operations against whatever resistance might be encountered to the Confederacy. The muster rolls of Hunter's forces do not list any surgeons for his short stay in Tucson but three surgeons serving with United States forces in

79. *San Francisco Evening Bulletin*, items from March, 1861, to May, 1862, list the number of Indian depredations in Arizona; Tubac was reported as abandoned, due to Indian attacks, in September of 1861.
Arizona did resign for duty with the Confederate forces. A detachment of Hunter's forces met with the advance scouts of the California Column at Picacho Pass in April of 1862, with three men killed in the encounter. Hunter subsequently left the territory and, with the arrival of the forces under General James H. Carleton, the Union flag was hoisted once more in Tucson.

The main column of the California Volunteers under General Carleton--some 1800 strong--arrived by mid-year in 1862 to fill the void left when U.S. forces departed, and to bring some California surgeons into Arizona as well. Surgeon James M. McNulty, Medical Director of the forces, reported that not one single death occurred on the march from the Pacific Ocean to the Rio Grande. There were but five deaths due to disease, which occurred in hospital--two at Fort Barrett and three in Tucson. The success of the


The surgeons who resigned to serve with the Confederacy were: Assistant Surgeons Edward M. Covey, Nathaniel Savage Crowell, and James C. Herndon.

81. Medical and Surgical History of the War of the Rebellion, I, pp. 347-352. McNulty, a graduate of Geneva Medical College in 1846, served as medical director of New Mexico until 1865 when he resigned and became the first health officer of San Francisco in that year. Harris, The California Medical Story, p. 103.

82. Fort Barrett, established on May 10, 1862, at White's Mill on the Gila, named in honor of Lieutenant James
mission with the slightest mortality attending it was attributed to "every possible care exercised to guard against it, and the splendid personnel of the men."\(^{83}\)

This optimistic report by Doctor McNulty was not shared altogether by many of the men making the arduous march, as the journals and diaries recorded the day to day hardships, when the commissary department was deficient, and the men were left many times to forage for themselves and their mounts. Some of the officers were not quite up to the demands of such a campaign, in the opinion of the men, and some of the surgeons were a "disgrace to their profession."\(^{84}\) The mission was accomplished, loyalty was unwavering and any "secesh" sentiment not tolerated.


\(^{83}\) *Medical and Surgical History*, I, p. 352.

\(^{84}\) George Hand’s Diary, 1861-1863, unpublished manuscript, gives the day to day account of the Column’s march from California; the entry for June 11, 1862, records the report of a man’s death at the Pima Villages and Hand expressed his opinion of the surgeons accompanying the Column. See also, Cornelius Smith, manuscript at Arizona Pioneers’ Historical Society, containing letters of Lieutenant Gilbert Cole Smith dated 1 June 1863.
some sixty-three warriors. Carleton then began a campaign against the Navajos and the Mescalero Apaches under Mangus Colorado. By the time Carleton arrived in Santa Fe, the Confederate forces under Baylor and Henry Hopkins Sibley had been dispersed at the Battle of Glorieta Pass in March of 1862. Union forces under Lieutenant Colonel Edward S. Canby had suffered the defeat at Valverde earlier but Colorado units under Major John M. Chivington had ended the southern campaign in New Mexico.

California Volunteer forces were garrisoned at Tucson, established a new fort at Apache Pass which was named Fort Bowie, and on the site of old Camp Breckinridge, established a camp at first named Stanford, later changed to Fort Grant. Fort Canby was built some twenty-eight miles southwest of old Fort Defiance as a base for operations against the Navajos. Fort Mohave was re-garrisoned by two companies of California Infantry; Camp Tubac, along the Santa Cruz, was occupied by cavalry of the U.S. Army in July of 1862. New Mexico Volunteers established a camp in the Chino Valley of northern Arizona, seventy miles south of the San Francisco Mountains, in December of 1863.

85. The battle at Apache Pass was the first experience the Apaches had with howitzers. Both Mangus Colorado and Cochise witnessed the defeat.

86. Bancroft, History of Arizona and New Mexico, pp. 687-700.
Named Camp Clark originally, the camp was later moved to the north bank of Granite Creek and called Fort Whipple. Surgeon David Wooster, accompanied by his wife and child, came with the California Column to Tucson where he remained briefly. He then proceeded to Yuma, where he served until March of 1863 at which time he resigned. Assistant Surgeon Edward Watson was stationed at Fort Bowie until ordered to Fort Craig in June of 1863, where he was killed just thirteen miles from the fort in August of 1863. Assistant Surgeon William A. Kitteredge left Tucson with General Carleton, accompanied Lieutenant Colonel Edward E. Eyre's force to the Rio Grande, was wounded at San Simon's Springs, but continued to serve as post-surgeon at Fort Bowie until discharged in November of 1863. Assistant Surgeon Valentine Cox relieved Wooster

87. Troops were stationed briefly, or went into camp for a short period at other locations; only the more permanent camps are mentioned. Brandes, Frontier Military Posts.

88. Doctor Wooster did not expect to go farther than Yuma. Even so, it appears strange that the doctor would take his wife and child on the journey beyond Yuma. By October of 1862, Wooster was back in Yuma, his wife and child having been sent there under escort a month previously. See: George Washington Oaks, Men of the West, 1840-1917, Reminiscences recorded by Ben Jaastad and edited by Arthur Woodward (Arizona Pioneers' Historical Society, 1956) for items on Mrs. Wooster accompanying the California Column.

89. Watson was killed when the party travelling to Fort Craig was ambushed by Indians on August 3, 1863.
Assistant Surgeon John E. Kunkler served at Tubac and Reventon through 1864; Surgeon John Prentiss served as medical purveyor and later relieved Surgeon McNulty as medical director. Volunteer surgeon Edwin P. Whitney was stationed at Camp Goodwin, a post established on the Gila River in May of 1864, with a depot of supplies including medical stores; the site was changed in June of that year as a base of operations against the Apaches.

By 1863 there were numerous surgeons with the troops in Arizona; surgeons of the Regular Army, surgeons of Volunteers, surgeons with the California Volunteers, and contract surgeons who served according to the immediate needs of the Regular and Volunteer Army. Surgeon Richard Coolidge, Medical Director of the Army of the Pacific, contracted for surgeons in San Francisco; Surgeon O. M. Bryan in Santa Fe also contracted for surgeons, and surgeons in the East signed contracts with the Surgeon General for duty in the new Territory created by Congress in February of 1863.90

90. Correspondence between the Surgeon General's office and Richard Coolidge, Medical Director in San Francisco; Report of Medical Officers on Duty, Vol. V, in the Territory of New Mexico, signed by Surgeon O. M. Bryan; Card index file of contract surgeons; File of Regular Surgeons, U.S. Army; Surgeons serving with Volunteer forces; Records of California Volunteer Surgeons.

It was difficult to keep up with troop movements in Arizona and part of the forces were under the Department
Official recognition had come at last to Arizona as a Territory with fixed boundaries, rather than a continuum of either New Mexico or California or merely a desert space between these two political entities. The law passed by Congress on February 20 was signed into law on February 24, and government officials were appointed and arrived within the boundaries of the Territory by December 29 of 1863. A capital was selected for the Territory by May 20, 1864, near the military post on Granite Creek and was given the name of Prescott. Two surgeons were on the scene at the time, Dr. Thaddeus P. Seeley who had entered into contract with the Surgeon General in Washington in order to accompany the officials of government to Arizona, and Charles Leib who had entered into contract with Surgeon O. M. Bryan for the purpose of accompanying the troops to the post in the new territory.  

Doctor Seeley had distinguished service in the Civil War as surgeon with a Michigan regiment. He had been taken prisoner during the Peninsular Campaign of 1862, of the Pacific in San Francisco; the Department of New Mexico appeared to have its own accounting system; which resulted in some garrisons having several surgeons while others were without.

released and again served in military hospitals in the nation's capital, with former commanding officers attesting to his professional skill. Charles Leib's record of military service contains no mention of any medical education prior to his service as infantry lieutenant and acting quartermaster; his appointments to both positions were rejected by the Senate in 1861 and 1862. Leib migrated to Illinois, and then, to New Mexico where he edited a paper, becoming involved in politics in Santa Fe, before accepting a contract as a surgeon. There is no record of his medical practice during the months in which he served as contract surgeon; there is, however, a report of his disagreements with officials of government and

92. Thaddeus P. Seeley had a record of exceptional medical education for that period having graduated from Union College in Schenectady, New York in 1852, attended lectures at Michigan University during 1852-53; entered the office of Dr. L. N. Sherman of Ogdensburg, New York, during the summer months, attended a course of lectures at Rush Medical College in 1853-54; interned in Mercy Hospital, Chicago, and then returned to the University of Michigan where he graduated in 1856.

93. A book entitled, "Nine Months in the Quartermaster Department or How to Make a Million," reportedly written by Leib was said to be the cause of his rejection. Arizona Miner, February 15, 1865, obituary of Charles Leib who died on 21 January 1865, at the age of 32. He was said to have been appointed to West Point in the same class with McLellan, but was forced to leave because of ill health; that he became a U.S. Secret Agent; that at one time he was editor of a paper in Chicago, a clerk in the Illinois House of Representatives, and that he was a graduate of Philadelphia Medical College.
military authorities in Prescott when he summarily resigned as post-surgeon, and Doctor Seeley was appointed in his place. 94

Both doctors engaged in political activity in Prescott; Lieb was a candidate on the Union ticket, as a delegate to Congress, and was defeated by Charles D. Poston. Seeley organized a Union meeting for the purpose of selecting a delegate to the National Party Convention and, together with Dr. James Garvin, organized the first 4th of July celebration in the territorial capital. 95 Seeley bought several town lots and evidently intended to remain permanently, but on August 5, 1864, the doctor left for Santa Fe in order to take the examination for appointment as surgeon in the Regular Army. He did not return to Arizona, nor did he accept the appointment as assistant surgeon when tendered. 96 Lieb became ill and died in January of 1865. Thus, the first two official doctors remained in the new territory but a short time.

94. Leib engaged in mining activities as did the majority of government officials. A letter from Major Edward P. Willis to General James H. Carleton, dated February 18, 1864, sets forth the complaints against Leib.

95. Arizona Miner, April 6, 1864 and July 4, 1864. Bancroft, History of Arizona and New Mexico, p. 522.

96. AGO Record Group 94. Seeley entered into private practice in Chicago, where he was still in practice in 1886.
Doctor James Garvin arrived with "twenty substantial Coloradians" in time for the census taker of 1864; served in the First Territorial Legislature; resigned an appointment as Alcalde "owing to professional engagements." He further served as post-surgeon for a brief period in Tucson; was attacked by Indians while exploring in the Black Canyon; and departed the Territory in 1866, presumably because of ill health. Dr. Eugene St. S. Wakefield had resided in the Territory for seven years according to the census of 1864. In the latter year, he accompanied the King Woolsey expedition against the Indians, and immediately thereafter departed for the southern country where he met his death at the hands of the Apaches some six years later. Francis M. Larkin, known as Frank Larkin, also listed his occupation as physician on the 1864 census, but worked at numerous other trades and became a business agent the remainder of his life. William B. Murray reported his occupation as a farmer on the 1860 census and as a physician on the census of 1864. He came to Gila City some time before 1860 from North Carolina. Murray was killed during a friendly card game in Prescott in 1867.

97. Arizona Miner, May 25, 1864; Alta California, October 29, 1864; Muster Rolls, Fort Lowell, Garvin's name appeared as post-surgeon for three months; Kelly's Legislative History, p. 2.

98. Arizona Miner, February 26, 1870.

99. Ibid., June 15, 1867, Murray was killed during an argument over cards, was said to be a doctor, a former resident of Gila City.
Elliott Coues was Doctor Seeley's replacement at Fort Whipple. The Assistant Surgeon placed his professional card in the Arizona Miner shortly after his arrival, stating that he was prepared to perform all "requisite operations and would give particular attention to surgical cases." He described his duties as

Alternating between the ordinary charge of a post-hospital and campaigning against the Indians. I cannot remember how many scouting parties I was attached to at different times. Probably a fourth of my duty was active field service. I participated in only one fight, however, as on most expeditions I was attached to were not successful in catching Indians. My position on these expeditions was somewhat analogous; being officially that of a surgeon; really that of a soldier.

Coues spent some part of the time in collecting plants and other specimens for the Smithsonian Institute where he was assigned after his Arizona tour of duty in December of 1864, and where he would remain for the next eight years as Assistant Surgeon.

The Territory of Arizona had been established at last and a brand new town erected for its capital, located at

100. Arizona Miner, August 24, 1864.

101. AGO Records Group 94. Elliott Coues, more noted for his career as a naturalist and historian, was a graduate of Columbia College (George Washington University), and the medical school of that institution. He spent many years at the Smithsonian, made several trips through the West in the interest of collecting plant specimens, and compiled several books on ornithology.
in the midst of a group of Indian tribes, who had once enjoyed the sport of inter-tribal warfare, but now turned their attention to the Anglo-American invader. As far as the Americans were concerned, the resisting Indians were all called Apaches and they were all said to be hostile, or if not, they soon would be. Charles D. Poston became the first superintendent of Indian Affairs in 1864 until his election as delegate to Congress. Poston selected a reservation along the Colorado River, intended for all river tribes and for the Walapais and Yavapais as well, but the latter two tribes could not be induced to occupy the lands. The Mohaves had been subdued and now depended upon the government for aid after the establishment of Fort Mohave.

In the northeastern section of the Territory, the Hopis continued much as before, smallpox having ravaged the tribes in 1853, as the Whipple Party discovered when no Hopi guide could be found. Whipple reported that nearly every adult male had succumbed to the disease from three pueblos. The Navajos had been chastised by General


103. Bancroft, History of Arizona and New Mexico, p. 545.

104. 33rd Congress, 2nd Sess., Executive Document No. 91, Report of Explorations and Surveys, p. 75. The Indians were reported to be dying at the rate of fifty per day and the living were unable to bury the dead. Varioloid
Carleton in 1862 when Fort Sumner was established on the Pecos River at Bosque Redondo, and about all the Navajos that could be rounded up were brought to that place along with some 400 Mescalero Apaches.

The rich lands along the Gila, which had been farmed by the Pimas, were being taken up by more and more white settlers. Sylvester Mowry had reported as early as 1859 that there was likely to be a collision between the settlers and the Indians over the water rights, as more acres in this area came under extensive cultivation by the former. The Apaches were, one and all, a "cowardly, treacherous, thieving race, totally devoid of the few good qualities that mark some of their northern brethren." This sentiment was held by the majority of the Anglo-American invaders, not only for the Apaches but for all the resisting tribes. If any went among them to succor them in the matter of medical attendance, there is no record. The general regard for all hostiles was to rid the Territory of the Sons of Satan.

also affected several of the survey party. Dr. C. B. Kennerly advised remaining in camp another day as a result of the outbreak.

105. Frank Russell, The Pima Indians, p. 32, cites the report of Lieutenant Sylvester Mowry in 1859 who observed the lands being taken up by the white settlers which deprived the Pimas of the land and of the water rights for irrigation.

CHAPTER III

DOCTOR, MINER, INDIAN CHIEF

The search for precious minerals in Arizona continued without interruption during the Civil War years. Prospectors avoided the southern country due to the lack of military protection, and the total number of immigrants into the Territory may have diminished due to the War, but the trails north of the Gila, along the canyons and down the arroyos, were alive with groups of men banded together to afford some protection against the hostiles. Doctors were no less unique than their fellow countrymen in the pursuit of mineral treasures; whenever that expected fortune proved elusive, the doctor could practice some medicine or sign on with the Army for the innumerable scouting expeditions against the bothersome Indians.

The prophecy made by Doctor Wislizenus, at the conclusion of his first journey to the Far West a quarter of a century previously, appeared to be coming true. As he envisioned, the waves of civilization which would draw nearer and nearer from the East, and from the West, until they cast their spray on the feet of the Rockies, and the few fierce tribes who may have maintained themselves until that time in the mountains,
may offer some resistance to the progress of the waves, but the swelling flood will rise higher and higher, till at last they are buried beneath it. The buffalo and the antelope will be buried too. But for all that there will be no smoking of the pipe of peace; for the new generation with the virtues of civilization will bring also its vices. It will ransack the bowels of the mountains to bring to light the most precious of all metals, which when brought to light will arouse strife and envy and all ignoble passions, and the sons of civilization will be no happier than their red brethren who have perished.¹

Seventy-five years after the doctor made this observation, a historian of Arizona concluded that a history of mining in that state was, practically, a history of Arizona.² The development of that extractive industry also became closely aligned with the advance of medicine, as the doctor turned from would-be prospector and mineralogist to the serious practice of medicine and surgery.

Placers were discovered along the Colorado and Gila rivers as early as 1858, with prospectors thronging the adjacent regions. Gila City, located some twenty miles above the junction of the two rivers, became quite a busy place for a short time, but by 1860 the census taker recorded less than sixty persons, including women and


children.\(^3\) Partially destroyed by a flood in 1862, the mining region had been practically depleted of its wealth by 1865. William R. Murray was reported to have been a doctor there during the early years.

La Paz was founded by a party of prospectors along the Colorado in January of 1862 as gold was discovered in the Arroyo de la Tenja. Three doctors were residents of that flourishing city in 1864, but it is doubtful if they were there to practice medicine. Doctors F. A. Romatka, James Dunlevy, and M. Dorsey, as listed on the 1864 census, were elsewhere a short time later. The two former physicians became contact surgeons with the Army, while the latter left no record, unless his name was incorrectly recorded.\(^4\) La Paz became the county seat of Yuma County, one of the four counties established by the First Territorial Legislature, but by 1870, it had passed its active stage, as the river changed its course. What was once an important shipping point was well on its way to its present ghost town status.\(^5\)

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3. Bancroft, *History of Arizona and New Mexico*, p. 500, states that 500 miners were reportedly working the rich deposits at one time.

4. M. Dorsey was probably Dorsey M. McPherson who became a contract surgeon in 1866.

Two of the more noted prospecting parties explored north of the Gila in 1862 and 1863. Pauline Weaver led the party organized by Abraham H. Peeples, from California to the rich placers on Antelope Hill—or Rich Hill, as it came to be known. Another party, under Joseph Walker, encountered the troublesome Indians of northern Arizona, crossed the territory to Santa Fe and doubled back by way of Colorado. The placers they discovered were located along Granite and Lynx creeks, near what later became the site of the territorial capital. Mining districts multiplied and so did the camp sites as claims were filed throughout the adjacent regions. Military camps also were increased to protect prospector and rancher settling in the valley. Camp Date Creek, Camp Hualpai and Fort Verde were established by the end of the 1860's, all within a sixty mile radius of Prescott and Fort Whipple.

Henry Wickenburg joined the Weaver party too late to share in the Rich Hill bonanza, but he discovered the Vulture mine of greater fame not far from Hassayampa Creek.

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Brandes, Frontier Military Posts of Arizona. Camp Date Creek, originally Camp McPherson, 60 miles southwest of Prescott, established January 23, 1867, moved several times before it was abandoned in 1874; Camp Hualpai, known as Camp Toll Gate in 1869, located 40 miles northeast of Prescott on Walnut Creek, discontinued in 1873; Fort Verde, established as Camp Lincoln in 1864, on the east bank of the Rio Verde, in existence until 1890.
Peeples and Wickenburg both retired from prospecting to ranching; they were never again to equal their initial rich discoveries.\(^7\) Settlements grew near the Vulture—at the mine itself, and on the ranch that Wickenburg established so that by 1870 there were more than 400 persons residing in the vicinity. Plagued by Indians and sickness during the early years, Wickenburg attracted no less than five doctors at various times but none remained for a very long period. Dr. R. B. Yuill placed his card in the *Arizona Miner* by January of 1870 and died there the following year. His obituary notice stated that he had lived in Wickenburg for a long time.\(^8\) In 1868 Dr. Frederick P. Howard went to Wickenburg to practice, after his release from contract at Fort Whipple. There he contracted the "sickness of the place," and returned to convalesce in Prescott. Howard left Wickenburg for Los Angeles in December of 1869, where he purchased a drug store.\(^9\)

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7. A. H. Peeples, native of North Carolina, veteran of the Mexican War, became a saloon keeper in Wickenburg, died in 1872. Henry Wickenburg, born in Austria, came to America and Arizona in 1862, sold the Vulture and after an unsuccessful venture in ranching, became a transient and died in 1905.

8. *Arizona Miner*, July 29, 1871, noted that Doctor Yuill had been a resident for a long time; at that period a long time could mean a year. 1870 Decennial Census lists R. B. Yuill, age 42, born in Nova Scotia, occupation—physician.

9. Doctor F. P. Howard, brother of Judge John Howard, served as contract surgeon until 1867. *Arizona*
Dr. Oliver John Thibodo appeared briefly on the Wickenburg scene, arriving there shortly after his graduation from Regina College in Canada in 1870. Thibodo departed for the new settlement on the Salt River by 1872. Doctors J. R. Glasscock and W. C. Soule resided in Wickenburg briefly during the early 1870's. Doctor J. Henri Pierson served as physician at the Vulture mine until his marriage to the daughter of James Grant, who ran the

Miner, September 19, 1868, "Dr. F. P. Howard attended the sick in Wickenburg during the sickly season, contracted the disease himself, and is recovering. All speak highly of his efforts to restore the sick to health."

On the 1880 Decennial Census, F. P. Howard was listed as a physician in Tombstone.

10. Decennial Census, 1870, lists J. R. Glasscock, age 45, born in Texas, resident of Prescott. Samuel Butler, Medical Register and Directory of the United States (Philadelphia: Office of the Medical and Surgical Reporter, 1874), lists J. R. Glasscock, physician in Wickenburg, A.T. Butler's Medical Register also lists a R. G. Soule as physician in Wickenburg, A.T.; the 1870 Decennial Census lists a Milan Soule, age 23, civil engineer, born in Vermont, resident of Prescott and a W. C. Soule, age 36, physician, born in New York, resident of Wickenburg. Arizona Miner, October 15, 1870, W. C. S. Soule advertised as a physician in Prescott; The Miner also refers to a Doctor Soule as a self-styled capitalist, land speculator, and one who did not pay his debts, and that he was a physician at one time in Wickenburg. At the same time Dr. Milan Soule was serving as contract surgeon and Indian Agent.

Bancroft's Register of Physicians in California (1877) lists: Milan Soule, graduate of the University of Vermont, physician in San Francisco; A. G. Soule, graduate of Berkshire Medical College, 1864, physician in San Francisco.
stage line between Arizona and California. Thereafter the
doctor became the manager of Grant's Stage Line. 11

Grant's Stage Line carried passengers and mail by
buckboard between Tucson, Prescott and San Bernardino,
California, with stops enroute at Florence, Phoenix, and
Wickenburg. The stages ran semi-weekly, were sometimes
subjected to Indian attacks, and were often relieved of
their valuable cargo by robbers along the way. 12 Another
doctor entered the freighting business with the Ehrenberg
merchants, Michael and Joseph Goldwater, as partners.
Doctor Wilson W. Jones, graduate of the University of
Virginia and a native of that state, arrived in Arizona in
eyear 1864. By 1867 the doctor had freight trains in
operation between La Paz and Fort Whipple. 13 Doctor Jones

11. Arizona Citizen, January 14, 1871, "Married:
Army, J. Henri Pierson, surgeon Vulture Mining Company Com-
pany, to Louisa A., only daughter of James Grant, Esq."
1870 Dicennial Census lists J. H. Pierson, born in
Connecticut, age 30, physician at Vulture City.

12. Ibid., September 6, 1873, advertises the
schedule; January 5, 1877, reward offered for robbers,
$1000.00, dead or alive.

13. Doctor Jones was an inveterate prospector. He
owned a ranch on the Verde and later one near Tempe. A
candidate for Superintendent of Public Instruction in 1884,
the doctor was considered to be well read. He died at the
age of 67 in Tempe in 1896. 1864 Territorial Census lists
Wilson W. Jones, age 38, resident of the Territory for 4
months, mineralogist, born in Virginia, worth $200.00; 1870
Dicennial Census lists his occupation as a freighter.
encountered some narrow escapes with his freight lines as Indians attacked the trains over the narrow trails that led through the uplands and mountainous regions. On one trip he was accompanied by his partners, the Goldwater brothers, enroute from Prescott to Ehrenberg, when the hostiles began their attack—the trio being but fourteen miles out of the former town. Jones was riding with Michael Goldwater in one buggy while Joseph Goldwater followed in another. The drivers whipped their horses in an attempt to outrun the attackers as the doctor returned the fire as best he could. Doctor Jones received a bullet through his shirt, Michael Goldwater got several bullets through his hat, but only Joseph Goldwater was seriously injured. The meeting of a wagon on the trail, with three men to assist in warding off the attackers, saved the men. Stopping at a ranch in Skull Valley, help was requested from Fort Whipple and surgical instruments were sent down for the doctor to extract the bullets from Joseph Goldwater. The wounded man was then removed to Camp Date Creek where he recovered from the wounds. 14

War with the Yavapais began with the first settlements around Prescott and lasted eleven years. Cattlemen moved into the grazing regions of the Walapais and prospectors infiltrated the Havasupais, as minerals were discovered where they lived. Only the Mohaves, subdued by the Army years before, and at odds with the other tribes, appeared on the side of the Anglo-Americans, with Irataba as their leader. The Arizona Miner recorded the numerous attacks: W. P. Jones, lately from California, waylaid by Apaches and his body horribly mangled; William Bottsford, express messenger, started for Fort Mohave on the first, attacked by Indians, an arrow struck him in the back, glancing upwards. Bottsford returned to Prescott, "somewhat exhausted," and was treated by Doctor Seeley.\(^{15}\) A Mr. Ingalls and Mr. Donohugh were both wounded in encounters with the hostiles. Donohugh had an arrow, shot "quite through his neck," passing between the windpipe and the jugular vein. Ingalls had two wounds, one in the back and the other in his right shoulder. Doctor Alsap treated and extracted the arrow also from Donohugh.\(^{16}\)

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15. *Arizona Miner*, June 2, 1864 and August 10, 1864. The Apaches were always blamed whether they were the Indians attacking or not.

16. Ibid., April 20, 1864, account of the King Woolsey expedition.
John Taber Alsap arrived in Arizona Territory in time to accompany King Woolsey's second expedition against the Indians in 1864. Woolsey had arrived in the Territory some time in 1860, established a ranch near the Gila-Agua Caliente rivers and in 1863 had moved to the Powers' ranch on the Agua Fria, east of Prescott. His first expedition, in January of 1864, was organized to chastise the Apaches for horse stealing. The trail of the culprits was followed to the Rio Verde and then to Pinal Creek. Here the Indians were enticed into the camp of the expedition where twenty-four Apaches were killed. The second expedition of one hundred miners left Woolsey's ranch the last of March, proceeded down the Black Canyon and scouted the surrounding regions, but found no Indians. It was on this expedition that J. Donohugh and Artemus Ward were injured while they hunted deer at some distance from the main party. The ministrations of Doctor Alsap on this occasion form the only record of his practicing medicine in Arizona; Eugene St. S. Wakefield also accompanied the second expedition but left no record of having served in the role of surgeon.

A third expedition under the leadership of King Woolsey was as unsuccessful as the second; no hostiles were found and a major portion of the time was spent in exploring and prospecting.\textsuperscript{18} Indian attacks continued, the lone miner or teamster being the usual victim. Such items as "Joe Ingliss, teamster with Major Willis, was found dead on Lynx Creek, his body filled with arrows and lance wounds," were commonplace.\textsuperscript{19} Military forces were not idle; Lieutenant Blair made a second expedition against the hostiles from Fort Whipple in February of 1865, with nineteen male Indians killed, one female and one child.\textsuperscript{20}

With the end of the Civil War in April of 1865, responsibility for military affairs in Arizona Territory was assigned to the military department of California under General Irwin McDowell. General John S. Mason arrived to take command in Arizona with headquarters at Fort Whipple. The California Volunteers and Arizona Volunteers were shortly replaced by the Regular Army forces, when all volunteers were discharged from military service.

\textsuperscript{18} The third expedition was completed in August, 1864, ranging over considerable territory but few Indians found. Maricopas and other Indians joined this expedition.

\textsuperscript{19} \textit{Arizona Miner}, September 7, 1865.

\textsuperscript{20} Ibid., February 15, 1865. The child was accidentally killed when a soldier thrust a bayonet through a tepee, the child lying near the edge.
Edward Phelps was an assistant surgeon with the volunteers, John E. Clutter and Charles H. Newhall served as contract surgeons at Whipple, when General Mason donated his quarters for use as a post hospital. Located mid-way between the post and the town, the hospital served both the troops and the townspeople. It was an eight room building of hand-hewn logs, capable of housing twenty-four patients, had running water piped in and was heated by open fireplaces. The open windows provided too much ventilation in winter and not enough in summer. The monotonous ration was a chief complaint as were the bedbugs that had a particular affinity for the pine logs. Structurally, this building was the best military hospital in the entire Territory for as long as it remained.

Edward Phelps signed on as contract surgeon when the volunteers were mustered out and became a United States Marshal, in addition to his services with the Army. When the capital was moved to Tucson from Prescott in 1867, both Phelps and Clutter advertised as "Contract Surgeons, Tucson.

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21. Arizona Miner, April 11, 1866, provides a complete description of the hospital.
22. Scurvy was a frequent diagnosis until 1870.
and Prescott. John Newhall was sent to Fort Grant for duty where his contract was later annulled. John Clutter opened a drug store in Prescott in July of 1866, left the Territory between 1867 and 1870, and later became one of the first resident physicians in Dillon, Montana.

Phelps eventually requested an annulment of his contract since he could not do justice to the practice of medicine, and "at the same time attend seven terms of court, two of which are at Prescott and two at La Paz." Doctor Phelps' untiring efforts during the 1870 smallpox epidemic in Tucson earned the praise of the*Weekly Arizonian; his attendance to patients in and around Tucson was also noted. Early in 1871, Marshal Phelps was found to be missing, along with some twelve thousand dollars of government funds, and he was reported to be well on his way to the interior of Mexico.

23. Arizona Miner, July 13, 1867.

24. Paul C. Phillips, Medicine in the Making of Montana (Missoula: Montana State University Press, 1962), pp. 304-305, reports that John Elliott Clutter arrived in Dillon in 1882, and died there February 12, 1886. Clutter's name does not appear on the 1870 Decennial Census and it is concluded that he left before this time. There was no mention of him in the papers after 1867.

25. Phelps was serving at Camp Crittenden at the time; his letter requesting release was dated 21 June 1868. There is no record of Phelps' medical school. He was reported to have been in practice in California. Decennial Census, 1870, lists Edward Phelps, age 36, physician, born in Vermont, residing at Tucson.

26. The Weekly Arizonian, February 25, 1871. The departure of Dr. E. Phelps, U.S. Marshal for Arizona, noted
When Assistant Surgeon Benjamin Tappan, a near relative of Secretary of War Edwin M. Stanton, was killed by the Indians, the Arizona Miner wrote that it was probable that his death or injury—if he were still alive—would lead Stanton to see the propriety of giving more troops to the Territory, and especially of retaining the volunteers in the service. Doctor Tappan came from a family of physicians, having studied in his father's office in Ohio, and later, with a doctor in San Francisco. Tappan went East to enter medical school but the war having started, he enlisted as a private, became a hospital steward, and later attended medical schools at Jefferson and Bellevue Hospital Medical Colleges, graduating from the latter institution in March of 1864. Tappan again crossed the continent as Acting Assistant Surgeon and passed an examination for the appointment of Assistant Surgeon, when he was sent to Fort Yuma as medical purveyor. 27 Doctor Tappan and Lieutenant as having occurred some seven weeks since, ostensibly on a pleasure trip, but concluded that he had taken French leave with some 12,000 dollars of government funds besides leaving some unpaid bills. Arizona Citizen, March 23, 1872, published the report by Pete Kitchen on Doctor Phelps of unsavory notoriety, who was killed on his way to the City of Mexico as he flashed a display of cash in his usual pompous way. The report may be false, the item stated, but "few would invest in crepe."

27. AGO Records Group 94. Tappan and John C. Handy were the applicants before the Medical Board for Appointment; both passed the examination but Handy did not have a diploma for the appointment, having to request one at a later date.
Colonel Madison Boulware had frequent words over the doctor having to request permission to leave the post. Charges were preferred but the matter dropped as Tappan left for duty at Fort Grant. The party was attacked at Cottonwood Springs on March 22, 1866, and Tappan's body was never recovered.28

Contract Surgeon Edward Palmer discovered that Arizona duty was not without its hazards during his tour at Fort Verde and Camp Grant. Palmer had served at a number of military posts throughout the West, combining his plant collecting with the duties of attending the sick. Doctor Palmer joined in the fight when the men of Company A managed to eliminate twenty-two Apaches. Palmer lost his camp records, and a wagon containing some of his collections was destroyed.29 Another time the doctor fell from his mule while descending a hill near the Verde.30 When he developed

28. 50th Congress, 2nd Sess., Senate Executive Document No. 70, Report of Captain J. B. Hager, 14th Infantry, dated Tucson, March 31, 1866; also report of Acting Assistant Surgeon Charles H. Meyer who accompanied the searching party for Tappan's body and who identified the other victims.

29. Arizona Miner, June 27, 1866. Palmer was still trying to collect for the wagon lost as late as 1886. See also: Edward McVaugh, Edward Palmer (Norman: University of Oklahoma Press, 1956).

30. Arizona Miner, June 27, 1866, "Dr. Palmer hurt by falling from his mule while descending a hill on his recent return from Prescott to the Verde, but is doing well."
malaria while serving at Camp Grant, Palmer requested an annulment of his contract. The doctor returned to Arizona to collect specimens in 1876, and again in 1890, this time as naturalist for the Smithsonian.  

Contract Surgeon A. F. Steigers accompanied a scout from Fort Verde in June of 1871 when Indians attacked the first night’s encampment and managed to kill or drive away all horses and mules. The doctor was shot in the shoulder, the bullet emerging at the wrist, which resulted in his having to have his arm amputated. This ended the doctor’s military duty. Dr. Bernard Gustav Semig was one of the first surgeons serving at Crittenden. The doctor accompanied the forces from Arizona that left for the Modoc War, and was wounded during the battle at the Lava Beds. Bullets shattered his knee and the leg was amputated. The doctor returned to Arizona and resumed practice until he was retired for physical disability.

31. Arizona Citizen, July 22, 1867, reports that Dr. Edward Palmer completed his labors and forwarded the results weighing ten tons to Philadelphia; Arizona Daily Star, June 3, 1890. Dr. Palmer arrived, now making a collection of botanical specimens for the agricultural department.

32. Post Medical History, Fort Verde, dated June 2, 1871. Doctor Steigers was from New York.


34. Semig was appointed Assistant Surgeon in November, 1874, prior to his retirement; he died in 1883.
Camp Crittenden, established on the headwaters of Sonoita Creek adjacent to the site of Old Fort Buchanan, had no better location from the standpoint of health than the previous post. Doctor Semig could write of the strange beauty of the place, but the exhalations created by the excessive heat of the summer months subjected the men to malaria, diarrhea and dysentery. The hospital building was located in the least desirable location, Semig wrote, that part of the camp nearest the swamp. Supplies were late in arriving and the surgeon observed that medical stores invoiced in San Francisco in October could be expected in Crittenden by the next mid-June.35

Medicines and other supplies were always critical at Camp Bowie, the surgeon reported, for so much medical assistance was given to the immigrants passing through, that the hospital was depleted of medicines needed for the troops.36 Contract surgeon Joseph Pomeroy Widney found Bowie a lonesome spot although the country was delightful. The surgeon shared a log house with another officer, owned a goat and some chickens which supplemented the Army ration,

35. Camp Crittenden was established in August, 1867, discontinued on June 1, 1873. Post Medical History, Camp Crittenden, AGO Records Group 94.
36. Post Medical History, Camp Bowie or Fort Bowie.
and always slept with a revolver within reach. When the mail rider was attacked almost within sight of Fort Bowie, Lieutenant C. C. Carroll went to his aid and was killed in the space of one hour, according to one observer. Doctor Widney accompanied the search for the officer and brought the body back to camp on his horse; the doctor also read the funeral service for his fellow officer.

Arizona's band of mineral wealth spanned the Territory in an arc-like pattern from Prescott to the extreme southeastern portion which extended into New Mexico. Henry Clifton had made the trek from Prescott across the Territory as early as 1864 to find the rich deposits of copper-bearing ore in what later became Clifton, Metcalf and Morenci. The perimeter of this mineral bearing region also cut across the area having a concentration of Indian population--some of whom were as resisting as the

37. Letter of Joseph Pomeroy Widney to Mary Bannister, dated December 3, 1867, Arizona Pioneers' Historical Society. Doctor Widney graduated from Toland Medical College in 1866; served one tour of duty in Arizona, the major portion of the time at Fort Bowie. Returned to Los Angeles where, together with Dr. John Strotter Griffin, founded the Los Angeles Medical Society.

38. William Bell, New Tracks in North America (London: Chapman & Hall, 1869), p. 45. Bell visited Arizona in 1867; was at Bowie when the officer was killed.

39. Ibid.

Apaches to the miner. There was the problem not only of hostile tribes, but of transport across these mountainous regions. The first and foremost problem was the Indian menace, and a succession of military commanders attempted to solve it.

Arizona became a separate military district in October, 1867. General T. C. Devin commanded from 1868 to 1870 and was succeeded by General George Stoneman. The decennial census revealed a total population of 9,658 persons which included 850 military personnel; official sources of the Army listed 1,863 troops on duty at fifteen military posts and uncounted scouting expeditions. Camp Pinal was established by General Stoneman in November of 1870, near the headwaters of Mineral and Pinto Creeks and about thirty miles north of the Gila, primarily to protect the miners in the area. Some of the men who accompanied Army scouting expeditions in this area later staked claims to the silver deposits in the Pinal Mountains and the copper regions along the upper reaches of the Gila and San Francisco rivers. The Metcalf brothers staked their claims in 1870, in what later was to become the town of Metcalf, while they were supporting a scout against the Apaches. The Clifton bearing ores were also noted by Lieutenant John

41. Annual Report of the Secretary of War, 1870.
G. Bourke in 1869. A soldier, with the construction gang building a road to Camp Pinal, was reported to have discovered the first silver bearing ore which eventually led to the rich Silver King Mine.  

The day of the lone miner had almost passed by 1870; the pick and shovel prospector was always to be found in Arizona but silver and copper required a financial outlay for the requisite machinery and reduction works, besides hauling the product to market. Capital was needed for development and a railroad was very essential to the promotion of the mining industry. There was also an increase in farming and ranching which complicated the problem as more and more land was taken up--lands formerly cultivated by some of the peaceful Indians. The superintendent of Indian Affairs concluded in 1869 that one-third of the population of Arizona was engaged in farming, one-fourth in trade and other services, one-sixth in mining, and the remainder of the Anglo-Americans in occupations not included in these categories.

42. Tuck, History of Mining in Arizona, pp. 3-4.

43. The population complexion of Arizona had changed materially between 1864 and 1870. In the Territorial Census of 1864, out of 4,573 population, some 675 persons listed their occupation as miner; in the 1870 Decennial Census counting 9,66 persons, only 214 listed their occupation as miner. Many listed as laborers were probably miners or working in some mine, but the lone prospector no longer found enough gold in his pan to pay him for a full time occupation.

The total Indian population was reckoned at 32,052 in 1870; the number of Arizona Indians exceeded only by the total count in Indian Territory. This number did not include the Navajos who were under the New Mexico superintendency. Apaches were estimated at 8,000; Mohaves, and others at the same number; Indians along the Colorado at 6,000; Pimas, Papagos, and Hopis constituted the remainder, or approximately 10,052. By 1871, all were subdued except the Apaches, Walpais and Yavapais, with the latter two tribes pacified in 1873. Arizona had its fifth superintendent of Indian Affairs by 1871 in the person of Dr. Herman Bendell, who served from 1871 to 1873, when that office was abolished, and the agents dealt directly with Washington.45

An epidemic, which at first was thought to be scarlet fever but which turned out to be whooping cough, took a total of 100 lives of Indians residing near Fort Mohave, their agents reported in 1868. They were attended by their own medicine men, six of whom were put to death when they failed to cure the patients, "according to the custom of the tribe."46 The same epidemic spread to the

45. Superintendents were Charles D. Poston, 1864-65; George W. Leihy, killed in 1866; George W. Dent, 1867-69; George L. Andrews, 1869-70; and Dr. Herman Bendell, 1871-73.

Yavapais who departed the reservation to gather mescal and "suworro," saying that they would return by the time the sickness had departed. The Walapais were hostile at this time and a vigorous campaign was being conducted against them. 47

Levi Ruggles, agent for the Pimas, reported much sickness among them in 1869. His requests for medicine were ignored and, as a consequence many died who could have been saved. Ruggles also reported that many settlers had ignored the warning not to make improvements upon the land they had settled upon until the matter of reservation boundaries had been established. Many had built houses and were diverting the water for their own purposes. 48 The next year, Captain F. E. Grossman, U. S. Army and special agent to the Pimas, reported that Ruggles was more interested in the land he held some fifteen miles adjacent to the Pimas, than he was in the welfare of the Indians. Grossman secured the services of a physician and had the

47. Ibid. Agent Fudge also reported on the building of the canal to provide water for irrigation which cost $25,000.00 with labor provided by the Indians. The canal was never successful. Bancroft, History of Arizona and New Mexico, p. 545.

Pimas vaccinated against smallpox. The saloons in Adamsville were proving to be the greatest detriment to the Indians, Grossman concluded, since liquor was being sold to the Indians despite the regulations prohibiting such sales.

Doctor Reuben A. Wilbur, a physician in Tucson, was hired by Captain Grossman to vaccinate the Pimas in 1870. Wilbur may also have been the physician hired to vaccinate the Papagos in that same year. The doctor was appointed agent for the Papagos in 1871 by Doctor Bendell who appointed another doctor, J. A. Tonner, as agent for the Colorado River Indians. Doctor Tonner succeeded to the office of superintendent in Arizona shortly before that office was abolished in 1873. Both doctors, filing reports from their respective agencies, stated that a physician was needed for

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50. Adamsville, established in 1866, along the Gila farmlands adjacent to the Pimas.

51. Superintendent Andrews does not say whom he employed to vaccinate the Papagos; Grossman first hired Dr. J. T. Harrison and discharged him, then hired Dr. Wilbur.

52. Doctor Tonner appears to have been in the Territory in the interests of mining, as both he and Doctor Wilbur engaged in that activity. Neither Wilbur nor Tonner have diplomas on file, as the law did not require them at that time.
the Indians, as many of them had died without receiving the necessary medical attention. 53

The Camp Grant "massacre" of 1871 engendered considerable concern over the management of Indian affairs in Arizona. Citizens, in and around Tucson, indignant over grievances of long standing, gathered a force of some forty civilians, together with that many Papagos, proceeded to Camp Grant where a band of Apaches had settled in preference to locating on the reservation set aside for them, and killed some eighty-five Indians, mostly women and children. 54

Contract Surgeon Conant B. Brierly concluded that all but eight of those killed were women and children, and that twenty-eight women and children were captured and taken prisoner. 55 The doctor testified later that he took a wagon and twelve men to the scene but there was little that could be done by a surgeon. 56

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54. Post Medical History, Camp Grant, entry for April, 1871. See James R. Hastings, "The Tragedy at Camp Grant in 1871," in Arizona and the West, I (Summer, 1959), pp. 146-160; all territorial newspapers of that period.


Doctor Brierly wrote a letter to the editor of the Army-Navy Journal concerning the affair which he termed an insult to the government. The Arizona Citizen reprinted the article under the title, "Another Enemy of the People," and commented that the doctor's employment was a disgrace to the government, if not the Army. Doctor Brierly left Camp Grant for duty in California in October of 1871; the trial for murder of the citizens engaged in the attack ended in acquittal for the citizens but the trial by public sentiment outside of Arizona continued thereafter.

General George Crook succeeded General Stoneman in command of the military of Arizona in June of 1871. Vincent Colyer arrived shortly afterward, as chairman of the Board of Indian Commissioners under President Grant's new "Peace Policy." Colyer concluded that the Apaches were the innocent victims of the white man's machinations and decided to establish reservations for them. A reserve was set aside for the Coyotero Apaches near Fort Apache; Camp San Carlos was established two years later for the Indian Agency by that name on the San Carlos River near its

57. Arizona Citizen, June 24, 1871. The article in the Army-Navy Journal was rather mild compared with the abuse heaped on the doctor by the Citizen.

58. Fort Apache, established in 1870 near the forks of the White River in Apache country for Indians to receive their rations.
junct::on with the Gila. General O. O. Howard arrived in April of 1872, as special commissioner for the Indians. Howard visited Chief Cochise and established the Chiricahua reservation. By early 1873 peace reigned in all areas of Arizona, with the last of the Walapais and Yavapais subdued.

Doctor Bendell, as superintendent, had been able to accomplish little during his tour of duty, having made numerous trips throughout the Territory, back and forth to Washington, in the interests of the Indians. The doctors appointed as Indian agents were R. A. Wilbur, J. A. Tonner, and Josephus Williams. Their service on the reservation

59. Camp San Carlos, established in May of 1873 on the north bank of the river by that name near its juncture with the Gila.

60. Herman Bendell, graduate of Albany Medical College, former surgeon in the Civil War, arrived shortly after the Camp Grant "massacre," probably why there could be little in the way of accomplishment. The Arizona Miner, August 31, 1872, noted that the doctor had purchased a first class threshing machine for one tribe, presumably the Pimas. The doctor was appointed as consul to Elsinore, Denmark, after his Arizona duty.

61. Tonner later became a doctor on the Colorado River Agency, left the Territory for medical practice in San Francisco. Wilbur served as agent for San Carlos briefly; Williams and Wilbur were both charged with some malfeasance in office. The Indian Agent at that time did not consider it a full time job as evident from the other activities pursued. The salary of $1200.00 per annum was not particularly attractive.

Arizona Citizen, March 7, 1874; Arizona Miner, July 19, 1873; Arizona Citizen, October 11, 1873.
accomplished little more than other agents assigned for that purpose. Physicians continued to be hired to attend the Indians at the several agencies, some on a permanent basis, and others only during outbreaks of epidemic disease. The missionary Indian Agent, together with school teachers, included some doctors at the different agencies until the end of the 1870's. During the 1880's, a number of physicians arrived who were hired especially for the agencies in Arizona and for the Indian schools established. 62

Twenty-two men known to have been doctors at one time or another were included in the 1870 Decennial Census of Arizona Territory. 63 At the same time, eleven surgeons were on duty with Army units in the Territory, a number of whom combined civilian practice in conjunction with their military duties. Of the twenty-two civilian doctors, only

62. Among the doctors who came to Arizona for duty at Indian Agencies were: Dr. R. F. Ernest, a noted temperance orator as well, government surgeon to the Pimas, 1879; Dr. Thomas E. Ellis, physician to the Pimas 1883-84, gave up his post in March, 1884, complaining bitterly of the Indian Agent there (Weekly Citizen, March 8, 1884); Dr. S. B. Chapin, hired in 1878 for the Pima Agency from Florence; Dr. George W. Mitchell, at the Pima Agency in 1886—came to Arizona for his health, served a short time at Sacaton; Dr. S. D. Pangburn who served as teacher and physician at San Carlos from 1880-1889; Dr. R. E. Poindexter at the Colorado River Agency, 1886-1889; Dr. T. H. Sabin at Sacaton from 1888-1892; Dr. Penn Hart at the Papago Agency, 1884-1887; Dr. P. G. Cotter, at Fort Yuma Indian School in 1887-1890; Dr. W. T. Heffernan, 1890-1900, at the same school.

63. Decennial Census includes eight who listed their occupations as merchants, freighters, ranchers, etc., later practiced medicine or registered their diplomas.
five could be said to have devoted more time to the practice of medicine than to their pursuit of other enterprises as mining, ranching or business ventures. Practicing physicians could be found in the larger settlements of Prescott, Tucson or Arizona City. For the mining camp, rancher, farmer, teamster or freighter, the military surgeon was nearer at hand. Arizona was not the favored duty among regular Army surgeons; the majority found reasons of one kind or another to request a transfer elsewhere after one tour. The contract surgeon was in the majority in Arizona, due in part to the limit set by Congress regarding the number of regular surgeons authorized for the Army.

The contract surgeons were usually of two types. One was the Civil War veteran who migrated to the Territory, held some mining claims or ranch lands, and attended the troops at one of the military posts adjacent to his other interests by doling out medicines, or having his hospital steward perform this service. The other was the new graduate from a medical school in the East who signed on as contract surgeon in the hope of eventually obtaining a permanent commission in the Army. Often his initial tour of duty was

64. All were engaged in mining activity to some extent or other enterprises.

65. Only 145 commissioned surgeons were provided; no more than 75 contract surgeons in the entire Army by 1874; the number was again reduced in 1876.
sufficient to discourage him, as he found the camp and the hospital equipment far below his expectations. The experienced surgeon got along well enough, expected little and did his best under any and all circumstances. The regular Army surgeon had to make the most of his situation, and often accomplished some major achievements.

There were many duties attendant upon the post-surgeon, not in the least related to the practice of medicine—bookkeeping and accounting of all supplies and equipment, keeping account of the hospital fund in connection with the ration, maintaining the post-garden, the daily recording of meteorological readings as requested by the Surgeon General, and the numerous reports of his presence at the post together with other reports to the commanding officer and the Surgeon General's office. 66 The monthly sanitary report with its recommendations, generally passed unnoticed for the most part since there was little that could be done to implement the surgeon's recommendations. Duty was performed in tent, adobe, or brush hut with the heat of summer or the cold of winter unrelieved. Sometimes the monotony of the existence was unbearable especially at

66. *Army Meteorological Register, 1843-1854*, prepared under the direction of Thomas G. Lawson, Surgeon General, U.S. Army (Washington, 1855). Meteorological readings twice daily were required of all post-surgeons; were forwarded monthly to the Surgeon General's Office.
the isolated posts; sometimes there was an expedition against the Indians to relieve the tedium.

Troop movements through Yuma were numerous as replacements arrived or regiments were rotated; as a consequence, sick call at the dispensary was heavy. There were the usual cases of diarrheas and fevers, boils or whitlows, exhaustion from the long marches, and death from insolation, drowning, or suicide recorded. An occasional case of smallpox came in with the troop movements. Contract Surgeon Henry Kneeland Durant brought one such case to Yuma from the coast—a lieutenant with a full-blown case of smallpox. The patient was promptly removed to a tent one-half mile away from camp; Doctor Durant and a private from Company A, 14th Infantry, who had had the smallpox recently, were doctor and nurse for the patient. The ambulance, ambulance driver, and the mules pulling the ambulance were all promptly placed under quarantine. The patient recovered and, together with the doctor, proceeded to Tucson. The mules were driven back to the corral on the 22nd day, but all harness, together with clothing worn by the driver and patient were burned. The ambulance itself was left to disintegrate in the weather with all

cloth stripped from it and likewise burned. There were no additional cases of smallpox.  

The troops recruited in San Francisco were the most worthless, in the opinion of the surgeon, for the majority suffered from syphilis, diarrhea, or bronchitis, and many of them arrived in Yuma litter-born. The surgeon attempted to make a go of the post-garden under the most unfavorable circumstances for an irrigation system had to be constructed, a water pump supplied and someone secured to oversee the workings of the pump. One Contract Surgeon managed to get the entire proceedings underway and noted the growth of corn, watermelon, cantaloupe and cucumbers. The engineer that was assigned charge of the pump got drunk and the garden was rendered a failure.

The commanding officer did not appear to be in sympathy with the garden project at any time; nor did Contract Surgeon Richard V. Lightburne think that the commanding officer was in sympathy with the troops stationed at Yuma, for he appeared to be a martyr to the letter of regulation. Notwithstanding the heat of July,

68. AGO Record Group 94, Post Medical History, Fort Yuma, dated May, 1870, Assistant Surgeon James V. Lauderdale.

69. Ibid., Acting Assistant Surgeon Wilbur G. Litch, September, 1870. Troops were vaccinated and re-vaccinated due to the outbreaks of smallpox among troops in Arizona City, the surgeon reported.
the commanding officer wore a full dress uniform and woolen clothing on all occasions and required the same of the men at inspection. 70

Contract Surgeon D. D. T. Nestall relieved Doctor Durant at Camp Crittenden, found the health of the place excellent, the sanitary condition and policing of the post good, the hospital in worse than wretched condition. All instruments and equipment had been on hand since time immemorial, Doctor Nestall reported, and the post-surgeon was accountable for them. He was quite jubilant when the Inspector General arrived and condemned the property as utterly worthless. 71 Nestall found one tour in Arizona sufficient and returned to the East. Crittenden was closed in May of 1873; Camp Grant should have been closed, in the opinion of the post-surgeon, or at least re-located. Of the 242 men stationed there, sixty-five were on sick report with malaria. Intermittents yielded readily to quinine but other fevers, bowel disorders and agues were not amenable to treatment. A convalescent camp was established on higher ground, beyond the prevailing breeze emanating from across the marshes. The surgeon had to report that there was no


noticeable improvement in the patients sent to that camp and, therefore, it was abandoned.\footnote{72}

Fort McDowell, located on the west bank of the Rio Verde seven miles above its junction with the Salt River, was established in 1865 by the California Volunteers. Assistant Surgeon Charles Smart relieved the surgeon of volunteers, J. T. Harrison in 1867, and found the hospital so poorly constructed that it was ill equipped to care for any patient let alone handle the large number of sick. Diarrheas and dysenteries were so severe that Doctor Smart found astringents useless and resorted to opium by mouth and by rectum. The doctor reported that ulcers were found in the large intestines on post-mortem examinations and that the entire tract appeared inflamed. Surgeon Smart attributed the cause of this severe outbreak of diarrhea and dysentery to the exposure of the soldiers in digging a ditch for an irrigating canal. For the milder forms of diarrhea, patients received ipecacuana emetic, calomel and rhubarb purge, followed by chalk and laudanum. Doctor Smart also tried an infusion of the leaves of the Manzanilla tree, said by the Mexicans to be very efficacious in such cases, but found little improvement.\footnote{73}

\footnote{72. Post Medical History, Camp Grant, dated November 16, 1868, Assistant Surgeon John D. Hall, post-surgeon.}

\footnote{73. Post Medical History, Fort McDowell, for September, 1867.}
New buildings replaced the old structures at the military posts in time, and hospitals were better constructed even though it appeared to the surgeons that all other buildings on the post took precedence over the construction of the hospital. Camp Grant was moved in December, 1872, to the west side of Mount Graham; Camp Goodwin with a record of malaria as great as old Camp Grant, was abandoned entirely in 1871. Camp Tucson rented a building "downtown" for its first hospital. It was bounded on one side by a corral, on the other by a hog pen, a hen roost and a stable. The rent was $60.00 per month in coin, and the building entirely unsuitable in the opinion of the post-surgeon. Water had to be carried 300 yards from the only available well, as the surrounding grounds were too near the sinks in use or those formerly in use. A second building proved to be slightly more appropriate than the first, and eventually a hospital was constructed at the new site on the Rillito River five miles from Tucson.

The rather meager accommodations of the military hospitals were welcomed by the civilian injured as there were no other hospitals available. The county sent its indigent to the military, during the early years, when no

74. Post Medical History, Fort Lowell, April 18, 1871. H. K. Durant, post-surgeon.

75. Brandes, Frontier Military Posts of Arizona, p. 50; Fort Lowell was located on the Rillito in March, 1874. Described variously as five to seven miles from Tucson.
other place could be found. Pest houses and tents for that purpose were hastily constructed for cases of smallpox and in some cases the smallpox patient was boarded in a home if someone could be found who would take in the homeless. The number of persons in Arizona, without a fixed abode, can only be estimated as the census reports listed only dwellings and population totals at the various communities. Two civilians injured, when Indians attacked them near Camp Crittenden, were brought to that post-hospital where they remained for treatment. 76 A prominent citizen of Tucson was treated at the post-hospital for a fractured femur and remained there until his recovery; another man, injured during freighting operations, was cared for at the post-hospital. 77

A citizen suffering a concussion when his horse ran away was brought to the hospital at Fort McDowell in "collapse" with a pulse of 45 and respirations of ten. Blisters were applied to the back of the neck and cold water dressings to the head. Calomel and tartar-emetic were then employed, opium given for the severe headache, his head shaved and cold water applied. Cups were applied to the

76. Post Medical History, Camp Crittenden, February 14, 1870.

77. Post Medical History, Fort Lowell, March 17, 1872.
back of the neck, mustard plasters to his legs and strong
purgatives resorted to, but the patient died on the fourth
day. 78

Surgeon Elisha Baily, assisted by Doctors H. M.
Matthews and H. H. Davis, removed the encephaloid tumor
from the right shoulder of a fellow citizen; the tumor
weighed one and one-half pounds. The patient remained at
Fort Whipple hospital. 79 Assistant Surgeon James Newton
Achuff reported that he had attended fourteen persons
injured near Port Bowie by Indian attacks during one year. 80
A miner, suffering from frost bite, required the amputation
of one foot, in addition to a portion of his left foot;
Contract Surgeon William H. Evans performed the surgery at
Camp Date Creek. The doctor also removed some quartz
embedded in the left eyeball that a miner received in a
blast injury. 81

There appeared to be a group of excellent young
surgeons on duty in Arizona Territory throughout the period
in which Surgeon Elisha Baily served as medical

78. Post Medical History, Port McDowell, November
14, 1869.

79. Arizona Miner, May 10, 1873. Doctors Matthews
and H. H. Davis both entered private practice in Arizona.

80. Arizona Citizen, June 15, 1872.

Only three of the eighteen military surgeons were Regular Army doctors. The remainder served as Contract Surgeons under a stipulated contract of $125.00 per month, with fuel and quarters being equivalent to those of the assistant surgeon. The majority held diplomas from some of the better medical schools of the United States and seemed to be quite popular men with the Army and the community. Surgeon Baily evidently did not approve of them, however, for he placed eight of the Contract Surgeons on the black list so that they would not again be hired by the Army.

James Newton Achuff was a graduate of Jefferson Medical College; his wife and daughter accompanied him to the frontier post at Bowie after a tour of duty in Alaska. David J. Evans was a graduate of the University of Pennsylvania, served at McDowell and Camp Date Creek and on scouting expeditions against the Indians. William H. Ensign, a graduate of New York University, served at Port

82. Baily was the second director officially, as Charles Smart was the senior surgeon and acted in that capacity during his tour in Arizona. Horace Wirtz was the first medical director; had been in the Army twenty-four years in 1870, relieved in 1871 and returned again for duty as surgeon at Fort Whipple. He died in 1874, had the reputation of an able surgeon.

83. AGO Records Group 94, the reasons for the black list are unexplained, the doctors were all young men; Baily was from the old school.
Whipple and Camp Date Creek. He was described as a jolly gentleman and sorely missed after his transfer from Prescott as "owing to his jovial disposition, he was as good as two brass bands, a circus, a theatre, and opera troupe."  

Surgeon Baily thought that Arizona duty was good, there was a pleasant social life and his quarters at Whipple were comfortable, but two years were sufficient for any surgeon to serve in the Territory. Baily requested an immediate transfer, his request was granted and then he immediately requested duty again in Arizona which request was denied. He subsequently was sent to the Department of the Columbia. Surgeon David Magruder relieved Baily as medical director and peace reigned in the medical department once more. A succession of medical directors followed; the important role of the military surgeon in Arizona medicine had lessened, however, as civilian physicians became established in the various communities and towns of Arizona.

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84. *Arizona Miner*, February 24, 1872. Doctors Achuff and Evans established private practice in California; Doctor Ensign returned to New York.

85. AGO Records Group 94, request of Elisha Baily, April 5, 1873. Baily was troubled with physical ailments, and members of his family were sick. Retired in 1888.
Arizona, devoting their talents to the practice of medicine. 86

A succession of military commanders arrived on the Arizona scene and departed through the years. General Crook was succeeded by General August V. Kautz who was, in 1878, replaced by General O. B. Willcox. General Crook again returned in 1882, followed by General Nelson D. Miles who assumed command in April of 1886 in order to complete the pacification of the hostiles. Cochise, noted Apache chieftain, died in 1874. Other chieftains came to be known as renegade Apaches. Juh and Victorio broke out of the San Carlos reservation in 1880; Nock-e-da-klinny of the Coyoteros professed to bring back the dead. His action caused an outbreak of Indian scouts at Clifton Creek in August of 1881, as the Indians became hysterical from the medicine man's incantations. The Indian agent called for the Army to quell the disturbance and Assistant Surgeon George McCreery was on hand to attend the wounded.

Many of the military surgeons had adventurous experiences in Arizona and many went from this Territory to more adventurous ones. Assistant Surgeon Robert

86. Surgeon James Cooper McKee relieved Magruder; Surgeon Andrew Kingsbury Smith relieved McKee and Surgeon B. J. D. Irwin returned to Arizona briefly in 1884 with Surgeons Henry Lippincott and George McCreery serving as interim medical directors.
Maitland O'Reilly, who served at Camp Date Creek and McDowell during the early days, later became a Surgeon General of the Army. A number became interested in the Indians themselves and studied their language and medicines. Assistant Surgeon William H. Corbusier served as contract surgeon during his first tour in Arizona in 1872 and was sent to the Rio Verde Indian Agency to treat the Indians suffering from malaria. The surgeon had one hundred ounces of quinine and some bismuth subnitrates to administer. The medicine men were busy with their rituals and incantations. Doctor Corbusier then gave the medicine to the medicine men to administer, the powder placed into each mouth as the shaman continued his chanting and magic performance. This proved to be a most expeditious means of getting the medicine into the patients and the doctor did not attempt in any way to interfere with their ritual; in fact, he thought that the patients were soothed by it.

Assistant Surgeon Walter Reed arrived in Arizona shortly after his appointment as a medical officer in the Army. The surgeon pondered the problem of malaria for some time after reporting to Fort Lowell in 1876: Could it be due to the great difference in temperatures day and night?

87. O'Reilly was in Arizona from 1868 to 1869.
Reed considered it inadvisable that reveille should be sounded so early—five o'clock in the morning—and he informed the commanding officer of that recommendation. The men were more exposed to the cause of malaria at so early an hour, Reed reasoned. There were a number of cases of malaria on hand but all yielded readily to quinine. A convalescent camp was established in the Rincon Mountains for the malaria sufferers and abandoned without the approval of the post-surgeon. Thirteen men out of one company contracted the chills and malaria affected a goodly portion of the entire garrison.  

Reed noted the numerous cases of typhoid and dysentery in the camp. There were several fatalities, despite the heroic measures employed in their treatment. The typical lesions of typhoid fever were found at post-mortem on one case, together with evidence of perforations. Quinine was given in large doses, chalk mixture and turpentine for diarrhea, potassium bromide and chloral for restlessness, and there was frequent sponging for the high temperatures. The surgeon pondered the treatments and the results obtained by them and wondered if there might be some other measures to combat the disease. There were cases, too, that had their lighter side. In the case of

89. Post Medical History, Fort Lowell, from August 9, 1876 to August, 1877.
Private Kelly, a stubborn case of diarrhea that yielded to none of the remedies employed, the doctor tried a variety of medicines from time to time but the diarrhea persisted. Reed then noticed that the amount of castile soap placed in the washroom was disappearing faster than the appearance of Private Kelly's face and hands would warrant, and on investigation, it was found that the patient was daily consuming a piece of the soap the size of a walnut. When brought to the pinch, the patient acknowledged the fact and needless to say, Private Kelly was soon returned to duty.  

Assistant Surgeon Frederick Crayton Ainsworth served as contract surgeon in the Department of the Columbia and Alaska prior to his arrival in Arizona in 1877. One month was spent at Fort Grant before he was transferred to Fort Whipple from which station the surgeon again left for the Bannock Wars in Oregon, arriving back at Whipple in October of 1878. Ainsworth was a surgeon of no little ability, found a civilian and military practice to his liking, the former flourishing to such an extent that

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90. Ibid. Walter Reed served at Fort Lowell and Fort Apache from 1876 to 1881. See Howard A. Kelly, Walter Reed and Yellow Fever (Baltimore: The Norman Remington Co., 1906).

91. Ainsworth received his appointment as Assistant Surgeon in November, 1874.
he had his brother Dr. Frank Kenly Ainsworth come to Prescott when his orders came for duty elsewhere. Dr. Fred C. Ainsworth's subsequent military career as Chief of the Records and Pension Office, and later as Adjutant General of the Army, were not a part of the Arizona medical story. His contributions as a surgeon, both to the military and the civilian population of Prescott were noteworthy.

General Leonard Wood began his medical and his military career at Fort Whipple where he was ordered shortly after his graduation from Harvard Medical School and an internship at Boston City Hospital. Wood entered into contracts with the Army while awaiting his appointment as assistant surgeon; reported to Whipple in June of 1885 and proceeded to Fort Huachuca on July 4 of that year. During the campaigns against Geronimo, Wood commanded an

92. Frank Kenly Ainsworth arrived in Prescott in August, 1880; his brother was detached from duty at Whipple about one week later and left for New York.

93. Arizona Miner, items noted the surgery performed and the numerous calls made on the sick by Assistant Surgeon Ainsworth from 1878-1880. The bachelor physician was so popular that the ladies of Prescott gave him a sumptuous farewell when he departed. Arizona Miner, August 16, 1880. For the career of Ainsworth see Mabel Deutrich, Struggle for Supremacy: The Career of General Fred C. Ainsworth (Washington: Public Affairs Press, 1962).

94. Fort Huachuca was established on March 3, 1877, in Cochise County, and continued to the present time.
Infantry Company with such distinction and an exemplary
display of leadership that he was awarded the Congressional
Medal of Honor. Leonard Wood attained the Army's highest
position in later years, as Chief of Staff after service in
both Cuba and the Philippine Islands.

These two medical men, Ainsworth and Wood, rising to
the two top positions that the Army had, presented a rather
unique situation. Their careers were to clash in the
nation's capital in 1912, far removed from the Arizona
frontier where both had experienced their share of scouts
against the Indians. Arizona offered a wide range of
opportunity, not only for the military to gain a brand of
experience in warfare, but for the surgeon to find some
clinical challenges to whet his desire for scientific
investigation.

95. Herman Hagerdorn, Leonard Wood, 2 vols. (New
York: Harper and Brothers, 1931), for the career of the
doctor.
CHAPTER IV

THE DOCTOR COMES TO TOWN

A few hardy souls elected to remain in southern Arizona throughout the Civil War years and take their chances with the Apaches, marauders from south of the border, and Anglo-Americans whose murdering and rapacious bent were equally to be feared. Pete Kitchen maintained a fortress-like domicile on his ranch south of Tucson. Sylvester Mowry withstood the sieges of the Apaches and robber bands at his mine until the United States authorities took him—and a few other citizens—into custody for their southern sympathies. The Pennington family managed to eke out a precarious existence by farming their ranch in the Santa Cruz Valley, but like the majority of citizens, fled to Tucson for protection.

Tucson may have offered more protection against the hostiles, but it was infested by thieves and cutthroats who had fled before the vigilance committees of coastal cities. A citizen had to be on guard day and night for both his property and his life. There were responsible citizens who engaged in merchandising and in supplying whatever goods could be freighted in from Yuma or Sonora. Located in
Tucson were flour mills, bakeries, breweries, saloons, lodging houses and a drug store.

Charles Herman Meyer ran the drug store and practiced medicine. He also served as justice of the peace, an office to which he was elected and held for thirty years thereafter. Meyer administered the law without established precedent, but he cleaned up the town—of dirt and debris and undesirable characters. Fines and sentences, meted out by the justice of the peace, were sufficient reason for the outlaw to leave town in most cases. The prison chain gang, introduced by Meyer, did much to rid the streets of rubbish. It is doubtful if Meyer's medical training went beyond some experience as hospital steward or the book on *materia medica* that he kept on hand; his legal training was from much the same source—a textbook on law. For his time and place, however, Charlie Meyer fulfilled an important office as doctor and judge, and the former occupation he relinquished only when reliable physicians arrived.

1. Charles H. Meyer's card as physician and surgeon appeared in the *Arizona Miner*, March 23, 1864. On the 1860 Census, Meyer listed his occupation as clerk; on the 1864 Territorial Census, his occupation was listed as physician. Born in Germany in 1829, Meyer had been in Arizona six years at the time of the 1864 Census. The report was that he came to Tucson with a cattle drive from Texas, enroute to California, in 1859. See Manuscript material, Arizona Pioneers' Historical Society.

2. Meyer also served as contract surgeon with the Army on two occasions. On August 11, 1863, a contract
Dr. Charles H. Lord arrived in Arizona with troops from the East which were stationed at Tubao in 1864. The doctor severed his connection with the Army shortly after his arrival in the Territory, engaged in mining, and served as agent for the Papago Indians in 1866 and as sub-agent for the Pimas the following year. A traveller through the Territory in 1867 noted that Doctor Lord not only had all the medical practice of the place, but he seemed also to have monopolized most of the business since "so active a mind found no difficulty in combining the professions of general merchant and physician with great ease and profit."³

Lord entered into partnership with Wheeler W. Williams and the firm of Lord and Williams enjoyed prosperity in Tucson for almost a score of years. A leader in the community politically, financially, and socially, Lord held a number of public offices. He served as postmaster from 1870 to 1884, became United States Depositor and auditor of the Territory, and opened a bank in the Lord and Williams store. Lord owned considerable mining property, purchased

between Doctor Charles H. Meyer and Captain William French was negotiated, there being 120 persons entitled to medical attendance and no competent physician obtainable at a lower rate. The contract was for the sum of $80.00 per month. In 1866, a contract between Captain Jonathan B. Hager, 14th Infantry, negotiated on 22 March, for $100.00 per month. Meyer also served again in November of 1866.

the street railway franchise in Tucson, and had one of the handsomest houses in the town. When the firm of Lord and Williams failed in 1881-1882, the doctor went to Mexico to practice medicine. The newspapers duly reported that he went there to escape his creditors.  

The merchandising firm of Goodwin and Sanders had a briefer existence. In 1869 Dr. Francis Henri Goodwin dissolved the partnership at the end of three months to accept the position of county recorder. A Yale graduate with medical studies completed at the University of Heidelberg, Goodwin had served as surgeon with the Confederate forces, had migrated to California at the war's end, and had arrived in Tucson on New Year's Day of

4. The Weekly Arizonian, February 11, 1872: On the nomination of Dr. Charles H. Lord as auditor, "We think there could possibly be a better appointment . . . one reason for speaking thus disparagingly of this appointment is because the Doctor, as a public man, has not our confidence and we know but few men whose confidence he possesses." Newspapers of the Territory were replete with items concerning the doctor, his travels, his opinions, the failure of the firm. The Arizona Citizen, January 12, 1884, reports his departure for Mexico; Pinal Drill, March 6, 1884, reports his death in 1884; Daily Phoenix Herald, July 29, 1885 and The Arizona Champion, August 8, 1885, both note the report of an insurance fraud where companies holding some $60,000.00 life insurance on the doctor found him very much alive in Mexico at the time.

5. The Weekly Arizonian, November 20, 1869, advertised: F. H. Goodwin and Sanders, dealers in General Merchandise; February 5, 1870, Auction, Goodwin and Sanders, going out of business.
The doctor removed to Arizona City in 1872, became collector of customs, served as justice of the peace and also as sheriff of Yuma County, all of which added to his practice of medicine, "kept him stirring and lively."  

Goodwin returned to Tucson in 1876-77, purchased a ranch below town where he set out strawberry and celery plants and added numerous tropical plants from time to time. The ranch reportedly operated at a great profit as he sheared 3850 pounds of wool from the sheep in 1877. His public offices included membership in the House in the Fifth and Sixth Legislative Assembly, in the Council of the Ninth Territorial Legislature, a member of the Board of Regents of the Territorial University from 1889-1891, and United States Consul at Nogales from 1884 to 1885, resigning from the latter office as the honor was greater than the emoluments. His business ventures ranged far and wide—from a flour mill built in Altar, Sonora, to clerking in the hardware department of Lord and Williams store. Goodwin also served at various times as deputy U.S. Marshal, court

6. Biographical material from manuscript of Dr. William V. Whitmore, Arizona Pioneers' Historical Society. Dr. F. H. Goodwin was born in Georgia. According to Whitmore, he owned the controlling interest in Catalina Island which he sold for $5000.00.

7. Arizona Citizen, December 7, 1872.

8. Ibid., March 21, 1885.
commissioner, agent for Wells Fargo Express Company at Nogales, county physician in both Yuma and Pima counties, and as an active member of the Republican party.\textsuperscript{9}

In 1870, Tucson was the first town of the Territory, boasting a population of well over 3000 persons, and was rapidly emerging from its mud-hut status. The territorial capital was located there, and trade was brisk. Pete Kitchen furnished 1500 pounds of Irish potatoes from his ranch in November of that year, and sold 20,000 pounds the following month at seven cents a pound. Poor apples from Sonora sold at one dollar a dozen, flour at five dollars per hundred, and eggs and butter at one dollar a dozen and a pound, respectively.\textsuperscript{10} Mail arrived from San Diego in four and one-half days. St. Josephs Academy for young ladies opened on June 6, 1870, the Sisters of St. Joseph having arrived barely eleven days earlier.\textsuperscript{11}

There were 907 dwellings and the same number of families listed in the 1870 Census, a number sufficient for supporting one full-time physician if such a man could be

\textsuperscript{9} Arizona Daily Star, January 22, 1892, reports the death of Doctor Goodwin, heart disease said to be the cause of death. His age was 56.

\textsuperscript{10} Arizona Citizen, October 29, 1870; November 12, 1870, and December 10, 1870.

\textsuperscript{11} Ibid., May 26 and June 6, 1870.
found to devote himself to the practice of medicine. No physician appeared to fill this category when Contract Surgeon John C. Handy arrived in Tucson on an errand one day from Fort Grant and was called to see Sam Hughes who was ill and could not obtain the services of a physician. Mr. Hughes evidently liked the appearance of the doctor, asked him what his plans were, and when Doctor Handy implied that his plans were indefinite, Hughes inquired what incentive would be necessary for him to practice medicine in Tucson. The doctor thought that $2,500 would be considered favorably, and thereupon Mr. Hughes arose from his sick bed and secured the promise of twenty-five families who would pay $100 each for the services of a physician.

Dr. John C. Handy arrived in Tucson in August of 1871 and opened an office on the Church Plaza. His career as physician and surgeon extended far beyond the twenty-five

12. According to the 1870 Dicennial Census, Edward Phelps was practicing medicine in Tucson and serving as U.S. Marshal; R.A. Wilbur also practiced medicine and served as Indian Agent; D. C. Glasscock was listed as physician in Tucson; F. H. Goodwin also was there but interested in public office; Dr. Lord engaged in business and C. H. Meyer operated a drug store. Dr. N. P. Richardson operated a hotel and practiced medicine in Tucson from January to June, 1869, but left when he could not make a living at either venture.

13. Dr. William V. Whitmore records the story of how Dr. Handy came to practice in Tucson in his manuscript on early doctors, Arizona Pioneers' Historical Society. Handy had served as contract surgeon from 1865 to 1871. In November of 1870, while serving at Fort Apache, Handy killed the post-trader, Mr. Hughey, reportedly over a woman. Handy surrendered himself to the authorities and was exonerated. Arizona Miner, December 17, 1870.
families as his reputation in medical circles was without equal for the next score of years in the Territory. A rugged and somewhat brusque individual in some respects, Handy was always the gentleman in polite social circles. His attention to the poor earned him their undying devotion, especially among the Mexican-American population of Tucson. Handy countenanced no interference in his medical opinions and courageously held his own in the public squabbles of his day. When expert opinion was required on medical matters, Handy's decision was law, right or wrong.

Doctor Handy vaccinated free of charge all those unable to pay when a smallpox outbreak appeared imminent. Judge John Howard came from Prescott to be treated by Doctor Handy and expressed his appreciation publicly for the doctor had cured him of a complaint which was at the point of making him a confirmed invalid. Pete Kitchen, dangerously sick, improved under the doctor's care. Judge Titus developed typhoid fever and was told by the doctor to put his affairs in order which the judge did before he died. The citizens of Tucson became highly incensed when a Chinese man lodging in a house on Ott Street was diagnosed as a leper by

15. Ibid., April 11, 1874.
16. Ibid., September 23, 1876.
Dr. Jared M. Turner. Doctor Handy quieted all fears when he visited the man and diagnosed the case as paralysis.

The doctor became the self-appointed guardian of the medical profession in Tucson by challenging all those who came to practice to produce a diploma. The law enacted by the Seventh Territorial Legislature to "Encourage Scientific Medicine and to Prevent Quackery" stated that anyone who held himself out to the public as a practitioner of medicine or surgery and received pay for the practice thereof, without first having received a diploma from a medical school or other institution certifying that the bearer was duly authorized to engage in such practice, was liable to a fine of from fifty to two hundred dollars.

When "Doctor" Peter Thomas advertised that he cured baldness and rheumatic pains as well, Handy insisted that he be


18. Ibid., January 12, 1884. The Chinamen had come from a railroad camp, his legs reported to be withered and a mass of running sores.

19. Acts, Memorials, Resolutions, Adopted by the Seventh Territorial Legislature, pp. 22-23. The law was adopted on January 31, 1873. The first regulation concerning medical practice contained many loopholes as no one was appointed to enforce it.
arrested and fined. John Mitchell, brought up before Justice Joseph Neugass on a charge of practicing medicine without a diploma, was fined. A number of so-called specialists and doctors found it expedient not to visit Tucson as long as Handy was there. Several reputable physicians also found it difficult to establish a practice in Tucson in that Handy was jealous of his patients being treated by any other doctor. Handy formed partnerships with one or two of the physicians from time to time and always notified the public that one doctor or another was in charge of his patients during his absence from the city.

20. *Arizona Citizen*, April 25, 1874. Peter Thomas also advertised in the *Arizona Miner*, March 22, 1873, to November 8, 1873, "Dr. Peter Thomas is prepared to cure rheumatic pains, consumption, and all other diseases, Montezuma Street, Prescott."

21. *Arizona Citizen*, April 9, 1876.

22. Handy had several different partners. Charles E. Holbrook, his brother-in-law, and Dr. F. H. Goodwin attended his patients at times. Dr. Michael Spencer also was a partner of Handy's in 1886. For medical schools, see Appendix II.

Handy had difficulty in obtaining his diploma in that he attended a course of lectures at Cooper Medical College and entered the Civil War as a medical cadet. Cooper Medical College joined the Toland Medical College which became the Medical College of the Pacific in 1870. The medical college was to have granted a diploma to all students who became medical cadets, but somehow Handy never got one until the law required it.
When Thomas Roddick, one of Handy's patients, became violently ill while Handy was not available, Roddick's partner called in Dr. Charles P. V. Watson to attend him. Doctor Watson attended Roddick four days prior to his death; Handy also checked on the patient on his return. When Roddick died, Handy went to the coroner and demanded that an autopsy be made. The full testimony of all concerned was published in the Arizona Citizen.23 Watson contended that the patient had gastritis; he was vomiting and retching with burning pain in the region of his stomach, had abdominal cramps, and had a hemorrhage from the stomach. His treatment consisted of opiates with twenty drops of gelsemium in water administered a teaspoonful at a time, every two to three hours. The doctor also applied a jacket of warm mush to the patient's abdomen, but the pulse increased, and the patient became restless despite the morphine. He perspired freely and urine became scanty, the pulse accelerated again, and the patient died. Watson attributed the cause of death to inflammation of the stomach and bowels.

Doctor Handy insisted that it was a plain case of uremic poisoning—that too much morphine had been given which killed the patient, or at least aggravated the case.

23. Arizona Citizen, June 14, 1879.
In fact, Handy declared, the entire treatment administered by Watson was entirely opposite to what it should have been. Supporting Handy by their testimony were Doctors Mariano Samaniego, Charles R. Drake, and Thomas M. Seawell, all of whom had performed the autopsy. The verdict of the post-mortem was that the state of various organs could have caused death; "but all combined as a result of the uraemia which caused the death, excepting the diseased condition of the liver which might have been caused by excessive drinking."

The coroner's jury was the scene of an altercation between Handy and Watson with members of the jury separating the two. The entire proceedings were irregular, the Citizen reported, in that attorneys were present and

24. *Arizona Citizen*, June 14, 1879, report of autopsy. Mariano Samaniego was a graduate of St. Louis University, and advertised as physician and surgeon in the *Arizona Daily Star*, June 5, 1879. It it not known whether he studied medicine or not for his diploma was never filed. He was a prominent citizen of Tucson for many years, engaged in other business activities and did not practice after 1880. Samaniego was on the citizen's benevolent committee which was instrumental in getting St. Mary's Hospital built. Served in the 9th, 11th, 16th, and 18th Territorial Legislatures; Board of Regents, 1886-1889; 1896-1897.

Charles R. Drake was a former hospital steward at Fort Lowell, not a doctor of medicine; Thomas M. Seawell and Charles P. Watson did have medical school diplomas. See Appendix II.


participated in the examination and cross examination of witnesses whereas the coroner and jurors alone should have conducted the business, and that because of this unprecedented feature a personal difficulty occurred in the presence of the jury.  

Prescott suffered considerable economic loss by the removal of the territorial capital to Tucson but regained the capital again in 1877. There was no general exodus of citizens when the capital was moved, however, for there were 650 residents in the town in 1870 and surrounding communities looked to the county seat as a trading center. Prospecting continued as before, and ranching and farming in the adjacent valleys. Six doctors practiced in the town itself, and the three on duty at Fort Whipple also engaged in some civilian practice. George Demetrius Kendall was the dean of the medical profession in the town, having arrived with the California Volunteers as Captain of Company I, 7th California Infantry, mustered out of service in March of 1866, and returned to Prescott to practice medicine and manage the Pioneer Drug Store. The doctor advertised that

27. Arizona Citizen, June 14, 1879.

28. AGO Records Group 94, Personnel Jacket of Captain George D. Kendall, contains no record of the officer having been a doctor. Born in Cincinnati in 1828, Kendall raised a company of volunteers in California in 1864, served until 1866. He did not advertise as a physician after 1875 but continued to operate the drug store until 1890 when he removed to San Diego.
all prescriptions would be carefully and accurately compounded, and that he would vaccinate all who felt disposed to undergo the operation. Kendall treated a multitude of sick and injured during his career as doctor and druggist.29

Bullets were extracted from those wounded in Indian attacks, miners were treated for blast injuries, and numerous other emergencies attended by Doctor Kendall from time to time. Kendall organized the fire department of Prescott, served as president of the school board, did some prospecting in the Bradshaw Mountains, and served in the Ninth Territorial Legislature. He declined the appointment of Probate Judge in 1873. Doctor Kendall, as he was always referred to, continued to be one of the substantial and sustaining citizens of Prescott for well over a score of years.30

Two doctors who did not practice medicine at any time were Andrew Moeller and John Tabor Alsap, the latter rendering aid only during King Woolsey's scout against the Indians in 1864. Alsap came from a ten-year residence in

29. Arizona Miner, December 27, 1867, extracted the bullet from under the rib of a man injured during an Indian foray; Arizona Miner, March 15, 1873, treated a miner injured in a blast, extracted several pieces of rock from his face and forehead. The eyes were also injured and the left arm shattered. The man recovered without loss of his eye or arm.

California where he had practiced medicine; reportedly he abandoned the profession because he did not like the work. The doctor was said to have been granted a degree in medicine and law at one and the same time by a university in New York.\footnote{31} Appointed probate judge in Maricopa County in 1871, Alsap became known as Judge thereafter; he also removed to the Salt River and remained an influential citizen there until his death. Andrew Moeller appeared on the Prescott scene by 1867 but never practiced medicine. Other than accumulating property and serving in the Territorial Legislature, the doctor concerned himself with mining and real estate. His billiard and drinking saloon was open to the people of Prescott by December of 1868. Moeller died in 1885, noted for his wealth and political activities.\footnote{32}

\footnote{31} Kelly's Legislative History, pp. 360-361. Alsap served in the Council of the Fifth and Sixth Territorial Legislature, in the House in the Eighth Legislature. He was the first treasurer of the Territory, sponsored Maricopa County and resided there until his death in 1886.

\footnote{32} Andrew L. Moeller, served as president of the Council, Ninth Territorial Legislature, a native of Pennsylvania originally, had considerable property when he came and accumulated much more. Moeller had much litigation over property and died 28 January 1885, worth $29,399 at his death. He also served in the House in the Eighth Legislative Assembly.

There is no record of the doctor having a diploma or of his medical education.
Only one regularly qualified physician and surgeon of these early years remained to witness the beginning of the twentieth century in Prescott. James Newton McCandless arrived in 1866 as a contract surgeon at Camp Lincoln (Fort Verde), served in that capacity until his contract was annulled rather suddenly and he was released from military duty. There followed a lengthy and involved correspondence between military officials in Arizona and the Surgeon General's Office and War Department. A lieutenant appearing before a retirement board charged that Doctor McCandless had been negligent in the treatment of his arm injury which rendered him unfit for military duty. Doctor McCandless was not the surgeon who treated the lieutenant, but the arguments in his behalf were of no avail. General U. S. Grant had issued the order that the surgeon was never again to be granted a contract with the Army.

McCandless opened his office in Prescott in November of 1868, in the store of Allen and White on Montezuma Street. Thereafter the doctor was busy attending to the numerous ills of the citizens of Prescott and surrounding communities; he enjoyed a well paying practice to the end of the nineteenth century.

33. AGO Records Group 94 and 112; personnel jacket of Contract Surgeon J. H. McCandless. The doctor furnished sufficient proof that he was not the doctor concerned who had treated the lieutenant but the officer had had words with McCandless at one time over some requested leave of absence. The order of General Grant stood, nevertheless. For medical school see Appendix II.
century. The doctor was also among the first who registered under the new physicians' licensure board in 1903. His service as county physician on numerous occasions, his single-minded interest in the town of Prescott, and his observations on the large number of physicians coming and going through the ensuing years could well have told the history of medical progress in that community.34

Doctor Josiah Woodworth Tompkins engaged in mining and merchandising with one Calvin Jackson, coming to Prescott from New York State. Dr. Fred E. Van Oelzen arrived propitiously at the time Doctor McCandless was preparing to take a trip back to his native Michigan. Van Oelzen announced that he was purchasing the doctor's medicine and practice, but when it was found that he could not pay his board bill the doctor left Prescott suddenly.35

Warren E. Day came to Arizona as contract surgeon and remained for the rest of his life to practice medicine, engage in mining, build hospitals, and invest in ranches.36

34. McCandless died in 1904.

35. Doctor J. W. Tompkins is not mentioned after 1880. Dr. Fred E. Van Oelzen, arriving from Napa, California, made a good impression on the editor of the Miner, who was ever ready to publish glowing accounts of all who came to pay a visit. August 27, 1875.

36. According to Day, he served with the 61st New York Volunteers, at Key West and Dry Tortugas, Florida, had charge of Lincoln's conspirators, and came to Arizona at the request of General George Crook.
Day held a diploma from Albany Medical College, granted in May of 1863, and had a varied career as physician, mostly with the Army, before his arrival in Prescott. As surgeon at Fort Verde, where he also engaged in mining and ranching, Doctor Day rode through the snow and ice one wintry midnight to attend Captain Charles King, wounded in an Indian ambuscade at Sunset Pass some twenty-two miles distant. After the mules escaped, the ambulance driver suffered frostbite; the doctor took the one remaining horse and his instruments and rode on alone to attend the wounded captain. The comminuted fracture of the arm sustained was one, Day reported, that under ordinary circumstances would require amputation, but a splint was fashioned of cigar boxes, a litter constructed of canvas and blankets secured to two mules, and the wounded officer brought back to the post-hospital where the major treatment was a gallon of whiskey and a stay in quarters. Captain King did not lose his arm, but fragments of bone exuded from the wound for several years afterward. 37

Day's preoccupation with mining and ranching lost him the contract with the Army. He advertised as "Surgeon and Physician," later as "Surgeon Specialist in chronic and

37. This account was written by Dr. Day about 1920, the story also appeared in The Prescott Courier, June 12, 1920.
obscure diseases." The doctor's bold and somewhat erratic temperament led him into numerous business enterprises, both unprofitable and costly. There was no hospital in Prescott so the doctor proceeded to establish one while numerous other persons had talked about the project for years. Day leased some property formerly occupied as a paint shop, and later as a printing office, on Cortez Street. He outfitted it as a hospital, purchased a supply of clean beds and other necessities for the sick, and proposed to charge moderately for the accommodations. This worthy project was highly unprofitable in 1877, but the doctor went on to plan for a new hospital building near his octagonal residence. It is not known whether the building was ever completed for the next year Day rented out his octagonal residence. He continued to practice medicine in Prescott until 1880 when he left for the Bradshaws and Hackberry where the doctor spent the next six years, advertising that he was building a hospital at Bradshaw for the miners in the surrounding

38. Other physicians advertised as physicians and surgeons, Day reversed the procedure, Arizona Miner, May 21, 1875 and January 1, 1879.

AGO Records Group 94; "Doctor Day having been reported as engaging in such activities as Indian trader and ranching to such an extent that he has no time for medicine; when he gives it his attention he is very capable in his profession," dated March 2, 1875, endorsement on letter in Surgeon General's file.

39. Arizona Miner, August 31, 1877.
In the fall of 1886, Day returned to Prescott where he continued to practice medicine with the exception of one year spent in Yuma prison for bigamy. He was welcomed, after his pardon, by the hospitable people of the town.

Arizona City was the second largest settlement in the Territory in 1870, having well over 1100 persons with 349 families and 367 dwellings. Dr. Candido Arnabar was the first resident physician. He had come from his native Spain to California in 1849, and had settled in Arizona City or Yuma in 1861 or 1862. The doctor had studied at the University of Madrid, in Vienna and Paris before coming to America. Arnabar attended the indigent sick, served as county physician in 1875, and had a considerable practice until his death in 1877. His loss was keenly felt in Yuma.

40. Arizona Miner, February 24, 1880.

41. Day was known to be quite a meddlesome person. Newspaper items were rather unfavorable to the doctor, but the people of Prescott knew him well and forgave whatever faults he may have had. Day married without the formality of a divorce from a wife in the East.

42. Arizona City and Yuma were both used as names for the Colorado town; Colorado City was laid out by Charles D. Poston in 1854 across from Fort Yuma. See Will C. Barnes' Arizona Place Names, revised and edited by Byrd Granger, pp. 388-390. Hereafter it will be referred to as Yuma.

43. Arnabar is spelled several different ways—Arnaba and Anabar.

Minutes of the Yuma County Board of Supervisors, January 13, 1873, indicate the monies paid to Doctors F. H.
Albert de Corse followed the trail of a lost mine to Yuma, arriving there shortly after Arnabar. De Corse came from Maryland to California by way of Cape Horn, eventually reaching San Bernardino where he treated a miner who was ill. The miner paid the doctor with some gold dust from his saddlebags and offered to show de Corse where the mine was located, but again became ill and died before they reached the rich mine. The doctor started to practice in Yuma but never gave up his love of prospecting. De Corse prospected in the vicinity of Ajo and elsewhere, served for several months as physician at the Pima Agency and relieved the post-surgeon at Fort Yuma on occasion. The long association partnership of de Corse and James H. Taggart was probably a record for medical partnerships in Arizona Territory. De Corse and Taggart, offices in the Hanlon Building, doctored the poor as well as the affluent of Yuma for seventeen years. They attended the prisoners in the Goodwin and C. Arnaba together with Surgeon George Rose, U.S. Army, for performing surgery on the indigent sick. Arizona Sentinel, April 7, 1877, laments the loss of Doctor Arnabar.

44. Dr. Roy R. Knotts manuscript, information obtained from the de Corse family in regard to the reason the doctor came to Yuma.

Albert E. de Corse did not file his diploma having practiced in the Territory the requisite number of years before that law became effective. He was reported to have served as a surgeon in the Civil War. The 1870 Dicennial Census lists his birthplace as Maryland.
territorial prison longer than any other physicians, and were active not only in Yuma affairs but in all matters that concerned the Territory.

Dr. James H. Taggart, a graduate of Rush Medical School in 1866, reportedly came to Yuma at the request of de Corse in 1874, and while de Corse prospected, Taggart devoted his free time to the pursuit of agriculture. Taggart had cotton growing on his farm, cultivated the finest grapes and displayed them in Yuma and cities throughout the Territory, and shipped figs to San Francisco at seventy-five cents per pound. He served as county physician, as physician to the Indians on the Colorado River Reservation, and as county treasurer at one time. The doctor was appointed Fish Commissioner in 1883 and protested vehemently the use of Giant Powder to kill the fish in the Colorado.

George Angelo, or Russian George as he was commonly known, attacked the doctor one day in March of 1882. No reason was given for the attack on Taggart who killed his attacker but not before he himself had been shot. The bullet penetrated Taggart's chest and punctured the diaphragm and liver, exiting through the left kidney.

45. Arizona Sentinel, items from 1878 to 1893.
46. Ibid., March 24, 1883.
47. Phoenix Herald, February 25, 1882; Pinal Drill, March 4, 1882, gives an account of the shooting.
Assistant Surgeon Joseph E. Corson, post-surgeon at Fort Yuma, attended the doctor and reported that the treatment consisted of five grains of morphine daily. The patient recovered. 48 Taggart became division surgeon of the Southern Pacific Railroad at Yuma, and was serving in that capacity at the time of his death. 49

Alfred A. Mix served as city inspector when Yuma was incorporated in 1871, his place of birth was Louisiana and he reportedly held a diploma from a medical school in that state. 50 John H. Phillips, formerly of New Jersey, was also a doctor in Yuma in 1870. Phillips represented Yuma County in the Council of the Sixth Territorial Legislature meeting in Tucson in January of 1871, his home address listed as Eureka, Arizona Territory. When the president of the Council, Daniel Stickney, died during the

48. Joseph E. Corson, manuscript, Arizona Pioneers' Historical Society. Ten years later, Doctors George Goodfellow and Frank E. Ainsworth operated on Doctor Taggart for abscesses which may have been sequels of the original wound. Corson removed the bullet, just over the kidney.

49. De Corse died in June, 1891 of acute indigestion; Taggart died in February of 1893. Both doctors died at the age of fifty-six.

50. Doctor Mix left suddenly while serving as public administrator; went to Mexico to practice where he was still practicing and investing in mining in 1886. Articles concerning his duty as public administrator, Arizona Sentinel, September and October, 1872.
session of the Legislature, Phillips read the funeral services.  

When the territorial prison was completed in July of 1876, the beneficial waters of the Colorado were polluted by the penitentiary sewer which discharged into the Gila just above the juncture with that river and just above the favored spot where the residents of Yuma obtained their water supply. Appeals to the Prison Commissioners were made yearly before this matter was remedied and several epidemics of typhoid were attributed to the polluted water. Yuma became the favored spot for health seekers and tourists of all descriptions as soon as the Southern Pacific Railroad reached that point. Representatives of investment companies began their journey into the interior of Arizona from Yuma. A goodly portion of them were called doctors—whether of medicine, mining engineers, agents, or anyone that the title appeared to fit.

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52. Arizona Sentinel, March 3, 1883 to September 19, 1885.

53. Dr. F. A. Seward, representing the Mendivil and Clip Company, proposed to erect a custom mill at Norton's landing; Dr. Edward Stanley made frequent trips up and down the river for the Red Cloud Mining Company. The Draper brothers were doctors, later advertised in Florence, A.T., and many more came through Yuma to explore the Territory.
The steamer *Gila* under Captain Mellon made the trip up the Rio Colorado. In the 1870's the trip was best described by the wife of an Army officer who was impressed by the slow and interminable voyage, and the heat of summer. Contract Surgeon Thadius M. Ames at the lonely post forty miles north of La Paz was probably envious of anyone going anywhere. Contract Surgeon Roland Thift Burr at Ehrenberg would welcome the arrival of the steamer which might bring his relief at this lonely outpost. Contract Surgeon James B. Lawrence was also on the steamer with his wife for the two hundred mile journey to Fort Mohave.

Only two settlements were listed for Mohave County on the 1870 Census and but one physician enumerated for the entire county. Contract Surgeon Frank S. Sterling was one of a succession of surgeons who contracted to serve at this lonely military post. The doctor attended the sick in the community of Mohave City which grew up around the post and which served as the first county seat. The county seat was moved to Hardyville in 1867, and to Mineral Park in 1873. Mining locations surrounding the community made Mineral Park a thriving place for several years; it was a beautiful place as well, situated in a basin amidst the mountains rich in minerals. The arrival of the Atlantic and Pacific

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Railroad later brought Kingman into prominence, and the county seat removed there in 1887. Contract Surgeon James B. Lawrence established a medical practice in Mineral Park and became county treasurer until he was removed from that office due to a shortage of funds in the treasury. The doctor repaid the entire indebtedness which necessitated the liquidation of all his property holdings. He was later found to be quite destitute.

Four doctors were in Mineral Park by 1878, all of whom received money for the care of the indigent sick: Joseph Lesene, W. A. Tompkins, and E. S. Reese, together with a Doctor Gildersleeve who seemed to have followed all the new mining camps at one time or another.

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55. Barnes' Arizona Place Names, pp. 214-216.

56. Minutes of the County Board of Supervisors, Mohave County, May 27, 1880; Arizona Sentinel, June 15, 1878.

57. Weekly Arizonian, May 1, 1881. Dr. J. B. Lawrence of Wickenburg was brought to the Williams House by Dr. Ryder (Dentist) who found him destitute. Dr. Ainsworth placed him in the hospital at Whipple. Lawrence's name is spelled Laurence in newspapers and in his Army record. Lawrence died at Clearwater, Kansas, May 28, 1890.

58. W. A. Tompkins was a contract surgeon at Fort Mohave. Doctor Lesesne, Lessesne or Lesiane, received money for medical services from January to October, 1873. The Weekly Miner, February 5, 1875, has his professional card as a physician in Mineral Park, the last heard of the doctor who does not appear on the 1880 census. E. S. Reese received money from April, 1873 to April, 1876. Gildersleeve received one payment in January of 1873, appeared later in Tombstone and Yuma briefly.
Edwin L. Burdick, graduate of Kansas City Medical College, filed his diploma in Mohave County in December of 1881, the only physician in the county doing so for three years thereafter. The confidence in doctors was not lost as Burdick was elected treasurer of Mohave County in 1881. Dr. Warren E. Day joined the Mohave County Medical contingent in 1880 at Hackberry, remaining there until 1886. Division surgeons of the Atlantic and Pacific Railroad in Kingman during the 1880's included David S. Livingston from the Medical College in St. Joseph, Missouri, who later exchanged places with Dr. Herman Hardrich of Williams. A Dr. H. E. Gale also came to Kingman in 1885 from the University of Maryland, later serving as physician at the San Carlos Indian Agency.

Dr. Dennis J. Brannen came to Arizona in 1882, physician for the Ayer Lumber Company in Flagstaff. He later served in two capacities--as physician for the Railroad and the Arizona Lumber and Timber Company which was originally the Ayer Company. Brannen became one of the first citizens of Flagstaff, served as county physician, owned ranches, real estate and other property in Arizona, Illinois, and California. Brannen opened the first drug store in Flagstaff, served as postmaster, became a member

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59. Mohave County Register of Physicians and Surgeons Diplomas.
of numerous lodges and organizations, and represented Arizona at the Chicago World's Fair and other national congresses from time to time. His brother, P. J. Brannen was a prominent Arizona merchant, with stores in Flastaff and Prescott.

Physicians soon came to the towns that grew up along the Atlantic and Pacific Railroad in northern Arizona, the division surgeons for the railroad among them. Many came for their health, and others came on the trains and stopped at the new communities for a time and then departed. Frank Lightfoot, Richard M. Francis, and Percy M. Cornish stopped at Flagstaff. William Murray Johnston, Charles Frederick Roberts, and G. M. Mason practiced at Williams, and William Lewis McGuire at Winslow, among others. Although a few settled permanently, the majority were transient with only a name recorded in the Board of Supervisors records or in the local paper.

60. Arizona Champion items, Coconino Sun, other territorial newspapers. Brannen travelled around the Territory extensively in the interests of the cattle business, lodges, etc. Appeared to hold all the offices worth holding in Flagstaff until Doctor Percy G. Cornish arrived in 1885.

61. See Appendix II.

62. County records for Apache County Supervisors for the years 1879-1888 unavailable; numerous doctors mentioned during the early days, some were agents, others prospectors.
Dr. William M. Rudd settled in the Springerville area in 1876, and continued the practice of medicine which he had started in Arkansas ten years previously. A ranch on Rudd Creek near the Little Colorado River was purchased by the doctor. When Apache County was created in 1879 with a county seat at Snowflake, the doctor studied law and qualified as county attorney. The doctor became a prominent citizen of central eastern Arizona for many years, his tall, large frame a familiar figure throughout the remainder of the nineteenth century. Rudd did not possess a diploma but qualified before the licensure board at the age of seventy-six years.

The people of Apache County voted to move the county seat to St. Johns in 1879, another ranching community on the Little Colorado River. Dr. Franklin M. Denny, graduate of Rush Medical College, was one of the earliest physicians. Dr. William Thomas Dalby arrived in St. Johns one month after receiving his diploma from Omaha College of

63. Manuscript Collection, Arizona Medical Association. Doctor Rudd was born in Tennessee, met with a Mr. Springer who encouraged him to settle in the valley of the Little Colorado en route to Arizona.

64. Records of 1903 Medical Examining Board, Arizona Medical Association.

65. St. Johns lost the county seat in 1880 to Springerville; regained in 1882.
Medicine in 1885. Doctor Denny left no record of medical practice but Doctor Dalby maintained an active practice in St. Johns and surrounding communities for over four years. Adamsville and Florence were two flourishing settlements along the upper Gila River by 1870. Dr. S. B. Chapin was one of the first physicians and druggists in Florence. William Dumont ran a drug store in Adamsville and Charles S. Adams, founder, ran the saloon. Chapin served as sub-agent and physician to the Pimas in 1879. He was joined in the drug store business by Eugene Van Hasslocer, physician and surgeon formerly of San Francisco, who came to Florence in 1877 shortly after Doctor Chapin. Dr. William Harvey arrived some time in 1877 and remained as physician and surgeon until his death in 1889. Harvey was a graduate of Rush Medical College and appeared to be the only physician in the town after 1881. Doctor Oliver P. Sheets started out in Florence but soon removed to Phoenix.

66. The name is spelled "Denny" on the diploma; listed in the index as "Deming."

67. Florence was settled as early as 1866 by Levi Ruggles who had a ranch fifteen miles from the Pima Villages; Ruggles took out the patent in 1875. Charles S. Adams took out land about the same time near an irrigation ditch; the town of Adamsville was also called Sanford.

68. Arizona Citizen, September 1, 1877. Chapin bought the Charles R. Drake property in Florence in June, 1877, first record of the doctor.
The S. S. Draper brothers, physicians and druggists and mostly prospectors, stopped briefly in Florence in 1877.69

Doctor Harvey was the only physician in Florence at the time of the "six gun classic," when Joe Phy and Pete Gabriel had their famous duel in 1888.70 The two men, political and personal enemies of long standing, shot each other with Joe Phy receiving fatal wounds. Being a special friend of Doctor Harvey, Joe Phy was attended by him. Pete Gabriel had two serious wounds from the affray, one of which struck him in the right groin "pretty well up the side, glanced around and came out his back; another penetrated his left breast, came out the back, and came within a hair of killing a man nearly a square distant."71 When Harvey refused to treat Gabriel, a physician had to be summoned from the Pima Agency some eighteen miles away with Dr. Thomas H. Sabin responding to the call. Pete Gabriel lived another ten years, the wounds evidently did not interfere in any way with his pursuit of mining.72

69. Arizona Citizen, April 14, 1877, advertisement of the S.S. Draper Brothers who were experienced pharmacists and would establish a hospital and infirmary in connection with the business where all diseases would be scientifically treated by an experienced physician.


72. Arizona Daily Star, August 7, 1898, announces the death of Pete Gabriel, "one of the fighting landmarks is dead."
"W. H. Bluett, Physician and Surgeon, Picket Post, Arizona Territory, announces himself in this issue as being prepared to attend all ailments that Picket Post flesh is heir to, or any flesh for that matter." This advertisement in the Citizen in 1878 referred to the mining camp that grew to sizable proportions below Picket Butte in the Pinal Mountains in 1877. Picket Post became Pinal, a camp near the Silver King Mine, and as miners ranged the surrounding hillsides, Doctor Bluett collected for the care of the affluent and indigent—the latter from Pinal County which was the sixth county created by the Territorial Legislature in 1875. Bluett constructed a lime kiln at Pinal to supply the new Silver King lixiviation works and opened the Pinal Drug Store. The opening of the hotel in Silver King was a grand affair attended by the doctor and wife in 1881.

Doctor Bluett was summoned when two miners became ill after drinking water from a keg that they had purchased from the local store. Some red sediment was observed in the keg when purchased, but the miners washed it out. When both men became ill at their campfire that evening after drinking the water, one of the men managed to obtain the assistance of Doctor Bluett. The other man died before the doctor

73. Arizona Citizen, June 7, 1878.
74. Ibid., items from 1878-1881.
arrived. The keg was taken to Professor De Groot, assayer, who pronounced the water full of arsenic. 75

Pinal City boasted 145 houses and 18 tents in early 1881 with fifty people waiting to build. The town had one public school, one church in the building, two hotels and three barbershops, seven stores and nine saloons. Three doctors came in addition to Doctor Bluett, all of whom departed the city by 1882, including Bluett. 76 The Phoenix Herald reported that Pinal was dead as a doornail by January of 1883. 77

Globe City started a little later with several temporary camps located in the mining district before the town site was laid out in 1880 near a water supply in the Pinal Mountains. Gila County was created in 1881 with Globe City as the county seat but the town residents had already built a church and a jail house before that date. The town was connected with the rest of the civilized world by September of 1880 when all work had been completed in the

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75. Arizona Citizen, December 26, 1877. Miner Lewis died; Reavis survived.

76. Dr. O. B. Adams had a telephone installed from his house on the hill to the Everhart's Drug Store, left shortly after November, 1881, for San Francisco; returned to Maricopa County to invest in land in 1894. A. N. Thompson remained but a few months, arrived from Cheyenne, Wyoming; H. H. Davis, in Pinal from 1881-1882, left for San Francisco; Doctor Bluett located in Phoenix by May of 1882.

77. Phoenix Herald, January 8, 1883.
construction of a telegraph line by that date. The work was done by the Apaches under the supervision of M. Lord of San Carlos. There were 700 people in Globe in 1880, three doctors, and one chemist and druggist. A schoolhouse was next on the building agenda and a hospital was sorely needed, according to the Arizona Silver Belt.

Doctor W. F. Vail opened the Pioneer Drug Store in December of 1877, and by the next year had a new store building with a large supply of drugs and medicines, tastefully displayed. Dr. Edward C. Thatcher was there by 1878, his building sufficiently advanced to be called a house by June of that year. A graduate of the University of Pennsylvania in 1866, formerly a surgeon in the Navy, Doctor Thatcher engaged in mining activities and practiced in Globe until the early 1880's.

T. C. Stallo also listed his occupation as doctor on the 1880 Dicennial Census, but was never known to have practiced medicine. Stallo became public administrator of the new county in 1881 and by that time two other doctors were in town to serve as coroners, Elijah H. Pring and Charles Angus McDonnell.

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78. Arizona Silver Belt, September 18, 1880.
79. Ibid., June 26 and July 10, 1880.
80. Doctor Thatcher died in Chicago in 1888; left Globe for Silver City some time in the early 1880's, became a physical and mental wreck, according to the Silver Belt of July 31, 1887.
Doctor Vail and Andy Hall were killed by stage robbers Hawley and Crimes in 1882. The robbers were apprehended and examined with a trial held by Justice of the Peace George A. Allen, the defendants given legal defense and time to make out their wills, and the two robbers then suspended from a cottonwood tree in August of 1882. 82

Siegmund C. Heineman became proprietor of the Pioneer Drug Store in 1878, did not advertise as a practitioner of medicine but was always referred to as doctor and was known to be an expert assayist. Elijah H. Pring received his diploma in 1847 from Dublin, Ireland, and held membership in the Royal College of Surgeons. Pring removed to Clifton in 1882 and later served as contract surgeon with the Army in New Mexico and Washington Territory. 83 McDonnell left Globe within a year after his arrival for the coast. He filed his diploma from Rush Medical College, granted in 1875, during his stay in Globe and had an active practice the short while he was there.

A number of doctors arrived and departed in the ensuing years, advertising their offices in either the

82. James H. McClintock, History of Arizona, II, p. 460; Arizona Citizen, September 3, 1882; Minutes of the Gila County Board of Supervisors, August 22, 1882.

83. AGO Records Group 94. Pring went to Clifton, served as coroner and postmaster there and as physician for a mining company before his contract service.
Pioneer Drug Store or in Hitchcock's Drug Store. William Harris Cook practiced in Globe for five years and departed for Flagstaff in 1887, later settling in Bakersfield, California. George Johnston came in 1881 from Iowa City, having had fifteen years' experience in medical practice, but left in 1885. Doctors Johnston and Cook attended Bob Robbins who was injured during the disastrous fire that struck Globe in 1885. Dr. Thomas B. Davis, physician at San Carlos, was called into consultation, and the patient was treated and cared for in the community hospital which the citizens had erected in 1882, one of the first voluntary community ventures in the entire Territory. 84

Dr. Alberto S. Adler, a graduate of Kaiser Wilhelm University, also visited Globe together with practically every community in the Territory within a nine year period. Adler established a medical practice and often served as county physician, especially if there was an epidemic in progress. After trying Clifton, Globe, Solomonville, Florence, Tucson and Nogales, Adler left for San Francisco in 1892. 85 Dr. O. P. Stark stayed one year in 1887 and returned to Texas. Dr. Joseph Largent came from Texas and

84. George Johnston died in New Orleans on October 31, 1885, where he had presumably gone for treatment.

85. Doctor Adler recorded his diploma in the counties of Graham, Gila, Pima and Pinal. See Appendix II.
built a lovely home on the corner of Oak and Pine, connecting his home with the drug store by telephone, and again returned to Texas, his Globe residence being from 1888 to 1892. Largent was one of the first physicians to be hired by the Old Dominion Copper Company.

Thomas Shields Collins arrived in 1888 after fifteen months spent in Oakland, California, following his graduation from the University of Louisville. The doctor married Miss Nellie Atkinson in 1891, and returned to Globe with his new bride from the wedding at the home of the bride's parents in Tempe. The stage broke down six miles from Globe and Mrs. Collins "came into town on a mule led by her liege lord, resuming the journey in stygian darkness." The couple received a rousing serenade upon their arrival. 86

Doctor Collins remained a permanent resident of Globe for a goodly number of years, interrupted by one or two excursions elsewhere to find a likely place. Collins made one journey to the Yukon in 1897, but he returned to Globe and later settled in Bisbee. His brother left from Globe to enter Marion Sims Medical School, after a temporary

86. *Arizona Silver Belt*, December 26, 1891.
career of teaching piano, guitar, violin and mandolin in Globe. 87

Butler G. Fox was an early resident of Globe, arriving there shortly after his graduation from Iowa State Agriculture College in 1878. Fox attended the University of Louisville Medical School, graduated in 1892, and returned to Globe to practice shortly thereafter. He remained to practice in that same community until the second decade of the twentieth century. 88 William M. Claypool and his son Samuel Barclay Claypool, came in 1896 and 1897 respectively, both graduates of the University of Nashville and together with Doctor Fox became the permanent resident physicians of Globe.

John Tabor Alsap was the first doctor in Phoenix but did not practice medicine. Oliver John Thibodo moved from Wickenburg to Phoenix in 1872. J. B. Forbes, who previously operated a drug store in Tubac and Tucson, joined Doctor Thibodo in a similar venture in Phoenix the same year. 89 The first payments by the Maricopa County

87. John Collins was a doctor at the time he accompanied his brother, Dr. and Mrs. Collins to the Klondike. Arizona Silver Belt, February 3, 1898, reports that all passengers on the Corona disaster were saved, including Dr. J. S. Collins, Dr. and Mrs. T. S. Collins and Mr. Thompson from Globe. The Corona ran into a reef between Seattle and Skagway.

88. From the Calude G. Coleman manuscript in the Arizona State Archives.

89. 1864 Territorial Census lists J. B. Forbes, druggist, age 27, born in Indiana, resident of Tubac. Forbes
Board of Supervisors were made to these two men with Forbes no longer appearing among the beneficiaries of the county after 1874. Doctor Thibodo continued in the drug store business and in the practice of medicine until 1889 when he removed to Los Angeles.

Oliver H. P. Sheets of Nevada established an office in Phoenix in the Wells Fargo and Company Building by February of 1878 after one month in Florence. Sheets advertised that venereal disease was his specialty and by April of 1878, had formed a partnership with Dr. Junius H. Wharton, a recent arrival, who had offices "the first door east of the courthouse." The two doctors constructed a new building on the east side of the Plaza for an office and a private hospital which had three county patients by November of 1878. The doctors held the contract for the care of the indigent sick until 1880, when the partnership does not appear in the 1870 Census. James M. Barney in "Early Annals of Phoenix," Arizona State Archives, states that both Forbes and Thibodo were doctors.

90. Salt River Herald, February 23, 1878. Sheets was interested in the Grand Canal Company and other business ventures. He practiced medicine until his death in 1881 at the age of 60 years. See Appendix II.

91. Wharton was reported to have arrived in Phoenix by 1875, the first record of payment for services to indigent sick. Salt River Herald, April 20, 1878, notice of partnership and location of office.
was dissolved and Doctor Wharton found another partner in Dr. Roland L. Rosson, recently released from the Army. 92

Doctor Wharton never filed his diploma but was reported to be a graduate of Starling Medical College in Columbus, Ohio, at a date not stated. He served with the Second Iowa Cavalry in 1861, migrated to Denver, Colorado at the War's close, and became associate editor of the Rocky Mountain News. 93 Appointed health officer of Phoenix by the Maricopa County Board of Supervisors in April of 1877, Wharton resigned the office after one week when he found no contagious diseases in the town. Smallpox did break out the following month and the doctor received $83 for medical treatment and for wood furnished the indigent smallpox patients. 94

Wharton invested his time and money in the affairs of Phoenix, proved to be a somewhat outspoken antagonist at times, at others, the jovial and hearty patron. 95 The

92. Wharton had several other partners. William Griswold Cook was his partner in 1884 and Ezram McDougal in 1887.

93. Rocky Mountain News, February 8-26, 1867, compiled a history of Denver; awarded a purse when he refused to advertise liquor in his paper.

94. Minutes of the Board of Supervisors, Maricopa County, April 2 and 3, 1877.

95. Wharton railed against the taking of benches from the Plaza for Sunday baseball games when they were needed for church services held there and against arresting a fanatical preacher for disturbing the peace while the
doctor raised a family, was active in church and lodge work, served as editor of the Phoenix Expositor in 1879, became U.S. Examining Surgeon for pensions, marched in the G.A.R. parades, played baseball with the Phoenix team, and retired to his ranch in later years. Wharton became one of the charter members of the Arizona Medical Association in 1892. 96

Phoenix was incorporated in February of 1881. The Arizona Silver Belt thought that it was a pretty place with wide streets laid out at right angles, and fringed with tall trees. It was a dreamy place, as if at some former period of its history it had taken a sleeping potion and had not recovered from the effects. "Phoenix is one of those towns whose future is assured," the paper reported, and observed that although it might never be a great one, it did have one of the most stable industries upon which to build--agriculture. 97

John L. Gregg came to Phoenix in 1877 but left before the 1880 census for Hayden's Ferry. He took out 160 acres

callers of Keno games went on undisturbed. Wharton also organized the Maricopa Library Association, gave volumes to the library; wrote a hymn, "Mourn for the Thousands Slain," and published a volume on the legend of the Indians entitled, "The Sun God or Indian Edda."

96. Wharton came out for Grant as president when the owner of the paper was a Democrat. Weekly Arizona Miner, October 24, 1879.

97. Arizona Silver Belt, January 8, 1881.
of land and constructed two miles of ditch, cleared the entire acreage and put in thirty acres of wheat. The 1880 census listed Gregg as maimed and crippled, he reportedly lost one leg during the Civil War. The doctor combined the practice of medicine with farming, having a diploma from the Physio-Medical College of Ohio granted in 1855. Gregg also raised honey bees and sold the honey at a profit; organized a Land and Water Company which reclaimed several sections of land at the east end of the Maricopa Mountains.98

Benjamin L. Conyers settled in Phoenix in 1878, erected a "neat wooden building for an office next to the Magnolia Hotel," and opened a drug store.99 A graduate of the University of Louisville in 1849, Conyers went to California shortly thereafter and practiced for eighteen years before coming to Arizona. The doctor attended King Woolsey when that famous Indian fighter died in June of 1879 on his ranch near Phoenix.100 Doctor Conyers, together with Mr. J. M. Cotton, planted some sixty grape vines in the giant saguaro cactus in a grove eight miles north of Tempe. The grape clippings were simply fitted in a hole cut in the cactus. No additional reports were made concerning the

98. Salt River Herald, April 6, 1878.
100. Phoenix Herald, July 2, 1879.
success of the venture. Doctor Conyers was next reported to be practicing medicine, and mining in Mexico, locating in Ures, Sonora.\textsuperscript{101}

Roland L. Rosson practiced off and on in Phoenix during the next twenty years. He served as physician at the territorial prison, a position the doctor resigned within the year, and again returned to Phoenix in December of 1886. There were several trips to California and return.\textsuperscript{102} His election to county treasurer and later to the mayorship of Phoenix indicated that he was still a resident of that city. Nancy Miller Pickens was the first woman physician to locate in Phoenix, advertising that her specialty was diseases of women and children. She reportedly had a successful practice until 1883 when she was accused of performing an abortion and held to answer to the District Court. No further mention was made of Doctor Pickens in the Phoenix newspapers.\textsuperscript{103} Dr. George Puhek from San Francisco took an office in the Bank Exchange Building and announced that he would treat the poor free of charge at his office every afternoon between three and four o'clock.

\textsuperscript{101} Phoenix Herald, March 30, 1882.

\textsuperscript{102} Rosson went to San Francisco in 1889, returned to Phoenix the next year.

\textsuperscript{103} Arizona Citizen, August 14, 1883, reported her appearance before District Court on the charge.
Puhek went to Tip Top to practice, tried Tucson, and then left the Territory without paying his bills. 104

Tombstone was the rather "lugubrious" name given to a new and promising mining district discovered a few months ago, The Arizona Sentinel announced in May of 1878. The village was incorporated in November of 1879 with Dr. Henry N. Matthews the first doctor to establish a practice there. 105 By 1880, twelve doctors were in Tombstone, more than resided in any other town in the Territory. 106 Cochise County was created in 1881 with Tombstone as its county seat and a succession of doctors came and went during Doctor Matthews' six year tenure as the dean of the medical profession, coroner, county physician, and something of a mine owner himself. Few of the doctors established a medical practice,

104. Phoenix Herald, February 13, 1880. Puhek arrived in Phoenix in February and left on April 30 for Tip Top. He left the Territory in August, 1880.

105. Matthews (spelled often with only one "t") was a graduate of the University of Louisville in 1848, and came to Arizona in 1873 for duty at Camp Grant after a few months at Fort Whipple. He served at San Carlos and attempted several locations in Florence, Globe, and Tucson before removing to Tombstone. He died of pneumonia in February of 1886 and was buried in the fireman's plot of the Tombstone Cemetery with the fireman's band preceding the hearse and twenty-five vehicles following the funeral procession—a worthy tribute to his stature in the community.

106. The doctors came from everywhere; those who were known to be M.D.'s are mentioned in ensuing chapters dealing with the practice of medicine and surgery. See Appendix II for diplomas.
only four of those listed on the 1880 census filing their diploma. In two years eight diplomas were filed and about that many more doctors of unknown qualifications were reported by the territorial papers as being in and out of Tombstone, with a few of them settling in other communities.

George E. Goodfellow came to Tombstone in 1882 after a varied career as Army contract surgeon, and physician in private practice following his arrival in Prescott in 1877. In Tombstone, Goodfellow found his metier for he loved the climate of excitement, felt at home among the rough and tumble element, and developed his specialty of surgery while attempting to repair the ravages caused by gunshot wounds among his fellow citizens. Goodfellow practiced ten years in Tombstone before removing to Tucson in 1892. The story of Tombstone and Tombstone doctors can better be told in the practice of medicine and surgery.

Oro Blanco mining district, located near the south-western Mexican border, antedated the Tombstone find some years for it was a region mined during Spanish days and reopened in 1873. Dr. Adolphus Noon, no stranger to

107. George Emery Goodfellow (1855-1910), was born in California, attended an engineering course at the University of California, was appointed to Annapolis in 1872, and expelled at the end of six months for hazing a student. He graduated from the University of Wooster in 1876, became contract surgeon at Whipple Barracks 1876-78. Private practice was unsuccessful in Prescott, and Goodfellow contracted for duty at Fort Lowell in 1880, then moved to Tombstone in that same year.
adventure of any kind, arrived in Oro Blanco in 1879 for a new venture in medicine, mining, and ranching. Doctor Noon had served with the British Army in South Africa where he also studied medicine. He migrated to America where he investigated many of the western territories before settling in Eureka, Utah, to become a justice of the peace, the first postmaster of the place, and the first doctor in the town. Noon then went to California for a course of medicine at the College of Physicians and Surgeons in San Francisco. There he met a Captain John Noon who was no relation of his, but who interested his namesake in an expedition to the mining frontier of Arizona. 108

While the captain prospected, the doctor practiced medicine from his ranch, became the leading citizen of the community, an outspoken and articulate member of political groups, wrote articles for the Chicago Tribune, and attended

108. Adolphus H. Noon (1838-1931) was born in England and served with the British Army for four years in Port Elizabeth, Capetown. Noon came to America with his wife and travelled across the continent from New York to Wyoming, then to Utah. He had studied medicine in Africa and practiced medicine in Utah, but attended medical schools in order to obtain a license to practice. The doctor was always adventurous and of an inquiring mind which brought him to Arizona. Information on Doctor Noon from the Oliver H. Brown collection at the Arizona Medical Association, Arizona Pioneers' Historical Society, University of Arizona Special Collections, and from the Noon family collection—Dr. Zenas Noon and Mrs. Roscoe Egan, grandchildren of Doctor Noon, in Nogales.
the sick and injured for miles around. At one time Noon was an active Populist and travelled to the national party convention in St. Louis. He also advocated the inoculation of cattle against pleuro-pneumonia before the Territory had a veterinary surgeon. Noon published the method for such a procedure in the territorial papers for all the ranchers to follow for the epizootic had killed a number of cattle on all stock ranches.

Dr. Noon removed to Nogales in 1898, when two years of drought had rendered ranching unprofitable. Noon was chairman of the board of supervisors for the new county of Santa Cruz, established in the Twentieth Territorial Legislature, and was active in all negotiations concerning the indebtedness with Pima County officials. The doctor joined a number of doctors serving not only Nogales but communities

109. Doctor Noon wrote three articles on Arizona for the Chicago Tribune in 1879: "A Visit to Tombstone City," (January 5); "Arizona and Sonora," (April 12) and "Before the Railroads," (November 15); transcribed by Charles Woods, Special Collections, University of Arizona.

110. Arizona Citizen, October 16, 23, and November 6, 1886; March 19, 1887. Doctor Noon advised that all cattle be inoculated by taking the lung of an animal that had died of the disease and use this fresh material to insert in an incision made through the skin near the end of the tail in the exposed animals. The tail would swell, the doctor wrote, and it might be necessary to cut off several joints of that appendage, with the animals suffering a mild attack of pleuro-pneumonia, but they seldom died.
across the border. Hezekiah J. Crumpton, graduate of Rush Medical College in 1871, recorded a diploma in Pima County on June 9, 1885, listing his residence as Nogales. No additional information is available concerning his practice in the border city. Harry Williams Purdy registered his diploma from Bellevue in 1887 after having spent a short time at Silver King. Thereafter Doctor Purdy practiced between Nogales and Minas Prietas, Sonora. Palen Clark Walmsley also resided in Nogales in 1887, but how long he practiced there is not known. William P. Chenoweth became the senior physician in Nogales, practicing there continually from 1889 until the end of the territorial years. Purdy and Chenoweth formed a partnership in 1894 which continued for twenty years.

Frederick H. Welles arrived in 1895 after trying Tucson and Tempe for three years; the doctor associated with the Chenoweth brothers in the International Sanitarium until 1900, and then left the Territory, having given evidence that he was a surgeon of promise the short time that he

111. Doctor Purdy graduated in 1882; to Silver King in 1884 and then to Santa Fe, to Sonora, and eventually Nogales where he maintained an official residence. He was employed as physician for the Creston Colorado Company in 1995; to Guaymas also where the Doctors Chenoweth and Purdy purchased a drug store, the latter going there to manage it; back in Nogales in 1896, spending some time thereafter as physician or prospector in Sonora.
spent in Nogales. Paul Gregory came in 1883 but spent the
greater part of his medical career in Hermosillo, Sonora.
The number of doctors who practiced across the border in
the mining regions that opened up during the closing years
of the nineteenth century were legion.\textsuperscript{112}

Clifton and Morenci attracted doctors from New
Mexico, there being mining developments in the regions
which were a continuation of the ore deposits found in
Arizona. Physicians in Lordsburg and Carlisle, New Mexico,
advertised in the \textit{Clifton Clarion} in the 1880's and some
of the physicians hired by the copper companies lived in
that adjoining state. Timothy E. Underwood was the only
doctor listed on the 1880 census for Clifton; other early
doctors were John H. Lacy and John J. Miller who arrived
there about the same time that Elijah J. Pring came there
from Globe. Dr. A. H. Hoeffer was physician for the Detroit
Copper Company in Morenci, moved back and forth between
Solomonville and Clifton during the next ten years. Doctor
Lacy served the Arizona Copper Company and maintained the
company hospital for ten years. Lacy made the trips back
and forth between Clifton and Morenci on a velocipede which was
capable of a speed of twenty miles per hour on the twenty

\textsuperscript{112} How many of the doctors noted in \textit{The Oasis} were
mining engineers or doctors of medicine cannot be determined;
Doctors A. A. Clarke, R. I. Howitt, C. J. Eames, H. S. Sevey
are only a few.
inch track. One day the velocipede met an engine head on. Doctor Lacy jumped from his car and landed in the river, the velocipede following shortly thereafter. The paper reported that neither the doctor nor the velocipede were injured, only bruised. 113

The fortunes of the mining camps rose and fell with the national demand for ore—silver and copper. Doctors were hired accordingly by the mining companies for their employees, and when mining operations were curtailed, the doctor usually went elsewhere. Dr. M. A. Carrier practiced medicine in Jerome and in adjacent communities for over twenty-two years. The doctor never graduated from a school of medicine. He had practiced medicine since 1874, with seven years' experience in Michigan before arriving in Arizona in 1881. 114 Carrier witnessed the arrival and departure of a number of doctors in the mining town over the years. He also saw the mining camp destroyed by fire a number of times. With the exception of a brief sojourn as physician for a mining company in Mexico in 1899, Doctor Carrier spent the greater part of his life attending to the residents of Jerome. Between 1886 and 1888, the doctor served as county assessor of Yavapai County.

113. Clifton Clarion, May 6, 1888.

114. Doctor Carrier passed the medical examining board in 1903; was still practicing in Jerome at that date. His name is not recorded at any time except by his initials.
Farming and ranching communities counted doctors among their group. Dr. Josiah Pool settled on the Santa Cruz bottomlands in 1882 and was noted as a manufacturer of syrup from the cane grown on his ranch. Two years later the doctor moved to the San Pedro farming regions where he engaged in growing fruit and in doctoring the nearby residents. A vegetable toothpaste developed by Doctor Pool was said to be very pleasing; he was urged to prepare it on a large scale.\footnote{115} Pool moved several times in later years, from his ranch to Mammoth, and later to Schultz in Gila County. He reported that he had attended twenty-five cases of diphtheria in the two communities of Mammoth and Schultz in 1897, and did not lose a case.\footnote{116}

Elders of the Mormon Church were called upon to render whatever medical assistance was required among their members in the various settlements in Arizona Territory. A doctor was summoned whenever the injury was beyond the treatment of the church practitioner but the members of the community depended to a greater degree upon their own medicines and treatments.\footnote{117} A number of doctors settled

\footnote{115. \textit{Arizona Citizen}, April 11, 1885. Doctor Josiah T. Pool never recorded a diploma. Items in the territorial papers record his treatment of accidents and injuries.}
\footnote{116. \textit{Ibid.}, November 9, 1897.}
\footnote{117. Manuscript collection of Peter Andrews Lofgreen who settled in St. Davids in 1890. The journal records many ministrations to the sick and mentions that some injured were taken to the doctor. \textit{Arizona Pioneers' Historical Society}.}
among the Mormon communities, members of the church, and active in practice during the early days. Dr. Calvin Reed of St. Davids, and Dr. J. B. Groesbeck of Safford were in Arizona by 1880. Many more were referred to by the title of doctor but diplomas were not recorded; nor were diplomas required at that time if the doctor was the only practicing physician in the community. There were doubtless many more doctors who came and practiced who did not leave a record in county offices, or who escaped notice by the territorial papers.
CHAPTER V

SURGICAL CHALLENGES AND COMPLICATIONS

The amputee became the hallmark of Civil War surgery, the veteran with an absence of the upper or lower extremity who had escaped the hospital gangrene and other infection so prevalent in military hospitals of that war. A total of 29,980 amputations were recorded as a result of wounds; some 174,206 shot-wounds of extremities in all.¹ Germ pathogenesis in wound infection, aseptic surgery, x-ray assist in bone fracture diagnosis were all to come within the next half-century following that war.

The surgeons coming to Arizona Territory were well trained in the treatment of wounds. Their problems were much the same as in the war—wounds from hostile Indians using the bow and arrow and changing shortly thereafter to the weapons of the invader—the shotgun and rifle. The use of explosives in mining, the introduction of machinery in mining operations, and the ordinary accidents that happened to the Anglo-American of that day who engaged in freighting,

¹ Medical and Surgical History of the War of the Rebellion, III, Part 2, p. 869.
milling, ranching, lumbering, building a house, riding his horse or in his buggy, all produced a multitude of injuries.

Since newspapers were the medical journals of the early days in Arizona, the story must be told from what they reported. A few recorded their experiences for the medical journals of the period and the post-surgeons recorded much of their surgical treatment in the post medical histories they were required to maintain. The only reported statistics were those furnished by the 1880 and 1890 Dicennial Census and but few doctors supplied information for the national statistical records from Arizona. The story cannot be concluded as complete, sufficient only to give an overview of the early surgical challenges.

The Apaches were ill armed, Surgeon B. J. D. Irwin reported in 1859, their arms consisting of the lance, bow, and a few old flintlock Spanish guns of the most ancient pattern. Their bows were inferior, Irwin observed, and their arrows were constructed of a very long light reed with a point of hardwood a few inches long, topped either

2. Dicennial Census, 1880, Mortality and Vital Statistics, 59 books were sent to Arizona physicians, returned were 16 books; 1890 Dicennial Census, Vital and Social Statistics, 93 books were sent to Arizona physicians, 22 books were returned.
with flint, bone, obsidian, iron or copper. Later surgeons wrote in a more respectful manner of the Apache bow and arrow when they noted their lethal effects. To all appearances the arrow was contrived rather inexpertly compared with those of other Indians, but the effect was the same. Comanches and Navajos devoted more attention to the construction of their arrows, the shaft was of harder wood which often required three days to straighten, and the shaft was firmly attached to the arrow head with narrow strips of tendon wrapped spirally around the shaft.

The main point in examining arrow construction and the major problem in arrow wounds was to determine how best to remove the arrow head from the wounds. The natural response after receiving such a wound was to pull out the shaft immediately, which left the arrow head embedded or lost in the soft tissues. Apache arrow heads became detached easily from the shaft; the Navajo arrow head would become dislodged from the shaft as soon as the tendon wrappings became moist from tissue fluids. This entailed a problem in finding the arrow head at some distance away from the site of entry.

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4. Joseph Howard Bill, "Notes on Arrow Wounds," *The American Journal of Medical Sciences*, XLIV (October, 1862), pp. 365-387. Assistant Surgeon Bill was stationed at Fort Defiance and other military posts in New Mexico Territory prior to the Civil War.
Surgeon Elliott Coues reported that he could feel an arrow head in one wound about one-half inch below the clavicle with the point of entry in the neck. Coues proceeded to extract the arrowhead by cutting down on the area where the head was palpated and removed it only to be embarrassed some days later when some part of the shaft left in the neck muscles caused an infection and a wound which suppurated for days. In the field, the surgeon was at a disadvantage with operating conditions not of the best. Coues described the procedure—the surgeon sitting on a stump and the patient lying on a barrel, with heat, dust and flies intolerable. On the other hand, waiting to extract the arrowhead through swollen tissues posed a problem, especially if the head was embedded in bone. Surgeon Bill reported that he used both knees as a counter force against an arrowhead embedded in the humerus.

Doctor Bill listed primary hemorrhage and peritonitis as a leading cause of death in the 76 cases of arrow wounds treated by him with 29 deaths resulting.

5. Elliott Coues, "Some Notes on Arrow Wounds," Medical and Surgical Reporter, XIV (April, 1866), pp. 321-324. Assistant Surgeon Coues was stationed at Fort Whipple in 1864.


7. Ibid., p. 369.
Tetanus was the cause of only one death among the fatalities. The surgeon thought that it was justifiable to explore the abdominal cavity in cases of arrow wounds, deep-seated abscesses were sure to develop and death was apt to follow when arrowheads were not removed, but he did not report procedures of this type. Tents or drains were inserted in both abdominal and chest wounds when abscesses formed, recovery being doubtful in any event.

Both surgeons reported that poisoned arrows were being used in New Mexico and Arizona, either by the Apaches or the Navajos. The poisoned material for the arrow tips was obtained from the liver of a freshly killed animal, the rattlesnake having been encouraged to bite the raw liver. Both surgeons also reported that they had never observed an actual case resulting from poisoned arrows. Protective clothing was advocated as one means of lessening the wounds to the chest and abdomen, either by leather jackets or by the wrapping of several layers of cloth around the body as the Indians and Mexicans did. The soldier was too prone to dress in the lightest type of clothing which afforded no protection whatever.

Stab wounds by lance or knife were treated by cold evaporating lotions. Ordinarily these wounds healed by first intention; when major vessels or a nerve trunk were severed, in such wounds, the surgeon should then "divide"
the artery or nerve, especially if he suspected a traumatic aneurism in the former case.

Surgeon J. H. Bill devised a means of extracting embedded arrowheads provided the shaft was still attached by inserting a wire with loop-end over the shaft, the arrowhead was then encircled and both wire and shaft gently teased out of the wound withdrawing the head. In later years Bill also devised an arrowhead forceps which would firmly grasp the arrowhead. 8 Surgeon W. Thornton Parker described the method employed by the Indians to remove embedded heads by using a split reed with centers hollowed out and applying each of the split sections to the widest flange of the arrowhead—a somewhat cruder instrument but acting on the same principle as the forceps remover. 9

Arrow wounds were mentioned less and less frequently after 1869, in both the newspapers and the military post records. Indians continued using the bow and arrow far beyond this date but soon adopted the white man's tools of warfare and became adept in the use of them. The guns in the hands of soldier, miner, and other residents of Arizona, caused as many wounds, either accidentally or purposely


inflicted on themselves or on each other than any received by the bow and arrow.

Not all were expert in the use of firearms; not all bullets were from the hostile Indians. A member of the Colorado Legislature was shot accidentally on a hunting expedition in Arizona by a companion. Judge Turner had a narrow escape when his horse slipped and fell down a steep declivity, exploding his revolver; the injuries were said not to be serious. A doctor with some troops drew his pistol to kill a rattlesnake, the pistol exploding and inflicting a dangerous but not a serious wound. A miner placed his pistol on a bank which caved in, causing the pistol to discharge, the ball entering his forehead. The opinions were that he would not live long. Another miner was dragging his gun toward him when it went off and killed him instantly. 10

The early lead bullets were as devastating as the arrow and proved as difficult to extract, as the metal flattened in the tissues and bone with a greater degree of shattering of the latter. 11 The single-shot Springfield trap-door carbine or rifle was the major military weapon until the advent of the Spanish-American War. 12 In the

10. Arizona Miner, June 22, 1864; August 22, 1866; October 26, 1867; May 9, 1868.


hand-to-hand encounters the revolver—Smith and Wesson's .44 caliber cartridge and Colt's .45 single action "peace-maker"—were the means by which numerous Arizona residents dispatched themselves, and each other, to the graveyard or the hospital, more often the former.

The caliber of the weapons and the amount of powder used behind the ball was greater in the West than in the East, Doctor George E. Goodfellow reported, for he had had extensive experience with gunshot wounds in Tombstone.\textsuperscript{13} The .44 or .45-caliber Colt revolver, cut off or long, with the 45-60 and 44-40 Winchester rifles and carbines were the "toys with which our festive or obstreperous citizens delight themselves."\textsuperscript{14} Any gunshot wound of the abdominal cavity with one of these caliber balls would cause death within an hour by reason of hemorrhage unless the abdominal cavity was opened, Goodfellow observed, but with the smaller caliber balls, 32 and downward, there was some propriety in waiting.

Doctors Kendall and McCandless extracted the bullets when Harry Lightner tried to kill Slon Bradley near Prescott in 1870. The bullet from a pistol hit Bradley in the groin, passed through the bladder and inflicted a dangerous if not


\textsuperscript{14} Ibid., p. 214.
fatal wound. Bradley died seven days later from exhaustion, the paper reported, "he was not much over forty years of age." If the victim lived any length of time, exhaustion claimed him some days later, especially wounds of the abdomen or pelvis. The victims were not always men. "A Dastardly Outrage," the Arizona Miner called one such an affair, when a lady of easy virtue was shot by a man over some argument. The Doctors Kendall and McCandless extracted a great many pieces of bone as the bullet shattered the hip joint in its passage, the lady dying seven days later in her rooms.

Kendall and McCandless administered chloroform to Matthew Sax wounded in an Indian attack. Two balls entered the left shoulder and produced a compound fracture of the clavicle. The doctors cut down on the clavicle and raised it to its proper position and bandaged it into place, extracting several pieces of bone in the process. Sax died seven days later. The bullets were never found on autopsy but their trace was discovered as they passed through the lung.

15. Arizona Miner, July 2 and 9, 1870.
16. Ibid., September 17 and 24, 1870.
17. Ibid., February 5 and 12, 1870.
In Arizona, the first record of a laparotomy following a gunshot wound of the abdomen was the surgery performed by Doctor Goodfellow on July 13, 1881 in Tombstone. The wound was sustained from a 32-caliber Colt revolver on July 4, with an entry wound about one inch below and to the left of the umbilicus. When shot the man was leaning a little forward with the gunman on ground slightly elevated and to the right, so that Doctor Goodfellow surmised that the course of the ball was probably downward and to the left. The entire abdomen was tympanitic by the time the doctor saw the patient four days after the injury. Tumefaction, redness and tenderness were evident around the point of entry. Four days after, the doctor began the surgery with an incision about two inches in length and parallel to the lines alba, a little to the left of the wound. The intestines were found to be matted together and covered with flakey lymph, covered with a considerable quantity of "purulent stinking lymph." Six holes were sutured in the intestines which were examined further for injury but none found. The cavity was carefully and thoroughly cleansed and the wound closed. Ileus ceased immediately, the convalescence was uninterrupted, and the

18. Opening an abdomen in the 1870-1880's was a rarity. It can be noted that the foremost surgeons in the land did not attempt the procedure when President Garfield was shot in 1881.
patient was discharged from the hospital on August 19, 1881. The bullet was neither hunted for nor found. 19

Lister's method in its entirety was used by Goodfellow in this case which involved carbolization of everything: instruments, sponges, the surgeon's hands and a spray of the carbollic acid solution to sterilize the surrounding field of surgery and the room. It was a new method introduced in the 1870's in America and probably first used on the Pacific Coast in 1879. Goodfellow made frequent trips to Los Angeles and to San Francisco, had many friends among the surgeons there, and undoubtedly learned of the new technique at that time. 20

Two laparotomies were subsequently done with the intestines sutured in both cases, and the patients recovering. Dr. H. M. Mathews was in charge of one case in 1882, the weapon, again a 32-caliber revolver. The ball punctured both large and small intestines, and there was much


20. Henry Harris, California's Medical Story, p. 310, for the introduction of the Lister method on the Pacific Coast.

Goodfellow entertained his friend, Dr. Francis L. Haynes, distinguished surgeon of Los Angeles, at his home in Tombstone on several occasions. Haynes, a graduate of the University of Pennsylvania in 1869, mentioned by George M. Kress, History of the Medical Profession in Southern California, as having done brilliant work in surgery before his death in 1898.
sloughing of cellular tissue due to extravasation of fecal material in the abdominal cavity. The other case was a Yaqui Indian injured by ten buckshot, three in the abdomen and three in the lung, the rest of no consequence. Goodfellow deemed the case hopeless but opened the abdomen seven days following injury, repaired the intestinal perforations, and closed with a drain in the wound. There was a long suppurative process from the abdominal wound, the shot in the lung proved to be no obstacle to recovery, the patient was discharged three months after surgery and the doctor lost track of him.21

Not all surgery was performed in the hospital. Dr. Goodfellow was called to Bisbee one January night in 1889. The patient proved to be a miner, shot by a .44 Colt, the man apparently bleeding to death internally. The entry was exactly in the median line of the epigastric region, the bullet nicking the ensiform cartilage and emerging from the left side about three and one-half inches above the crest of the ilium. It was midnight in the little mining town, and Goodfellow, without skilled assistance of any sort, had to depend upon the willing friends of the patient—hard-handed miners who had just left their work. The surgery

was performed on the table in a restaurant, the anesthesia administered by the barber, lamps held and hot water brought by the people who happened to be there.

Blood poured from the incision upon opening the abdomen and the doctor flushed the cavity with two gallons of hot water, the source of the hemorrhage being in the liver and stomach. Hot water flushing again stopped the hemorrhage as the doctor sutured the vessels and repaired the gastric perforation. The patient lived for eighteen hours after the close of the operation, enough time to make out his will and attend to such business matters as were necessary. The man died of shock, thought Goodfellow, as the autopsy showed no other wounds than those repaired and the abdominal cavity was perfectly clean with no signs of peritonitis.

The caliber of the ball was of most importance in determining whether surgery would benefit the patient or not, Goodfellow reported, and with the weapons currently in use, the patient was usually dead of hemorrhage within the hour. The doctor had sufficient experience in the matter, having performed any number of autopsies during what he called the reign of terror in the early 1880's. He never failed to investigate the nature of abdominal wounds when performing an autopsy, and had as often failed to find a vessel of any size cut. He had frequently seen men shot in the abdomen, fall
and die within fifteen or twenty minutes, opened the cavity, expecting to find some large-sized vessel cut, and discovered nothing more than the free border of the intestines torn for a foot or so. 22

Many cases did not live long enough to have surgical repairs. Even though the case appeared hopeless, Goodfellow believed that an attempt should be made to control the hemorrhage. The question of medico-legal responsibility of the surgeon should not deter the doctor from operating as there might be a chance to save the patient who would die from peritonitis anyway. The doctor had no time to operate to save his colleague when Doctor George C. Willis was shot in the O.K. Corral by Dan Shanklin on December 30, 1890. The bullet struck the doctor while he was seated in his buggy, entered the middle of the groin and passed through the body, lodging under the skin at the juncture of the hip with the backbone. The weapon was not described, but Goodfellow testified at the inquest that the doctor had died of hemorrhage two hours after the injury. 23 Shanklin was reported to be dying of tuberculosis at the time, but


23. George Charles Willis came to Tombstone in 1885, had extensive mining claims with Shanklin working as guard at one of them. Shanklin came to the doctor to collect some money for his work, the doctor refused. Willis was serving as county physician at the time. Epitaph, January 4, 1890.
underwent two trials in the crowded Cochise County courtroom—when the first trial ended in a hung jury—the one juror voting for his conviction having to defend himself against the mob at the saloon.24

Goodfellow was also summoned to Tucson the afternoon of September 24, 1891, when Dr. John C. Handy was shot by Francis Heney with a Smith and Wesson revolver. Surgery was not started until ten hours after the injury, the doctor making the trip from Tombstone to Tucson in record time on a special locomotive from Fairbanks. Between the time that Handy was shot and the beginning of the operation, the patient received four hypodermics of morphine and atropine, had chloroform administered to remove the bullet just under the skin, and whiffs of chloroform from time to time to control pain. Handy was moved twice—from the scene of the shooting at the corner of Church and Pennington to his office on Congress Street, and again from there to his home on Main Street in a herdic, where all physicians gathered to offer their services.25

24. Shanklin was convicted of manslaughter at the second trial. The first trial was eleven to one for acquittal, Epitaph, May 31, 1891, for the juror that had to defend himself against the mob.

25. The Arizona Star and the Arizona Citizen, September 24 to October 10, 1891, gave all testimony of witnesses at the inquest. Handy and lawyer Heney had a long standing quarrel, mostly over Mrs. Handy trying to obtain a divorce; Heney was her lawyer.
Doctors Michael Spencer, John Trail Green, and Hiram W. Fenner appeared to be in charge of Handy's treatment until Goodfellow arrived. Twelve or more perforations of the intestines were repaired under chloroform anesthesia and hemorrhage controlled by the time the patient expired. The last sutures were in place the following morning at one o'clock, the surgery having begun at the ten the night before. The opinion of all the doctors testifying was that Handy died of hemorrhage. 26

Shattered bones of the extremities caused by gunshot or other trauma were treated guardedly in order to save the arm or leg; splinters of the bone were removed and the extremity watched for evidence of blood poisoning or gangrene. William McFarland, kicked by a horse, had the leg bones so shattered that an amputation was feared; there was much sloughing of the tendons and splinters of bone were removed; the leg was saved but was probably useless. 27 Mr. Mack Morris jumped from a wagon in motion and sustained a compound fracture of the leg, the shin bone protruding three inches through the skin with the joint laid open, and the foot turned on its side. Three days after injury, when


27. The Weekly Nugget, July 13, 1881. McFarland was cared for by Doctor Gillingham, a short time resident of Tombstone, late of Virginia City, Nevada, office with Dr. Gildersleeve of whom less is known.
there was unmistakable evidence of gangrene, an amputation was started. Before the patient had inhaled a teaspoonful of the anesthesia, a "spasmodic action took place," and the patient died. All remedies and means were used to resuscitate the patient but without avail as death was doubtless caused by the enormous shock to the nervous system. 28

Many accidents incident to the transportation of that day resulted from the horse or the vehicle. Horses kicked, ran away, buggies overturned or wheels were broken on the rough terrain; the stage overturned, a strap broke or some section of the stage gave way. The status symbol was the spirited horse, or team, which invariably led to some accident. Freighting trains ran over people, crushed people, the driver fell asleep and fell under the wheels, brakes refused to work on steep inclines or there were none on the ore or freight wagon.

The most crippling of all accidents were caused by Giant Powder, used in mining operations by inexperienced, careless, or seemingly indifferent people. 29 Whether it

28. Territorial Expositor, April 23, 1880; Arizona Citizen, April 13, 1880. Dr. J. C. Handy was the surgeon in this case. Goodfellow the anesthetist, he was then at Fort Lowell as contract surgeon.

29. Giant Powder was dynamite, the trade name for it in America. See Henry Drinker, Tunneling, Explosive Compounds, and Rock Drills (New York: John Wiley Sons, 1888), pp. 68-69. Dynamite did not come into usage until the latter years of the nineteenth century.
was always carelessness in handling the explosive itself, or whether the powder was so very sensitive, cannot be determined. It was, from all accounts, a dangerous tool in the hands of inexpert handlers. Considerable indifference on the part of the miner and mine operator was apparent in the case of accidents resulting from carelessness. Giant powder was just one of the hazards of the trade, but the manner in which the explosive caps and the powder itself were left for children to find and play with was truly amazing.

The citizens of Prescott decided to celebrate a ruling of the Secretary of State in regard to the apportionment of the legislative districts, and to use 100 pounds of Giant cartridges in place of cannon. J. H. McCurdy set off half a dozen cartridges and was so intent on watching that the one he held in his hand went off and "carried his hand away." Doctors McCandless, Day and Lincoln completed the amputation, trimmed the wound and dressed the hand. The daughter of Senor Salazar had a thumb blown off while playing with Giant Powder caps. A son of John Bailey lost the ends of two thumbs as a result of playing with caps. The ten year old son of C. T. Hayden found a Giant Powder cap among some straw while playing with a playmate, struck it

against a wagon tire, and had the first finger of his left hand blown off with the thumb and second finger badly lacerated together with the palm of his hand. 31

A teamster in Prescott lighted his pipe and dropped a spark on a keg of powder. He immediately took a little trip afterwards, the paper reported, but at last accounts was doing well under the treatment of Doctor Ainsworth in Prescott. 32 A funeral would generally be the reward for such carelessness, the paper concluded. Patrick McKenna was fishing up and down the San Pedro, using Giant Powder to kill fish when a cartridge prematurely exploded, blowing off McKenna's fingers, the man dying from loss of blood after he was brought to Tombstone for treatment.

The blast that failed to go off and the miner who went to investigate was a common enough story. The foreman at the Walnut Grove Water Storage Company went to investigate, lost his left arm, both eyes, and had a badly lacerated leg from the explosion. Doctors Robert K. Robinson and Bee Halsey cared for the injured man. 33 Another blast failed to go off at the Webfoot Mine and the miners drilled through

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32. Phoenix Herald, March 30, 1882. This was Dr. Frank Kenly Ainsworth who came to Prescott in 1880, brother of Fred C. Ainsworth, Surgeon, U.S. Army.

33. Arizona Miner, March 2, 1887. Robinson and Halsey were Prescott physicians.
powder; one man lost an eye and another would probably lose his life, this was but the second accident of that character in the same locality. 34

Tamping the powder with an iron bar when copper tampers were to be used caused the great explosion at Simms Headquarters Camp sixty miles north of Prescott where a tunnel was being made. The blast killed seven men outright, two men lost an arm and a leg, and there were several internal injuries. The men were brought to St. Joseph's Hospital in Prescott. A Doctor Van Zandt with the construction company performed the amputations at the scene of the accident. 35 The Tiger Mine had two serious accidents in 1879 with loss of life each time; the doctor had to be summoned from Prescott some thirty miles away and Surgeon F. C. Ainsworth responded but had first to attend the messenger who had broken his leg on the way. 36 The second blast occurred five months later when miners were working with a pick at the scene of a blast; one man was killed instantly and another died enroute to Prescott. The Weekly Miner observed that the accident was one of those which every now and then take place in mines, and for which no

34. Arizona Citizen, May 24, 1878.
35. Weekly Arizona Miner, September 2, 1881. Doctor Van Zandt was from California.
36. Arizona Miner, August 22, 1879.
one was really responsible. The Phoenix Herald took a different viewpoint and thought that something could be done about the matter. In the first place there was little compensation to be had by the miner or his survivors from such accidents. Damage suits growing from mining accidents were never successful for the injured party or the families of the poor men who were "hurried into eternity with disgraceful speed." The country should make an imperative demand for the adoption of measures which would decrease the risks.

There was little enough that could be done by the surgeon called to attend the injured. Foreman Hugh Smith was loading a blast at Brady's camp when five boxes of Jordan's Powder discharged. Tons of rock were blown into the air and Smith was blown 500 feet away into the ground. A steel tamp used to pack the powder by the daring foreman, when he knew better, caused the disastrous effects. Another man was killed and five men injured. A miner at the King Mine carried powder and caps in one hand and a candle in the left—a wonder he was not killed when the powder ignited.

37. Arizona Miner, December 5, 1879.

38. Phoenix Herald, December 7, 1879. One such suit against the Silver King Company in 1883 for $30,000 damages was settled for $5. Pinal Drill, June 16.

He lost an arm and suffered severe burns with Doctors Miller and Lacy at Clifton attending him in the Arizona Copper Company Hospital. Peter Costello at the McCracken Mine was carrying a box of Giant Powder when it exploded and the largest piece of the unfortunate man that could be found was one of his feet. The entire remains were gathered up and put into two candle boxes.

Accidents continued not only with Giant Powder but with machinery at the mine sites. Hoisting devices failed to work properly or the operator of such devices was at fault, cages fell to the bottom of the shaft, buckets dropped on miners, cables snapped, brakes failed to work, and many miners were killed in the shafts. Supporting timbers gave way, cave-ins occurred, workers fell into the shaft, and any number of accidents were caused by human and mechanical factors. Some mining corporations instituted their own safety measures; others had to await the mine inspection laws enacted when the territory became a state.

40. The hospital was located in the Company building, moved several times, consisted of several rooms set aside for the sick. The doctor's office was located in the hospital. Doctor J. J. Miller and J. M. Lacy both practiced in Clifton and Morenci at various times.

41. Arizona Miner, February 28, 1879.

42. A State Mine Inspector was provided for in 1912 by the Legislature.
Thomas Read, working at the bottom of the shaft, gave the signal to be hoisted when the man at the top, being engaged at the whim, requested another man to push the car up, which under the momentum went too far and fell to the bottom of the shaft, crushing Read. Doctor McDonnell was called promptly but could render no aid; the funeral was held from Mr. Duryea's store. 43 James Tully, at the Grand Central Mine, placing guides at no more than the 15-20 foot level, gave the signal to be hoisted and the engineer, thinking him to be at the 100 foot level, turned on a full head of steam. Before he could gain control of the brakes, the cage was carried up into the sheaves. Tully jumped from the cage but fell to the floor with great violence, and in struggling to rise, he stumbled into the shaft and fell 250 feet to the bottom. The Tombstone Brass Band played the solemn funeral march at his funeral. 44

Steve Broderick was coming up in the bucket from the third to the second level at the Copper Queen in Bisbee when he was overcome by foul air and fell to the bottom of the shaft, a distance of sixty feet. He was immediately brought up to the surface in an insensible condition from which he revived after Doctor Matthews arrived from

43. Arizona Silver Belt, April 24, 1880.

44. The Weekly Nugget, October 6, 1881.
Tombstone at three o'clock in the morning. Broderick was found to have escaped with the comparative slight injuries of a twisted shoulder and scalp wound. Miners were overcome by the fumes in the Grand Central Mine from a fire that had occurred there a week before. Doctor Goodfellow immediately went down into the mine and brought the miners out—all were unconscious. The doctor "has both skill and nerve," the Epitaph reported, "both of which were brought into requisition on Contention Hill yesterday."  

More accidents occurred on the railroad lines crossing both northern and southern Arizona Territory. Passenger trains, excursion trains, immigrant trains, freight trains and work trains collided or telescoped when railroad personnel "ran by their orders." Boilers exploded or "the center plug blew," which scalded the engineer and fireman. Inexperienced brakemen and conductors missed their footing and were crushed under the cars. Passengers jumped from moving trains or fell between cars, and bystanders invariably got in the way of the approaching train. Cattle on the track, washed-out bridges, trestles that "gave way," and open switches derailed the train. The wonder is that so few serious accidents resulted. Division surgeons were  

45. The Weekly Nugget, July 16, 1881.  
rushed to the scene of the accident on special engines and
the injured were transported to the nearest town for
hospitalization.

Residents of the Territory were subject to ills
other than those caused by accidents, gun fights and Indian
hostiles. Constitutional ailments received attention by the
surgeon when surgical interference was deemed necessary, the
operations being performed in the patient's home, if he had
a fixed residence, or in the doctor's office. Very few
could afford the transportation and costs of travelling to
the coastal cities, and a number of conditions could not
be delayed that length of time. Confidence in the resident
surgeon enabled the patient to have the surgery performed
in the Territory when he could not afford to go elsewhere.

Doctor Handy in Tucson enjoyed that confidence so
that patients came to him for surgical treatment. The
doctor performed a successful hemorrhoidectomy on a judge
who came from Prescott for the operation. The man had
been afflicted with a severe case of piles for some years,
and was so grateful for the relief after the surgery that
he published a note of thanks in the paper.47 Handy restored
the sight in a patient's eyes who came from the San Pedro
for treatment. He performed a tracheotomy and installed a

47. Arizona Citizen, July 25, 1879.
tube in the throat of a man which was still in place three years later. When a portion of the tube broke off, doctors brought the patient back to Handy where a new tube was installed. The doctor did much charity work through the years that was unrecorded; the newspapers did record one case where a tumor the size of a hen's egg was removed from near the right eye of a boy. P. R. Tully held the boy's head while the surgery was performed.

The facilities of the nearby military post hospital were used on occasion for surgery with the post-surgeon assisting or performing the surgery. Dr. Warren E. Day and Assistant Surgeon James Worthington operated on a patient for disease of the bladder, performing what was undoubtedly a supra-pubic cystotomy in 1877. The same two surgeons did a skin-grafting operation on a citizen of Prescott who had sustained a gunshot wound of the ankle some weeks before. The operation consisted of "taking from his body ten portions of sound flesh and grafting them onto the wound . . . which will enable Mr. Matteus to get about at least a month sooner than he would under ordinary method

49. Arizona Citizen, July 25, 1879.
50. Arizona Weekly Miner, March 9, 1877.
of treatment."^  Contract Surgeon Solon Buckley Stone at Fort Bowie, excised a tumor from an eighteen-year old Mexican lad in 1879. The growth was about thrice the size of an ordinary hen's egg, and extending forward naturally interfered with the respiration." The tumor was located among the large vessels on the right side of the neck. The patient responded well with no ill effects.

Excisions of tumors and cancerous growths appeared to be done frequently. Dr. B. L. Conyers removed such a cancerous growth from the hand of a Mexican woman in Phoenix, a growth which would ordinarily have necessitated the amputation of the entire hand. Dr. F. C. Ainsworth removed tumors, or cancerous growths, from the breast on two women patients in 1880—both recovered from the surgery and lived for some time afterward. The surgery was performed with

51. Arizona Weekly Miner, April 13, 1877.

52. Doctor Solon Buckley Stone was appointed contract surgeon and sent to Fort Bowie immediately. Stone was a grandson of Nathan Smith, founder of the medical department at Yale, a cousin of Dr. David Smith, professor of surgery at Yale. Eventually Stone settled in Lewiston, Montana, where he practiced until his death in 1934. Paul C. Phillips, Medicine in the Making in Montana, p. 371.


54. Phoenix Herald, September 3, 1879.

"very little pain," whether anesthesia was employed or not was not mentioned.

Doctors Wharton and Rosson performed the first harelip repair on record in Arizona Territory on May 24, 1880. The boy was fifteen months of age at the time of the surgery and the repair was reported to be the most successful in relieving a distressing deformity. Three months later the boy drowned in an irrigation canal. Doctors Eugene C. Dunn and Daniel McSwegan performed the first cataract removal that was recorded as such, in Tombstone in 1881. The patient, having been troubled by disease of the eye, had a successful outcome with eyesight restored. Doctor H. N. Matas did considerable eye surgery in Tucson. He removed a wood splinter from the anterior chamber of the eye which had caused inflammation and the loss of sight a month before. The thirteen year old child was brought from Sonora by her parents for the surgery in Tucson.

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56. Phoenix Herald, May 24, 1880 and August 13, 1880.
57. The Weekly Nugget, August 21, 1881.
58. Arizona Citizen, February 16, 1884. Henri Neru Matas arrived to practice medicine in Tucson in 1881. Born in Gerona, Spain in 1837, and graduated from Catholic Seminary in Spain and the New Orleans School of Medicine in 1859, Matas started to practice there but returned to Spain during the Civil War. He attended courses in Ophthalmology and Surgery in Barcelona and Paris, and returned to Brownsville, Texas, with a wealthy Spanish family in 1867, and then came to Tucson. He was the father of Dr. Rudolph Matas, noted in New Orleans medicine.
Doctor Matas "out for stones" in 1881, a very delicate and difficult operation, the newspaper reported, but the patient suffered little pain. An opening was made into the bladder and the calculi extracted. The stones from the 55 year old woman were on exhibit in J. F. Yuabai's Drug Store. No chloroform had to be administered, the paper stated, as the operation only lasted ten minutes. The doctor experienced a "peculiar case of bloodpoisoning" following one case of surgery when a fly lit on his cheek and the doctor brushed it off during surgery. Afterward the doctor experienced an itching where the fly had lit, went at once to the wash stand and washed his face with carbolic acid. Notwithstanding all these precautionary measures, his face began to swell, showing unmistakable signs of blood poisoning. Prompt treatment was resorted to which arrested the effects of the poison.

Blood poisoning was always to be feared, more so in wound injuries than in the elective surgery of relatively clean cases. Doctors Goodfellow and Dunn amputated a finger injured in a mining accident and had to amputate the entire arm following the infection which set in, the patient

59. Arizona Citizen, September 18, 1887.
60. Ibid., March 21, 1885.
remaining in a most precarious condition for some days afterward. 61

Strangulated hernia called for immediate surgery when other means of reducing the hernia failed. Dr. R. K. Robinson assisted by Dr. Beaumont Coxe performed such an operation in Prescott in 1887. The patient was found to be in serious condition but high hopes were entertained that he would pull through. 62 Dr. Thomas Darlington sent a telegram to Goodfellow to come to Bisbee to assist in relieving a strangulated hernia by surgery; the operation was a success and the patient survived. 63

Dr. Goodfellow operated on a terminal case of cancer of the stomach in 1882. The patient died three weeks later, but had much relief in the meantime afforded by the surgery. 64 Death was said to have been inevitable in any case. There followed a number of cases of surgery performed in the hopes of prolonging life, not with the hope of effecting a cure, so the newspapers stated. Two colostomies were performed in 1889 for cancer of the bowels, the patients surviving but two or three days. 65

61. Epitaph, May 1, 1886.
63. Epitaph, August 24, 1889.
64. Ibid., July 10 and 11, 1889; November 8 and 10, 1889.
65. Goodfellow performed other abdominal surgery during this period for which no definite dates have been
Three surgeons assisted Dr. Henry A. Hughes in November of 1890 in removing what was reported to be the largest ovarian tumor ever known in Maricopa County. The patient, a 45-year-old Mexican woman, had been in apparently normal health until the tumor began developing eighteen months before the surgery, the abdomen enormously swollen, and the tumor itself weighing nearly seventy-five pounds. There is no record of where the surgery was performed, or if the patient survived for long afterward. The newspaper account ended with the opinion that perhaps the surgery was done too late for recovery.

Dr. Hughes was the up and coming surgeon of Phoenix and a most remarkable personality, arriving in Arizona in 1888 following thirteen years' private practice in Texas. The doctor was the organizer of the Maricopa County Medical Society and the Arizona Medical Association, and a strong

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66. Phoenix Herald, November 6, 1890.

67. Hughes was a graduate of Louisville Medical College in 1875; also filed a diploma from Jefferson Medical College in 1886; never mentioned the former medical school; post-graduate courses at Johns Hopkins at some point, not specified, in his career. One of the organizers of the Arizona-Salt River Canal Company.
proponent of ethical medical practice throughout his life. His assistants in the surgery performed in 1890 were Dr. Louis Stern, graduate of the University of Bavaria, and Dr. Luther C. Toney, a graduate of Missouri Medical College. The latter physician was prominent later in the medical profession of the Territory. Dr. Hughes, together with Doctor Goodfellow and Doctor Scott Helm were a trio of the top surgeons in the Territory during the latter decade of the nineteenth century. Their differences and disagreements became a major part of the medical history during this period. By the end of the century, only Doctor Hughes remained.

Doctors Stern and Wharton repaired a broken jaw with a bridge set on the inside when Johnny Ayres' stallion kicked him in the face, breaking his right jaw bone and knocking out all of his teeth. The patient's face was so badly swollen that it was two days before the jaw could be mobilized by means of the bridge which held the loose bones in place until they grew together. The first decompression on record was performed by Dr. B. L. Conyers.

68. Scott Helm came to Phoenix in 1887 because of ill health; a graduate of Rush Medical School in 1883, post-graduate work at Heidelberg; surgeon in the Army for two years; prominent surgeon until his death in 1897 when he fell from a horse.

69. Phoenix Herald, August 2 and 4, 1888.
in Phoenix on the skull of Henry Morgan who had been severely beaten about the head by the Pima Indians. Pieces of skull bone were removed, one bone being an inch and seven-eighths in length and three-fourths inch wide. Notwithstanding the removal of that part of the skull, Mr. Morgan was able to walk about and enter into conversation.70

Doctors Hughes, McGlasson and Stern removed the bullet from Jimmy Simms who was shot accidentally, the bullet lodging in the lung. Simms recovered after a long siege. The doctors had to aspirate fluid from the chest on two occasions during the months post-surgery.71 Another bullet was located in the shoulder muscle of a little girl shot by a playmate with a gun which, as usual, the paper reported, was not loaded. The bullet had travelled from the neck down the muscle sheath and was not discovered until several weeks later when abscess formation revealed the site. The foreign object having been removed, the little girl recovered.72

Dr. Scott Helm began doing major surgery about 1890 and was called frequently to the surrounding

70. Territorial Expositor, August 16, 1880.
71. Phoenix Herald, January 30, February 20 and March 6, 1890.
72. Ibid., February 20, 1890.
communities to treat patients. For reasons unknown, Doctor Hughes could not countenance Doctor Helm, a fact evident long before the contention between them erupted into the scandalous proceedings that headlined every territorial newspaper for several weeks in 1891. The facts, as obtained from the many reports in the newspapers, were that a patient called in Doctor Hughes after she had developed a pelvic infection following what she avowed was an abortion performed by Doctor Helm. Hughes then called in some of his colleagues and publicly accused Helm of performing the abortion and of having performed similar procedures previously. This charge was reported to have been published in the newspaper that Hughes operated at that time.73

The woman died and Helm was arrested on a charge of murder. Bond in the amount of $8000 was subscribed immediately by his friends. A trial followed, both in the courtroom and in the newspapers, which appeared to turn to other matters than the original charge. It became a personal and professional trial; first, of the fact whether

73. Arizona Sentinel, July 26, 1891; Arizona Daily Star, November 22, 1891 and February 25, 1892; Epitaph, February 28, 1892; Phoenix Herald, July 23, 1891 to August 6, 1891; Doctor Hughes' Gazette articles cannot be located, only reported in the Herald. The Arizona Miner and other territorial newspapers carried items during the arrest and trial of Helm.
an abortion had been performed at all; second, of whether the treatment by Doctor Hughes was at fault and the patient may have recovered had she been treated properly. Witnesses were divided when a number of medical men were called in to testify to the treatment indicated in the case. The trial ended in acquittal since the statutes of the Territory did not provide for prosecution in cases of criminal abortion. The matter was not dropped by the members of the medical profession; they were either on Hughes' side or on the side of Doctor Helm.

Doctor Hughes aspired to public office and served as county physician when a grand jury, investigating the county hospital under his management, found all manner of fault with it. The position that Hughes especially wanted was the superintendency of the insane asylum which he finally obtained in 1896. Helm continued to practice surgery with a loyal following; served as Surgeon General of the territorial militia until his death in 1897; delivered papers at the meetings of the National Association of Military Surgeons in 1892 and 1893; entertained lavishly the officers of the National Guard with all territorial officials attending including the governor; organized a

74. Arizona Daily Star, February 25, 1892, "Dr. Helm acquitted without the jury leaving their seats . . . the crime as charged not considered as murder under Territorial statutes."
hospital corps for the instruction of young men in the fundamentals of primary treatment of wounds in the field, and on the anniversary of his birth in 1895, the *Phoenix Gazette*—no longer under the aegis of Doctor Hughes—commented that "probably no physician or surgeon stands higher in this territory than does Dr. Helm." 75

Dr. Goodfellow became nationally known for his pioneering in the field of urology. He performed the first perineal prostatectomy in 1891, but did not report on this procedure until some years later. 76 The first account of the procedure was a paper presented to the Southern California Medical Society in December, 1896, and later presented to the San Francisco County Medical Society in 1901, the year it was published. 77 In this paper Goodfellow gave a resume of the cases operated on by him during the preceding five years, a total of seventeen cases of enlarged prostate in which fifteen were perineal prostatectomies, the first having been performed during the week of September 29, 1891. 78 All cases, some accompanied

75. *Arizona Daily Gazette*, January 10, 1895; the doctor was 33 years old.


by infection pre-operatively, recovered following surgery. The second report published by Goodfellow was read before the California Academy of Medicine on April 29, 1902, with a report of twenty-four successful cases, with some modification of technique in that bladder irrigations were no longer considered to be necessary, nor the passing of urethral sounds following surgery. The patients were allowed to get up and walk about when they felt like it.

Goodfellow, who came to Tucson following Doctor Handy's death, continued his surgical practice there. Appointed to the position of Territorial Quarantine Officer by Governor Louis C. Hughes in 1893, Goodfellow travelled about the Territory and wherever the spirit moved him, often in the cab of the Southern Pacific engine enroute to California where the train reportedly made up two hours and thirteen minutes between Tucson and Yuma, hitting only the high places.79 The doctor represented the Territory at the Pan American Medical Congress meeting in Washington in 1893, and spent several months travelling about the eastern part of the United States including a visit to the Chicago

performing the first perineal prostatectomy.

John B. Deaver, Enlargement of the Prostate (Philadelphia: P. Blakiston's Sons & Co., 1905), pp. 213-231, mentions the cases performed by Doctor Goodfellow--73 cases.

World's Fair. Eventually Goodfellow sold the hotel he had used as a private hospital in Tucson, and in 1898 he joined the ranks of surgeons accompanying troops to Cuba as a member of General William Shafter's staff. His position in this respect remains obscure; territorial newspapers reported that the doctor was commissioned a Surgeon with the Army but his name does not appear on the muster rolls. General Shafter himself never clarified the matter. He referred to him as "Doctor Goodfellow who was there to see what he could do."  

By the closing years of the nineteenth century, Doctor Goodfellow had departed Arizona and located in California. Scott Helm, after some brilliant surgery, died in 1897 without regaining consciousness after falling from

80. Arizona Citizen, May 23, 1898. "Doctor Goodfellow expects to leave Sunday evening for Tampa, Florida, where General Shafter is presently stationed. The Doctor has been appointed on Shafter's staff but did not know what rank it was intended to give him."

56th Congress, 1st. Sess., Senate Document No. 221 (Dodge Commission Report), p. 3198, General Shafter's testimony, "So, I had Dr. Goodfellow, of Colorado, who was there to see what he could do."

Goodfellow probably went along for the excitement. Later expressed himself on a number of matters: Arizona Weekly Journal Miner, February 15, 1899, Dr. Goodfellow expresses his opinion on the subject which contradicts that of Miles, the subject being the beef furnished the troops in Cuba. Also wrote: "The Conduct of the Santiago Campaign from a Medical Standpoint," Medico-Legal Surgery, XVII (1898), pp. 308-313.
his horse. Doctor Hughes abandoned his political interests and devoted his time to surgery and to the advancement of the Arizona Medical Association. New surgeons were coming to the Territory, some fresh from medical schools and others from successful practice elsewhere. They came to serve the reorganized mining companies as surgeons on a full-time basis and as expert division surgeons stationed along the railroad lines, capable of handling all types of injuries and accidents. Many went to the larger medical centers to study the latest techniques, returning to Arizona to practice their specialties, and to mark the beginning of a new era in surgery.

81. Arizona Gazette, October 9, 1897. Two columns about Doctor Helm when he was thrown from his horse; October 12, 1897, describes the funeral in which the pall bearers were Doctors Win Wylie, Neil McIntyre, Edward Gerard, Otto E. Plath, Friedman, Albert Cottrell, Harrison Edward Stroud, William Henry Battin, William Duffield, Ira Hamblin, G. A. Scroggs, William Lang and Charles D. Belden; the funeral the largest in Phoenix with all members of lodges, ministers, businessmen in the procession.
CHAPTER VI

OLD MEDICAL FOES ON THE NEW FRONTIER

The first invasion of Anglo-Americans in Arizona had little effect on the health of the region as a result either of introduction of disease or superior medical practices. Reports from surgeons attached to the military garrisons or accompanying survey parties do not mention outbreaks of any serious nature—just the same old diseases that the Americans were likely to have anywhere. Surgeon B. J. D. Irwin attributed an epidemic of catarrh to the locale—it was prevalent in Tubac, Tucson, and in neighboring Sonora towns.¹ Malaria, diarrhea, and dysentery were also diseases of the region. They were also diseases to be found elsewhere in the United States. The majority of immigrants were passing through Arizona during the antebellum period. Not until the post-war period, when the promise of mineral wealth brought immigrants from every quarter of the globe and every part of the United States into close proximity, did the spread of smallpox, scarlet


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fever, diphtheria, and other communicable diseases prove to be devastating.

More deaths were caused by disease during the Civil War than by the weapons of the opposing forces. The high incidence of dysentery, diarrhea, and typhoid in the military hospitals of the war had left an impressive record. More impressive were the two diseases which exhibited the most offensive symptoms—smallpox and hospital gangrene. Isolation of patients having either of these conditions was immediate to prevent their spread—the patient, his clothing or bedding could transmit the disease to others. The symptoms of other diseases that were known to assume epidemic proportions in a hospital or community were described, their course and prognosis well known, but no mention made of the communicability or need for isolation.2

That microorganisms caused some diseases was generally accepted, but the germ, or whatever it was that attached itself to the patient and produced symptoms of specific diseases, was not something definable. It was an unseen agent borne on air currents, contained in the fomites, which carried or absorbed the contagion and spread

2. Examination questions for appointment to assistant surgeon answered by contract surgeons John C. Handy, Benjamin Tappan, Milan Soule, from 1869-1873, AGO Records Group 94.
the disease. Air currents which passed over swamps or decaying animal and vegetable matter brought disease, especially the intermittent fever—a very natural association between conditions of climate and the annual visitations of malaria. Filth and debris bred the disease germs when human waste and garbage was left to decompose in the sun. It was found best to remove dead animals from human habitation not only because of the offensive smell, but because disease would likely come with exhalations from the carcasses. The emphasis on sanitation and the removal of nuisances in order to prevent the occurrences of disease in communities occupied the attention of city authorities and practicing physicians for the latter half of the nineteenth century.

Arizona citizens were not remiss in the matter of sanitation. The violation of ordinary clean habits of living was brought to the attention of all persons residing in a community by town ordinances and by proclamation of the health officer who was appointed to clean up the place when an epidemic threatened. The town marshal or constable brought his authority to bear on the matter at times. Newspapers entered into the crusade and pointed out violations that should be brought to the attention of the authorities. Hog pens and corrals adjacent to residential areas were complained about; the throwing of slop into the
streets was condemned; regulations were drawn up regarding privies that were to be constructed with deep vaults; shallow wells were prohibited; but these conditions persisted despite all efforts to the contrary in many towns and villages until the close of the century.

Garbage disposal was always a problem. The immediate solution was to throw it into the street, and then into the alleyways and ditches. This practice attracted vermin of every description—one hundred rats were killed in the drain of a restaurant building in Prescott when the old structure was finally torn down. In Phoenix the newspapers noted that the saloons were putting their spittoons to soak in the ditches, which was a very bad habit as many citizens used the water from the ditches for drinking and culinary purposes. Dr. Handy, the leading physician in Tucson, allowed a drain from his new residence to vent in the street which city officials promptly closed off. The doctor said it was the duty of the city to provide sewers for the accommodation of its citizens and sued the city of Tucson for $5000 damages. The drain remained

3. Arizona Weekly Miner, August 1, 1875.
5. Arizona Citizen, March 28, 1885.
closed and what arrangements the doctor made are not known, but sewers did not come to Tucson until 1901.

The unpalatable water supply was complained about in Tucson, supplied for the most part by a water cart which brought spring water to the citizens patronizing the supplier. The city water piped into Tucson in 1885 had such a disagreeable odor that many would not drink it. The city surveyor explained that chemical analysis proved there was nothing in the water deleterious to health, the reason for the disagreeable odor being that the water remained in the pipes and that microscopic vegetable findings caused the odor. The water was "a little too thick for easy navigation, and rather too thin for real estate, and totally unfit for use," the Citizen declared.

These were the problems of the growing communities where the demands far exceeded the outlay available for water supplies, sewerage systems, scavengers, and inspection to curb the unsanitary practices which were sure to bring disease in their wake. The problems encountered in the more populous settlements could be remedied with officials appointed to check the violations. The conditions of the

6. Arizona Citizen, March 28, 1885.

7. Ibid., August 7, 1886. Tombstone ante-dated Tucson in the matter of a potable water supply by completing a waterworks with a reservoir in July of 1882, at a cost of half a million dollars.
raw mining camps by comparison can only be imagined. Theirs was a crude existence at best, offering but minimal shelter other than tents, and water always a precious commodity. Little care was exercised in disposal of waste; the small streams available furnished water for human consumption, polluted as they were by the natural drainage into the stream. Those surviving the hazards of accidents and injuries, Indian hostilities or the trigger-happy ruffian, succumbed to typhoid, pneumonia, or whatever communicable disease was brought into the camps by the ever transient population. The miner himself was regarded as a robust individual, immune to most maladies and the rugged life, but when families appeared on the scene, the survival of children against all these odds was precarious.

The Territorial Legislature early became concerned with sanitary matters. The Ninth Legislative Assembly enacted into law on February 8, 1877, "An Act to Prohibit Hogs from running at large within the limits of any village, town or city in this Territory." This enactment applied only to Mohave, Yuma, and Yavapai counties until amended by the Eleventh Legislative Assembly when the law applied to all counties. Anyone guilty of this misdemeanor was subject to a fine of not less than $25 or more than $50.8

8. Acts, Memorials, Resolutions, Ninth Territorial Legislative Assembly, p. 78; Eleventh Territorial Legislative Assembly, p. 38.
The Fifteenth Territorial Legislature in 1889 provided for some sanitary regulations in all towns and villages. Each unincorporated town and village which had qualified electors to the number of fifty, would constitute a sanitary district. The duly appointed and qualified constable residing within the limits of the district would be the sanitary inspector. Each week, or as often as it was deemed necessary, the sanitary inspector would make his rounds, inspecting all premises to determine the presence of filth, garbage, or other matters "injurious to the public health or likely to produce sickness or disease." Upon finding such nuisances, the inspector would serve a written notice to the owner, or occupant, or person using such premises, to have the filth or garbage removed at least one mile beyond the limits of the sanitary district. A penalty for not complying with this notice was provided. The sanitary inspector was to receive no more than $4 for each week of his term of office which ran concurrently with his term as constable. 9

The system worked about as well as could be expected. By the time of the enactment, other forces had made it imperative that if the resident wished to live or survive,

some measures were necessary to ensure that the basic sanitary precautions were observed. Major epidemics had visited all villages and settlements in the Territory by this date, and had taken their toll of the young and old alike. More permanent residents were in Arizona, not just the transients, and people were concerned with the future of their families.

A few years after it was established, one of the newest settlements in the Territory was visited by a major epidemic which persisted for a full year before the disease abated. Wickenburg in 1867 was a thriving community, with the Vulture Mine nearby. Prospectors thronged the Wickenburg, Vulture and Eureka mining districts. The ranchers in nearby valleys made it a busy supply center and a major way station along the route from Prescott to the Colorado River. Camp McPherson, some thirty miles northwest of the settlement, noted a high incidence of fevers during the summer of 1867 with soldiers deserting in greater numbers than usual. By the fall of that same year, a sickness struck the residents of Wickenburg, described variously as ague, fever, chills, but different from the usual intermittents that arrived annually. "The sickness" as the disease was called, was more severe than anyone had ever known with a number of deaths occurring. "A Captain Smith died of the typhus fever at Wickenburg," the Arizona Miner
reported on November 18, 1867, and a number of other deaths were said to be due to the same cause. How the diagnosis was made or who made it is not known, but the "sickness" persisted despite the numerous reports that "the health of Wickenburg had greatly improved and business is lively."

A reporter from Wickenburg wrote that the Reverend C. Blake came over from Fort McDowell to hold church services one Sunday, but owing to the short notice given, and so many people being sick, there was but a small congregation. The chaplain, nevertheless, gave those attending considerable encouragement even though he must have thought them a forlorn lot of sinners as several of the men, from the effects of the "ague preventative" could not stand up to listen to the sermon but "had to lie down to do it."

Times did improve by the end of the year, the health of the place had greatly improved but by spring of 1868 the sickness broke out again with four persons lying dangerously ill. The most rigorous exertions were being made to render Camp McPherson healthy and habitable for the future, as

10. Arizona Daily Miner, November 16 to 23, 1867.

11. Ibid. Interspersed with items of how the health was improving were items of more sickness among the residents of Wickenburg.

12. Ibid., November 16, 1867, the reporter from Wickenburg signed his name as Fred Henry.
sickness of all kinds had prevailed "to such a fearful extent," the Arizona Miner announced in April of 1868. Many residents that could afford to, left Wickenburg for Prescott to escape the sickness or to convalesce. Dr. Frederick P. Howard contracted the disease himself in caring for the afflicted, had a hard time of it, but recovered in Prescott. By October of that year, the paper informed its readers that "Wickenburg, our neighboring town, is still afflicted with sickness. The fever is worse than it has been at any time during the summer."\footnote{13}

The disease died out by the winter of 1868, but for a time thereafter the town was known as a sickly place.\footnote{14} Located near the Hassayampa swamp, malaria was no doubt prevalent. The disease could well have been typhus, the epidemic louse-borne typhus fever, a plague known throughout the history of mankind, also known as jail fever and camp fever.\footnote{15} There is no record of the treatment instituted. The only doctor mentioned who was in Wickenburg at the time was Doctor Howard, although numerous other

\footnote{13. Arizona Miner, October 3, 1868, October 17, 1868.}

\footnote{14. James M. Barney, manuscript, reports that for a long time Wickenburg was known as a sickly place due to the plague.}

doctors had been there at one time or another from the time the community was first settled until 1870.\textsuperscript{16}

The practice of vaccination against smallpox had been in vogue for three-quarters of a century by 1870, and it would be an easy matter to state that the outbreaks which occurred in Arizona cities until well into the twentieth century need never have occurred. The same was true elsewhere in the United States during this period, especially in the larger cities. Smallpox was never endemic in the United States as it was in Mexico, and the latter country was blamed for whatever outbreaks occurred in Arizona. A number of cases of smallpox were also known to have been brought from California where there were frequent epidemics of the disease. The general reluctance to undergo the relatively simple procedure of vaccination persisted—and continued, one could say, to the present day.

The immediate response to reported cases of smallpox in the town or village was to ignore it, or deny its presence should another territorial newspaper announce that smallpox was prevalent in the locality where the paper was not published. County officials would appoint someone to investigate, usually a physician, if the rumors persisted. Should no cases be discovered, the paper concerned would announce that fact boldly; should cases of smallpox be

\textsuperscript{16} For other early Wickenburg doctors see pages 95-96.
found, no mention was made of that fact until the number of cases had increased to such an extent that a major outbreak appeared imminent. Doctors often advertised that they had fresh virus on hand and would vaccinate all those willing to undergo the procedure. County officials would also procure the vaccine and institute a program of vaccination for all, especially school children, having appointed a county physician for that purpose.

The fresh virus advertised was usually in the form of vaccination crusts from healthy individuals who had recently been vaccinated. Military surgeons made frequent mention of having procured fresh crusts with which to vaccinate the troops. Ivory points were supplied, tried by the military, and reports made of their efficacy. This method of applying the dried vaccine to the tips of the thin, sharp piece of bone at medical supply houses was more aesthetic but less effective.  

Another preparation of the virus was to have the serum mixed with a semi-solid substance such as lanolin or glycerin and applying the paste to the scarified surface of the arm. By the last years of the century, capillary tubes were used in the vaccination of school children in Arizona.  

By this time,


18. New York Dispensary advertised animal virus vaccine: quill slips at 25 cents each, capillary tubes at
transportation facilities were available to obtain supplies on short order from the pharmaceutical supply houses on the coast.

Troops were vaccinated and re-vaccinated regularly. With all these precautions, a small number of soldiers contracted smallpox when the disease assumed epidemic proportions in communities adjacent to the military post. 19

Newspapers also published some items that were not encouraging to the inoculation programs. People were reported to have become dangerously ill after having been vaccinated, and sudden deaths were said to occur shortly after the inoculation. Doubtless, considerable inconvenience resulted in many cases from the procedure. 20

$2, and crusts at $2. The quill slips were best, the advertisement stated, and all were to be kept cool and dry.

The Oasis, January 7, 1899, the county physician was ordered to stock up with 1000 tubes to vaccinate all school children outside of Tucson and Nogales at 50 cents per head—the first time tubes are mentioned although they may have been in use before.

19. Arizona Citizen, March 5, 1887, a squad of soldiers at the 10th Cavalry under Lieutenant Johnston, were quarantined at Mineral Springs in the Whetstones. The soldiers came in from Sonora, but stopped off in Crittenden for a few days and broke out two days later.

20. Arizona Weekly Enterprise, March 31, 1882, severe vaccination reaction; Tombstone Epitaph, March 20, 1882, autopsy ordered on a man, death caused by blood poisoning following smallpox vaccination, ulcers had eaten through his skin. Citizen, February 19, 1887, a man vaccinated thought the vaccination worse than the disease.
disease itself was devastating and dangerous and numerous deaths resulted in Arizona Territory from smallpox over the years.

There was smallpox in San Francisco and Los Angeles in 1869, a fact duly noted by territorial newspapers. On November 20th of that year, a Mr. McPherson arrived in Tucson from Los Angeles and broke out with the disease. The contagion in this case was not brought by the man himself, but appeared to have been contained in his baggage which arrived some weeks after he did.\textsuperscript{21} McPherson was promptly confined to his room and every precaution taken to prevent the spread of the disease but by early 1870, smallpox was rife in Tucson.

Forty cases of smallpox with six fatalities in Tucson were recorded by the post-surgeon at Fort Lowell in early January of 1870. Prescott papers announced in February that the smallpox and ague were carrying off a great number of people in Tucson and that it was an extremely sickly place.\textsuperscript{22} By that date the \textit{Weekly Arizonian} admitted that smallpox was slowly but surely spreading through the town, and appeared to assume a more malignant character as it spread. If measures were not immediately adopted, the

\textsuperscript{21} The \textit{Weekly Arizonian}, November 30, 1869.

\textsuperscript{22} \textit{Arizona Daily Miner}, February 26, 1870.
consequences could be very serious, the paper predicted. The recommendations of Mr. Brown should be **carried out**, the *Arlizonian* advised; this was to construct a temporary tent hospital about three miles from town and "thither remove every smallpox patient for treatment," with a competent physician in charge. The scheme was a very good one and would cost less than $2000.\(^{23}\)

The number of fatalities were not reported, but the post-surgeon at Fort Lowell estimated that thirty deaths had occurred in February and thirty-two in March of 1870.\(^{24}\) Troops were vaccinated and re-vaccinated at Lowell and Crittenden. The wife of Corporal O'Neill died of smallpox at Fort Lowell, and the wife of Captain Moulton died at Camp Crittenden of the same disease.\(^{25}\) The *Arlizonian* noted the continuing spread among the Mexican portion of the population, "with fatal results generally."\(^{26}\) Only the untiring exertions of Dr. Edward Phelps stayed the progress of the disease in the town. There was no mention of medical attendance for the Mexican population. The post-surgeon at

\[23. \text{Weekly Arizonian, February 19, 1870.}\]

\[24. \text{Post Medical History, Fort Lowell, Contract Surgeon H. K. Durant, post surgeon.}\]

\[25. \text{Post Medical History, Fort Lowell and Camp Crittenden. Contract surgeon Levi Dorr, post surgeon at Crittenden.}\]

\[26. \text{Weekly Arizonian, March 19, 1870.}\]
Lowell wrote that the Papago Indians were suffering from the disease, the superintendent of Indian Affairs for Arizona reported that the Papago Indians escaped, having received the smallpox vaccinations from a physician hired for that purpose. Smallpox had entirely disappeared by April 9, 1870, and never did a community feel better satisfied at the departure of a guest than did Tucson upon hearing that the last case had quite recovered.

The second major smallpox epidemic struck all towns and settlements in Arizona between 1876 and 1878, with Tucson, Phoenix, Prescott, Florence, Wickenburg, and Yuma all reporting a high incidence of the disease and some fatalities. The disease was noted by territorial papers to be prevalent in Los Angeles and in Hermosillo, Sonora, in the spring of 1876. Dr. John C. Handy offered to vaccinate free of charge all those unable to pay; other Tucson doctors advised that vaccination would be a wise precaution. Smallpox appeared at first in light form at Tucson in April of 1877, but three deaths due to the disease also were reported. One William Teague may have brought the disease from Los Angeles, the Citizen observed. The patient had been provided with comfortable quarters, at the expense of his

27. Post Medical History, Fort Lowell; Report of the Superintendent of Indian Affairs, 1870, George L. Andrews, Superintendent for the Arizona Department.

28. The Weekly Arizonian, April 9, 1870.
employers, and with medical attendance. One month later a family arrived from Sonora, one child having died of smallpox there, and two more children found to have the disease upon arrival in Tucson. In any case, smallpox was widespread by that time.

City officials came into action with this epidemic. A board of health was promptly inaugurated, made up of a committee of citizens who investigated reports of cases and instituted a prompt quarantine. The Arizona Citizen announced that there were several cases of smallpox in Tucson, but they were all of a mild type. Florence was the town sorely afflicted, the newspaper continued, there were as many as seventy cases there. Adults and children died of smallpox in both Tucson and Florence; vaccinations had been performed to a great extent but the epidemic persisted.

When John Miller took the school census in June of 1877, he enumerated the number of cases and concluded that there

29. Arizona Citizen, January 30, 1877.
30. Ibid., March 10, 1877.
31. The committee was not named by the papers, nor do records indicate who they were. The Common Council deemed it necessary to levy a tax upon property holders to raise the money for caring for the destitute sick and for enforcing quarantine, but the Citizen said this was not necessary as the amount needed could be raised on the street in a few hours. Arizona Citizen, August 2, 1877.
32. Ibid., April 21, 1877.
had been 139 cases in all and that twenty-four deaths had occurred, all being children but ten. The epidemic was thought to be over, but such was not the case. Smallpox broke out again in Tucson in August, and in October of that same year the cases were still in the pest house. This epidemic cost the city $766.78—a very expensive disease the paper reflected—but it would have been worse had the city officials not exerted prompt action.

The Pinal County Board of Supervisors allowed money to Dr. W. H. Bluett for medical attendance on a smallpox patient, reimbursed Mr. P. Mais for boarding such a patient, and paid Jim Sam for room rent for a patient, but disallowed a claim for nursing care of a patient with the disease. John Carroll, telegraph operator at Florence, died of the disease and was buried the same day. The rest of the victims in Florence were mostly Mexicans, the Miner reported, but how many was not stated. Wickenburg did not consider the disease a serious one. A traveller through that town said that there were people broken out with the disease sitting in the stores and in the hotel.

33. Arizona Citizen, June 2, 1877.
34. Ibid., November 30, 1877.
35. Minutes of the Board of Supervisors, Pinal County, July 7, 1877.
37. Ibid., March 30, 1877.
Doctors in Prescott discovered a "beautiful case of smallpox in a Chinese wash house on Granite Street." The subject was promptly removed two miles beyond the village limits. Another case appeared one week later, recently arrived from the Salt River where he contracted the disease, and was also removed to the Pest house where he was treated by Doctor Goodfellow. Doctor Wharton was the health officer in Phoenix and had full power to rent a pest house, buy whatever supplies were needed, and hire a nurse—none of which was necessary the doctor reported one week later as he resigned the position. Only one mild case of varioloid existed and he had passed the febrile stage and could not be considered contagious. Thirty-two persons were vaccinated by the doctor, one of them paying fees. Phoenix newspapers never mentioned the presence of smallpox but the Weekly Miner reported that it had been malignant in Phoenix as well as in Florence.

38. Territorial Enterprise, March 21, 1877. This reference to a number of patients in the pest house indicated that there were several smallpox cases in Prescott even though they were not mentioned in the Miner. Doctor Goodfellow attempted private practice in Prescott for a short period, was not very successful.

39. Wharton was hired at $250 per month. Resigned the appointment after one week as there were no cases of smallpox. A pest house was not rented. Maricopa County Board of Supervisors hired the doctor as health officer, not Phoenix.

40. Weekly Arizona Miner, May 18, 1877.
Prescott had a siege of communicable disease in 1877, having epidemics of scarlet fever, diphtheria, and typhoid. Doctor Goodfellow, who had been taking care of smallpox patients in the pest house, contracted diphtheria and was quite ill. The number of deaths from scarlet fever among the children was high. No deaths were listed for diphtheria but several adults contracted the disease. Many children succumbed during the summer from typhoid which was very prevalent in Prescott, and was also noted in the surrounding communities.

The Arizona Sentinel observed that there had been a good deal of unnecessary alarm outside of Yuma in regard to the prevalence of smallpox there, and much exaggeration as well. Smallpox had been in Yuma, the paper said, and there was a disregard of sanitary measures in the town that was criminal and a passive indifference to the disease that was almost brutal. Dr. William Painter, post surgeon at Fort Yuma, had been appointed health officer when the epidemic first appeared in December of 1877. Painter found thirty-three cases of smallpox varioloid, two having died and six recovered. The houses had been fumigated, flags put up,

41. Weekly Arizona Miner, March 23, 1877. Goodfellow left Prescott the following month and never returned to practice.

42. Arizona Sentinel, January 12, 1878.
and Indians driven out of town. All children in infected localities were vaccinated, sixty persons without charge. Doctor Painter resigned two weeks later, disgusted that he could not enforce quarantine regulations. Trade and travel fell off due to the scare and residents chose to ignore the quarantine.

The smallpox at Yuma got across the river and many of the Indians were reported to be suffering terribly with no doctor going among them. Doctor Taggart got some medicine and went to La Paz, remaining a month to treat the Indians along the Colorado. The government reimbursed the doctor for his expenses. The Indians were living in poverty, the Sentinel reported, for the government had not kept its promise of food and medicine for them.43

Phoenix had another smallpox siege in 1878, one of the county supervisors numbered among the cases—the supervisor being the one who refused to take action when the first case was reported in town.44 There was smallpox among the Mohaves, the Arizona Miner announced in the spring of 1878, and several cases also at Ehrenberg which were transmitted there by the Mohaves.45 Prescott had a smallpox

43. Arizona Sentinel, March 2, 1878. The Sentinel stated that Dr. H. Taggart went at his own expense; the Report of the Commissioner of Indian Affairs included the expenditure of Dr. Taggart for his services and reimbursement (1878).

44. Salt River Herald, March 16, 1878.

scare in April of 1878 when one of Mr. J. M. Bryan's wagon trains, approaching the town from the Skull Valley road, was discovered to have a teamster who was suffering from smallpox. The train was stopped on the Iron Springs road at once and the village authorities held a conference about how best to deal with the matter in order to keep the disease out of Prescott. Dr. A. J. Thibodo, sent out to ascertain if the case was smallpox, affirmed that it was. 46 Remembering the experiences of the previous year, when the county board of supervisors refused to bear any portion of the expenses, Prescott officials determined to quarantine the train outside the village limits and to notify the county officials that it was their problem, the patient not being a resident of the village. And so the patient remained on the wagon on the outskirts of Prescott on the Iron Valley road, not a charity case, for he was amply able and willing to bear his own expenses. The question remained, who should pay for taking measures for preventing the spread of the disease? 47

The patient was ordered to the village pest house by Supervisor Curtiss, but not until many persons had been


47. Ibid., April 10, 1878.
obliged to pass near the smallpox case. The train had been stopped at a narrow point in the road, within a few hundred yards of Miss Angie Mitchell's Miller Valley School where twenty or thirty children attended. Mr. Bryan, owner of the wagon train, came into town to find some means of conveying the patient to the pesthouse but no one would undertake it, nor would they lend a vehicle for that purpose. The next morning, the wagon was still on the road with the patient in it. Miss Mitchell dismissed her school. By noon Supervisor Curtiss found a team to take the patient to the pesthouse. By this time some one hundred persons had passed within ten to twenty feet of the smallpox patient as he lay in the wagon awaiting the action of the authorities.

Dr. Warren E. Day wrote to the editor of the Arizona Miner to allay the fears of the residents of Prescott. There was no danger, the doctor insisted, for he had seen thousands of cases and no person could take the contagion if two feet removed from the patient and a current of air passing from the individual toward the patient was in motion. In his opinion the community had been aroused unnecessarily. Public sentiment would not permit any more cases of

48. Arizona Weekly Miner, April 12, 1878.
49. Ibid., April 13, 1878.
dangerous contagion to travel up and down the highway, the Arizona Miner editorialized, there should not be a repeat of the spectacle just past where a man was hauled along the principal thoroughfare of the county in all stages of the disease. The county authorities should be required by law to remove immediately such a danger from the public; the patient should be placed in any tent or cabin nearby, and the necessary comforts provided with a physician to attend to his needs. It was due the patient as a measure of humanity and much more to the whole community, "among whom the introduction of so loathsome a disease as smallpox would prove the worst calamity that could possibly befall them short of absolute famine and starvation."\(^50\)

Smallpox came again and again to the villages and towns; pesthouses were provided in the form of tents, shacks, cabins, or box cars after the railroads came. Yellow flags invariably created a panic. Tombstone authorities had a hassle over the diagnosis of the disease with Mayor Carr and Doctor McSwegan finding no cases in the entire town after another physician had deliberately terrorized the community by mis-diagnosing a case of measles as smallpox and establishing a quarantine. There were two

\(^50\) Arizona Miner, April 13, 1878. The patient recovered from the disease if there did seem to be little concern over his welfare during all the consternation.
cases of smallpox, the Epitaph admitted, but they were in the pesthouse and there was no cause to worry. 51

Doctors Lucius Lyford, Charles Holbrook, and Gardner visited a questionable case of smallpox in Tucson in February of 1882, pronouncing it a positive diagnosis. 52 Doctor C. P. V. Watson and Doctor Kane went out and said it was a case of inflammatory rheumatism and promptly removed the flag, the result being that the other physicians had them arrested. 53 The case came before Judge Bragg and while the doctors were disagreeing, the patient walked into the courtroom to see how matters stood. 54 When a Mr. Wilson died of smallpox in Phoenix, his body was taken from the pesthouse to the cemetery by a circuitous route, all parties participating in the interment were thoroughly disinfected with sulphuric acid and chloride of lime, so "no trouble from that quarter need be apprehended." 55

51. Tombstone Epitaph, March 6, 1882.

52. Lucius D. Lyford, or J. Dexter Lyford practiced in Tucson from 1880-1883. A partner with Dr. Henry B. Lathrop in 1880 who left for Mexico shortly thereafter. Dr. C. E. Holbrook was a brother-in-law of Dr. Handy. Doctor Gardner was a mine owner who practiced but briefly in Tucson.

53. Tucson papers mention a Dr. H. Kane and a Dr. S. K. Kane, both engaged in mining activities in and around Tucson in 1881-1882.

54. Arizona Citizen, February 5, 1882; Phoenix Herald, February 1, 1882.

55. Phoenix Herald, February 1, 1882.
Health officers were appointed and quarantine officials designated to enforce quarantines with guards inside the areas restricted and guards outside to insure that people did not violate the quarantine. In the larger towns, the health officer attended to the area within the limits of the town leaving the county health officer to visit the outlying regions. Citizens committees were appointed by the towns usually to assist in finding the smallpox cases and in establishing the quarantine. In time the matters of jurisdiction were worked out and pesthouses served both city and county. Trains were inspected to discover any cases that might enter the town by that means. Immigrant trains were quarantined when smallpox cases were discovered among the travellers. The quarantine of two cars containing 64 passengers shunted on a side track near Wilmot Station in the middle of June, 1882, created no end of hardships for the immigrants. 56

Emphasis on vaccination was increased. Physicians were sent among each Indian tribe to perform vaccinations in 1883. The presence of transients of every type from all areas of the United States and Mexico required constant

56. Arizona Sentinel, June 17, 1882. Immigrant trains were designated as such, provided minimal accommodations for a large group of persons who had to eat and sleep in the car, bringing their own food.
vigilance to prevent the introduction of smallpox. When an epidemic threatened in Tucson in 1887, Dr. Henry E. Crepin, city physician, corralled scores of children among the Mexican population and vaccinated them then and there. He was assisted by the town marshal who searched the houses and found children hidden under blankets, so great was the reluctance to be vaccinated.57 The program was a success within the limits of Tucson. Dr. Alberto S. Adler, county physician at that time, found 67 cases of smallpox entirely among the Mexican population of outlying communities. Doctor Adler imposed vaccination on 240 persons, chiefly children, which aided materially in abating the disease although the doctor reported that four deaths occurred among the first cases discovered.58

Each town and community handled the problem of smallpox in its own way, there being no overall regulations concerning it. Towns quarantined against other towns—Phoenix against Tempe and Mesa, and Florence against Phoenix and Tucson. Phoenix and Tucson had some thoughts of prohibiting the fiestas which drew hundreds of people from

57. Arizona Citizen, July 9, 1887. Dr. Henry E. Crepin was the son of Dr. H. N. Crepin who practiced from 1881-1888 in Tucson before removing to California.

58. Ibid., September 10, 1887.
other communities as well as south of the border, but the feasts and fiestas continued nevertheless. 59

Newspapers published regularly a popular remedy for smallpox which consisted of one grain of zinc sulphate, one grain of foxglove (digitalis) and one-half teaspoonful of sugar mixed with two teaspoonfuls of water, making a total of four ounces with additional water. The dose was one spoonful every hour. 60 Medicines and treatments for smallpox patients included iron, quinine, nux vomica and ammonia among the internal medicines; Dover's Powders provided sedation, wine and brandy were used as stimulants. Tincture of iodine was applied to the eruptions, or they were painted with various preparations including collodion, olive oil and honey. Mercurial ointments were often applied. Vinegar baths were helpful to prevent contagion when the patient was on the way to recovery. 61

Treatment and nursing was probably less than the desired standard for comfort in a large, well-aired room,

59. Arizona Citizen, August 27, 1887; Phoenix Herald, June 15, 1887.

60. This remedy appeared in all territorial newspapers from 1882-1890, recommended by some person or advocated by the editor.

with light and nutritious diet. Patients in the Tombstone pesthouse were out of food and hailed a passer-by, informing him of their need. The passer-by awakened the mayor of the town who obtained some food and sent it out to the patients. The condition of the pesthouse was lamented by the *Epitaph*. The property belonged jointly to the town and to the county, and had become decayed in periods of disuse. A patient in the Casa Grande pesthouse was found to have been murdered one morning as the man in charge went to check on him. He was a gambler and had some jewelry, the paper reported, and was probably killed by his associates. It can be surmised that accommodations and nursing care were minimal.

Dr. George Goodfellow, appointed the first Territorial Quarantine and Health officer by Governor L. C. Hughes, was called in 1896 to the Congress, or Fool's Gulch, near Stanton during the mining boom there. Smallpox broke out in January, the patient being a miner who was sleeping in a tent with eight other miners. Dr. Ira B. Hamilton was called to the camp and issued an order quarantining all persons in the area, but the exodus had already started, and the doctor followed shortly

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63. *Phoenix Herald*, April 15, 1887.
thereafter. Dr. Goodfellow arrived in his official capacity on January 27, found four or five cases, and requested enough deputies to stop people from leaving the camp. Dr. Joshua Miller was left in charge, volunteer male nurses obtained from Prescott, and by April of that year the doctor reported the scare was at an end with the camp resuming its old prosperity.

Clifton wanted no help during an outbreak of smallpox in Clifton and Morenci in 1899; the local physicians and authorities were competent to handle the cases, the newspapers stated. Armed with shot guns and a posse, the authorities removed all smallpox patients to a comfortably furnished home outside the city which was amply furnished. One hundred shots were fired—without injury—as Mexicans

64. Hamilton came to Congress from Tombstone; fled to Los Angeles where he promptly came down with a case of smallpox, the paper reported. *Arizona Journal Miner*, January 7, 1896.

65. Goodfellow's appointment as Quarantine and Health Officer was Governor Hughes' answer to the request of the Arizona Medical Association for the establishment of a Board of Health. See Chapter IX, page 366.

66. *Arizona Journal Miner*, February 5, 1896. Dr. Joshua Miller, came to Prescott in 1891; graduate of the University of Michigan in 1872; professor of orthopedics and surgery at the University of Kansas, 1881-1891. Served as Superintendent of the Territorial Insane Asylum in 1891-1893.

resisted the removal of their friends to the hospital. A number of those resisting the move were put in jail. 

While smallpox appeared to occupy the attention of city and county officials in the matter of prevention and control, other contagious diseases exacted as heavy a mortality rate if they were not so spectacular or as "loathsome" as the dreaded pestilence. Scarlet fever and diphtheria were concluded to be as contagious as smallpox by 1870. Families lost all of their children from these two diseases and they appeared at different times in the various towns and villages throughout the territorial years, exacting a heavy toll each time. Schools were closed at the request of health officers, physicians warned of the danger, but quarantine was rather lax. What was the use of closing schools, the *Phoenix Herald* asked, when the same children that were not in school played together in the streets? 

One of the most severe epidemics of diphtheria during these years occurred in St. Johns when over forty children fell victim to the dreaded scourge in December of 1888, a death rate that was unprecedented considering the

68. *Arizona Silver Belt*, February 9, 1899.

population of the town. Putrid sore throat, membranous croup, or by whatever name diphtheria was called, ran unchecked through families, the doctors powerless to stop its spread. Dr. William T. Dalby, physician at St. Johns, closed the schools for two months. William E. Platt, who operated the drug store, assisted the doctor and it may have encouraged him to enter the medical profession a few years later for he was called to treat the sick in that the demands were too great for one physician to handle.

Sulphur, or brimstone, was the favored remedy for diphtheria in that it would kill every specie of fungus in man, beast, or plant. If the child could not gargle a mixture of sulphur and water, the sulphur should be blown through a quill into the throat. Inhaling the fumes of tar and turpentine set fire in an open pan, or the vapors of unslaked lime were advised. Five cents worth of chloride of potash in half a tumbler of water was also recommended, to be supplemented by rubbing the neck with camphorated oil and binding a small strip of flannel about the throat. Dr. J. E. Wharton advised that boracic acid was an excellent "antidote" for diphtheria, a child of five could take two

70. Apache Review, November 14, 1888.

71. William Erastus Platt, entered the University of Louisville in 1893, returned to St. Johns to practice until removing to Safford in 1899.
grains every four hours; boracic acid could be used as an "antidote" for scarletina as well when the child had been exposed to either disease.\(^\text{72}\)

Skin eruptions of scarlet fever were treated with a variety of applications: of ointments made of butter without salt, to which could be added oil of citronella; bathing in a sal-soda solution followed by an application of the ointment. Hot drinks encouraged diaphoresis and prevented dropsy; quinine and syrup of iodide or potassium chlorate internally were stimulants deemed necessary when the body had been depleted.\(^\text{73}\) The terms scarlet fever and scarletina were used interchangeably for the same disease, the latter used at times when the disease appeared in mild form.

Dr. Ancil Martin appeared before the Phoenix City Council and presented a sickening picture of the sanitary conditions of the city. The soil had become surcharged with feces and decaying vegetable matter until it was ready to become a hotbed for the culture of contagion and infectious diseases.\(^\text{74}\) The Council then formulated a plan

\(^\text{72}\). *Arizona Citizen*, November 3, 1888; *Arizona Weekly Miner*, October 17, 1888. This amount would be considered a lethal dose. Numerous antiseptics and patent medicines were advertised for diphtheria as well as scarlet fever.

\(^\text{73}\). Medical advice published by territorial newspapers.

\(^\text{74}\). *Arizona Silver Belt*, October 8, 1892.
for circumventing the impending danger of an epidemic. Deaths from the malignant diphtheria and from scarlet fever occurred during subsequent months.

Surgeon L. M. Maus of Fort Whipple published a report of the conditions in Prescott when fifteen cases of diphtheria existed and not one case of contagious disease had been reported to the city authorities. The families having cases of diphtheria among the children, continued to send other children to school. Diphtheria was contracted by direct contact, and usually could be traced to a prior case, the doctor insisted. An isolation hospital was needed for such infectious cases, with no one but doctor and nurses attending the patient allowed. There should be fumigation basins of carbolic acid, other substances as sulphur and chlorine were useless. The doctor advocated fresh air, good ventilation but the patient should be kept warm; antiseptic and stimulating treatment with disinfectants applied locally.

Dr. McCandless denied the charges made by Surgeon Maus, challenging him to find any cases of diphtheria and

75. Dr. Marvin L. Maus, often mentioned as L. M. Maus, was promoted to Major in December of 1892, having had eighteen years of service. Stationed at Fort Whipple from 1891 to 1893.

76. Arizona Journal Miner, April 12, 1893.
scarlet fever. Dr. Egbert W. Dutcher published a report of cases discovered and treated in Prescott and the names of children who died of both diseases. Phoenix also suffered a severe epidemic of scarlet fever; private funerals were ordered in all cases where deaths were due to the two diseases; quarantines were established and the health officer commended for his work. A case of diphtheria broke out in the Indian School in Tucson, attributed to one of the teachers who had a diphtheritic throat. All cases were isolated and the children watched carefully for symptoms.

Dr. Miller and the chief of police, making rounds in Prescott, found improperly constructed vaults in outdoor privies with wells and waterclosets in close proximity on the back lots. "How often do we trace typhoid, consumption, diphtheria, and scarlet fever to the drinking water?" a letter to the editor of the Miner inquired; it was not the only source of contamination, but it was

77. Arizona Journal Miner, April 19, 1893. Dr. Maus charged Doctor McCandless with negligence in the matter of indifference to the prevalence of contagious diseases.

78. Ibid., April 19 and May 14, 1893. Dr. Egbert W. Dutcher practiced in Prescott from 1891-1898 when he died in the attempted rescue of a neighbor from a burning house.


80. Arizona Citizen, January 19, 1894.
Dr. Miller published the rules to be followed in caring for a person ill of diphtheria: no person should be allowed to sit upright with diphtheria at the risk of paralysis of the heart; all unnecessary furniture was to be removed from the patient's room; the disinfection of all articles used by the patient should include all garments, blankets and bed linens preferably burned. If disinfected, the article should be boiled one hour in a solution made of four ounces of zinc and two ounces of salt to each gallon of water. Rooms should be fumigated with two to two and one-fourth pounds of sulphur for every 1000 cubic feet of space—the sulphur placed in an iron pan supported on bricks and ignited with a live coal, and left for six hours, the room aired thoroughly before being occupied.

Surgeon William R. Hall ordered a supply of diphtheria anti-toxin in January of 1895, for use at Fort Whipple. The report was that it had been used successfully in Europe and the East. The Arizona Daily Star reported in February of that year that several local physicians had

81. Arizona Journal Miner, April 11, 1894.
82. Ibid., April 18, 1894.
83. Surgeon William Hall, a most successful surgeon and physician, served at Whipple from May 25, 1894 to January 6, 1897, when he was transferred to Washington, D.C. Arizona Journal Miner, January 16, 1895.
received the anti-toxin, "the great German cure" for diphtheria.\textsuperscript{84} Reports in 1896 from various territorial newspapers were to the effect that Doctor Charles M. Porter of Safford had used the serum with marked success. Dr. Charles T. Abbott of Prescott used the remedy on two cases, one child recovered and the other died. Dr. F. W. Braun used the anti-toxins successfully in Nogales, Sonora, also.\textsuperscript{85}

Gila and Graham counties had considerable contention over diphtheria. The former county accused the latter of carelessness and neglect in treating the disease. The contagion was transmitted into Globe by peddlers and traders coming into the town from Graham County communities.\textsuperscript{86} Gila County contemplated constructing a deep ditch or high wall between the two counties, rather than populate their city of the dead.\textsuperscript{87} The people of Graham County should stay home, but this they would not do as so many of them made their living by peddling and teaming with

\textsuperscript{84} Arizona Daily Star, February 14, 1895.

\textsuperscript{85} Charles Thomas Abbott, Prescott druggist in 1893, a surgeon from Australia, completed a medical course at Louisville in 1893, returned to practice in Prescott until 1898, also to work mining claims. Dr. F. W. Braun mentioned frequently as working for the Mexican government in Sonora.

\textsuperscript{86} Graham Guardian, February 8, 1896; Arizona Silver Belt, September 24, 1896.

\textsuperscript{87} Arizona Silver Belt, October 1, 1896.
Globe as their principal market. The pestilence continued to break out intermittently for two years thereafter. 88

Malaria could be prevented if Eucalyptus trees were planted, so the newspapers advised, the Eucałyptus acting as a sanitary agent with the oils secreted by the leaves rapidly oxidized producing a large amount of peroxide of hydrogen. 89 Many communities of Arizona proudly announced that they were free from malaria. From the reports of the military surgeons, malaria existed in almost every region of Arizona, more prevalent in the southern regions than in the higher elevations of the north. People died of malaria, or their other ailments were complicated by the repeated attacks of chills and fever. Malaria was expected to arrive seasonally and it usually did. Quinine was the standard remedy for all who could afford the medicine. Three dollars an ounce was a considerable sum in 1870 and territorial newspapers proudly announced the decrease in price in 1885 from $3.40 per ounce in 1879, to sixty cents per ounce in 1885. Doctors tried other medicines in the treatment, especially when quinine was not obtainable. There were

88. Arizona Silver Belt, March 11, 1897.

89. Arizona Citizen, October 24, 1874; February 18, 1878; Arizona Miner; the Weekly Nugget, items from 1874 to 1878. Phoenix Herald, September 19, 1885; Arizona Daily Star, June 22, 1879. The importation tax was removed on quinine.
countless home remedies, as well as patent medicines advertised, Ayers Ague Cure, Vegetine, and Peruvian Bitters among them.\textsuperscript{90}

Malaria was a problem widespread in the United States. It afflicted the laborer as well as the more affluent. The President of the United States suffered an attack in 1882.\textsuperscript{91} Dr. Alberto S. Adler wrote a treatise on the subject during his short stay in Solomonville in 1885; described the various types of fevers attended by ague-cake, or enlarged spleen, and the deposit of red, yellow, or dark pigment in the liver, or melanemia.\textsuperscript{92} The element of malarial poisoning had not been determined yet, the doctor stated, but it was known to be contained in the exhalations arising from swamps. These exhalations were developed under the decomposition of organic and vegetable matter due to the flat water heated by rays of the sun. If any man held a different viewpoint at this period, it was not recorded. The \textit{Arizona Citizen} of March 28, 1885, carried the item that Doctor Findlay, the

\textsuperscript{90} Ayers Ague Cure advertised that it contained neither quinine nor arsenic, both dangerous to the system; it contained only vegetable preparations; Vegetine purified the blood, renovated the system, cured chills and fever; Peruvian Bitters cured malaria, vitalized the system, and cured dypsomania also.

\textsuperscript{91} Epitaph, September 16, 1882, President Arthur had malaria; also other papers.

\textsuperscript{92} Albert S. Adler, M.D., "Malarial Diseases," in the \textit{Clifton Clarion}, October 14, and October 21, 1885.
Cuban physician, believed he had demonstrated that inoculation with yellow fever was due to the sting of the Cuban day mosquito.  

Arizona had a yellow fever scare in 1883 when that disease became epidemic and killed many people in Hermosillo and Guaymas, Sonora. A heated argument ensued in the newspapers with doctors stating positively that it was not yellow fever in Guaymas; among them Dr. F. H. Goodwin in Nogales, Drs. A. A. Mix and Paul Gregory who were practicing in Hermosillo. Dr. H. N. Matas, probably the only expert on the subject of yellow fever, stated that it was that disease in Sonora for he went down there on his own accord to find out.

When yellow fever was discovered in a passenger on the Newborn, the steamer was fumigated with black oxide of manganese in San Francisco. The board of health in that city declared that it was yellow fever, and a quarantine thereafter was imposed on all persons arriving from Sonora. Doctor Matas announced that the disease could not develop in localities about 2500 feet, that people could go from

93. *Arizona Citizen*, March 28, 1885.

94. Doctor Matas had years of experience with yellow fever in Brownsville, Texas, and New Orleans when that disease broke out while he was there.

95. *Arizona Citizen*, October 6, 1883.
Guaymas and elsewhere, develop the disease, but could not
spread it. Dr. Wharton declared that it was impossible
for yellow fever to occur anywhere in localities above 500
feet and that Phoenix was in no danger. Two persons died
in Benson of the yellow fever, the *Citizen* reported, both
having recently been in Guaymas. The disease occurred
again in Guaymas and Mazatlan in 1884 and 1885, and not­
withstanding the pronouncements of the doctors that the
disease could not spread to Arizona, its progress was
watched with some degree of alarm.

Typhoid fever became a scourge throughout the
United States during the latter half of the nineteenth
century until water supplies were free from contamination
by sewage, and until typhoid carriers were discovered and
treated as such, typhoid continued throughout the land.
Typhoid in Arizona communities was early associated with
contaminated wells and measures were instituted to insure a
pure water supply which entailed quite an expenditure in

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96. *Arizona Citizen*, October 6, 1883, letter from
Dr. H. N. Matas who was in Hermosillo at that time.


98. *Arizona Citizen*, September 5, 1883, and October
13, 1883; died in Benson, C. H. Fullerton of Guaymas and R.
R. Castro of bilious remittent fever.

Doctor Matas reported the deaths of four doctors
from yellow fever in Guaymas and Hermosillo, all from the
United States who were practicing there.
many instances. Nor did all the citizens of a community enjoy the convenience of piped-in water when a city provided a safe water supply. When sewers were built, not all residents had access to this means of waste disposal. And so the problem of typhoid continued despite the modern innovations of water and sewerage systems.

Typho-malaria became a popular diagnosis during the 1880's, in some cases applicable to either typhoid or malaria or both diseases. The fever did not follow the usual typhoid pattern but resembled the typical typhoid in its clinical history. Dr. Goodfellow wrote a refutation to an article by one Doctor R. Bartholow who contended that there was no special type of fever entitled to the name typho-malaria. Another confusing diagnosis appearing at this time was the designation of "mountain fever" which was applied to a number of cases in Arizona from 1890-1898 and caused a number of deaths in Prescott, Verde, Florence, and Phoenix. There was no elaboration of the symptoms of


100. Arizona Journal Miner, November 13, 1889, April 30, 1890, September 28, 1891, November 21, 1894; Phoenix Herald, October 15, 1891. Dr. Day reported 20 cases of mountain fever at Jerome. Journal Miner, August 31, 1892, Dr. Sewall returned from the Peck Mine where he attended a patient with mountain fever. Arizona Silver Belt, February 3, 1894; Arizona Daily Star, June 20, 1894; Arizona Gazette, February 19, 1898.
the disease except sore throat and chills. Complicated by pneumonia the disease terminated in death. Dr. Hoeffer diagnosed an epidemic raging on the Gila below Solomonville as spotted fever of the most malignant type.\textsuperscript{101} This disease was described as partaking of some of the characteristics of measles and the \textit{la Grippe}, and was said to be a most dangerous disease especially in European countries where it was very common.\textsuperscript{102}

For the common ordinary diarrheas and dysenteries that afflicted a goodly portion of the population from time to time, the origin or cause did not receive much attention. There were acute and chronic varieties, depending one can surmise, on whether the patient responded to the variety of remedies that were used. Lead and bismuth were standard remedies, opium always administered in some manner, and usually the symptoms were found in conjunction with malaria or other fevers. The patient became exhausted and completely enervated with death resulting from a complication of factors, either bronchitis or pneumonia. Ipecac and

\textsuperscript{101} Arizona Daily Star, January 28, 1890, Dr. A. H. Hoeffer, practiced in Solomonville, Morenci, Clifton, went to Mexico in 1898. No record of medical school.

\textsuperscript{102} Ibid.
quinine were administered and stimulants of brandy, beef tea, and ammonia. The differential diagnosis between the salmonelle and other bacterial etiologic agents did not come until the early years of the twentieth century.

103. Treatments recorded by post surgeons at various military posts, post-medical histories, Fort McDowell, Fort Lowell, Fort Verde.
CHAPTER VII

ARIZONA AS A SANITORIUM

Arizona's climate was ranked high among its resources. The "purity, dryness, and elasticity of the air" made it unequalled on the entire continent for the cure of consumption, kidney diseases, and rheumatism.\(^1\) Patrick Hamilton wrote that Yuma, especially, was perfection itself in 1881; his book on Arizona's resources five years later called all of Arizona a sanitarium.\(^2\) Official reports followed suit in the reports of the territorial governors by extolling the virtues of a climate which benefited all constitutions. The heat of summer was high, but sun strokes were rarely heard of and epidemic disease was unknown. The governor concluded that there was "health in every breeze"

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2. Hamilton, *Resources of Arizona*, 1886, p. 93. Sanitarium in the nineteenth century had reference to a private hospital or accommodations for the cure of any disease—not particularly tuberculosis. Not until the twentieth century did the use of "sanitorium" mean a place for the exclusive use of tuberculous persons. "Sanitarium" will be used here as it was commonly referred to at that time, as a place for the health sufferer, but not a specially equipped hospital for patients having tuberculosis.
in Arizona with vigor, long life, strength, and happiness under its glorious skies.  

The move to advertise this most advantageous resource was underway long before Hamilton published his book or the governor made it official. The territorial press spread the word in printed pages and by letter in answer to inquiry. The multitude of physicians coming to the Territory remembered the beneficial effect of the climate and sent their patients there on their return home, or told other physicians about it. Feature articles in eastern papers continued the work; Arizona in winter was worthy of a front page story, Arizona at any time was throbbing with the intense life of the splendid West.

The first problem that confronted the county officials was what to do with the indigent sick—the large numbers of prospectors who arrived and became ill, or were ill to begin with when they came, and had no home, no


4. Arizona Citizen, April 11, 1874; Arizona Sentinel, May 25, 1878; Arizona Miner. Arizona Citizen, November 4, 1871. Editorial: "Hardly a mail arrives which does not bring letters from some person asking about Arizona and our advice as to coming hither to engage in business or in some occupation."

family, and no means of providing themselves with the basic requirements of existence. Military post-hospitals answered the initial needs, but it was soon apparent that this facility could not be counted on indefinitely for beds were limited and the troops had first priority. There were also communities quite removed from any military accommodations and so the counties had to consider the matter of providing a hospital. The first hospitals turned out to be rooms rented whenever the need arose, or, in most instances, the patient was boarded by whoever would take him in. If the disease was smallpox, the patient landed in the pesthouse, either at his own expense or that of the county.

Yavapai County Board of Supervisors paid out quite a sum to the officials of Fort Whipple for the care of the indigent before a contract was let to one R. E. Elliott. Contractor Elliott would furnish board and room for the indigent sick; medical attendance would be furnished by one of the Prescott physicians. Doctor Day announced that his hospital in Prescott had no connection with the county or indigent sick; the contract for the care of the indigent had been awarded to Daniel Hatz. The doctor did take in indigents by October of 1877, however, for the newspaper

6. Minutes of the Board of Supervisors, Yavapai County.
reported three county patients there. Charles Yates obtained the contract in 1878 but resigned when so many indigents were hospitalized for which he received no pay. Yates charged that the indigent sick came from all other counties in the Territory that had made no arrangements for their care. The contract was then awarded to the Sisters of St. Joseph who had gone to Prescott from Tucson in 1878 to establish a school; by April of 1881, the Sisters were in the hospital business and cared for both county and paying patients. 7

Dr. Handy had plans for a hospital in Tucson in 1879. Handy improved a tract of land three miles from Tucson on the Port Lowell road, had a well dug and adobes were being prepared for the construction. This was the last mention of his hospital. 8 The Sisters of St. Joseph opened their hospital on May 1, 1880; the Benevolent Association of St. Mary's Hospital having collected sufficient funds for its construction under the direction of Bishop J. B. Salpointe. 9 Until St. Mary's Hospital was

7. Arizona Miner, July 19, 1878. "P. B. Brannen, on the part of the Sisters of St. Joseph, signed a contract this morning with the Board of Supervisors to take charge of the indigent sick. Doctor Goodfellow the attending physician."

8. Arizona Citizen, August 1, 1879.

9. Arizona Star, May 22, 1879. P. R. Tully was president of the Association; Dr. Mariano Samaniego, vice-president, Stephen Ochoa was treasurer, and W. S. Oury, secretary. Tully and Ochoa gave $1000 to the building.
built, Pima County used either the downtown hospital of Fort Lowell or rented quarters by contract. Pima County advertised for bids, for board and room, for medical attendance and medicines furnished the indigent sick, and for medical attendance for prisoners in the jail. Dr. Handy rented a building for $10 per month, proposed to board and care for the indigent sick at $1.50 per day.10

There were two types of contracts let by the county boards of supervisors: a stated sum per month, or per year, for medical attendance or an amount daily for each patient cared for. Both types were subject to criticism as the holder of the contract was likely to hold patients to a minimum for a stated sum per month; or, if on a patient basis, likely to keep too many on charge to the county. There were charges against the holder of the contract either way and protests against the large outlay for the care of the indigent. Payments to the Sisters of St. Joseph for caring for the indigent sick at $1 per day were challenged in that they were too expensive.11

The word "hospital" carried a magic connotation even in the early days when the hospitals could provide merely food and shelter at best. Additions to the buildings

10. Minutes of the Board of Supervisors, Pima County, July 29, 1879.

11. Arizona Citizen, February 4, 1883, "Many people think that a county hospital would be cheaper than under the present method of having them cared for by the Sisters."
and improvements were made from time to time but they were never a luxurious accommodation—nor were they a paying enterprise. The citizens in Globe formed an organization, raised money by holding dances and socials, and built a hospital which provided good accommodations for the needy. The association encountered difficulty in keeping the project going even after the county paid for the patients sent there.\textsuperscript{12} St. Mary's in Tucson would have encountered similar difficulty had it not been for the railroad ward which aided materially in its support.\textsuperscript{13} Mother Monica of St. Joseph's in Prescott found it expedient to go in person to the railroad construction camps and contract for railroad employees to be cared for at the Sisters' hospital.\textsuperscript{14} The hospital in Prescott had three patients as charges of the county and five who paid their own way in April of 1881.\textsuperscript{15}

\textsuperscript{12} Arizona Silver Belt, February 23, 1884. "For wandering strangers and unfortunates like this, our hospital fulfills an important function and we hope the public will liberally support it, and we regret to hear it is languishing somewhat."

\textsuperscript{13} Arizona Citizen, January 14, 1883. "There are 21 indigent patients in the county Hospital" (St. Mary's); October 29, 1887, "Ten railroad men are in the hospital suffering from injuries received on the road."

\textsuperscript{14} Weekly Arizona Miner, August 26, 1881, September 2, 1881.

\textsuperscript{15} Ibid., April 23, 1881.
The sick and injured employees of the Southern Pacific Railroad averaged some twenty patients per month for St. Mary's in Tucson in 1882, the sick or hospital fund of that railroad was made up by deducting fifty cents per month from the wages of each employee.  

The Sisters appeared to be about the only group that could operate a hospital successfully, doubtless due to their devotion and attendance without regard to salary. Certainly they were devoted, as some of the Sisters died from sickness contracted in line of duty. Tuberculosis and erysipelas were noted by newspaper reports as the cause of death. Miss Nellie Cashman made a special trip to Tucson from Tombstone with the express purpose of bringing the Sisters of Mercy to that place to take charge of the city and county hospital. There is no report that the Sisters accompanied her on her return trip.  

A hospital of the finest quality was constructed in Tombstone, built by the county supervisors and completed in 1885. One ward accommodated twelve beds, two

other wards had from two to four beds; a dispensary, an operating room, and a kitchen completed the facilities. A former Army hospital steward served as manager and also assisted Doctor Goodfellow in surgery. Goodfellow took care of the county poor at the rate of from $8000 to $12,000 per year. Times were flourishing but there were many indigents among the brave gunmen of Tombstone.\(^\text{19}\)

The county hospitals followed the same pattern—from contracts let to private persons to the construction of a building for the purpose of a hospital. Maricopa County graduated from the small hospital built by Wharton and Sheets to a larger building in 1883, a one story brick building constructed as a hospital near the corner of Monroe and Maricopa Streets in Phoenix. The accommodations included a men's ward and a women's ward, a bath room, a kitchen, and a steward's room, and cost $3,700. Charges of mismanagement and neglect of patients, buildings, and grounds; of patients retained longer than necessary, of patients not kept there that should be there; of patients who should work on the grounds and keep them neat; of Grand Jury inspections and unfavorable reports; of private persons inspecting and finding fault; of neglect by the county physician and of the

\(^{19}\) Other physicians at Tombstone had charge of the county hospital and served as county physician from time to time.
county physician using the hospital for his own purposes, all were duly reported in Maricopa County. 20

Pinal County had those indigents requiring hospitalization sent to St. Mary's in Tucson until a building was rented from Mr. P. R. Brady in 1886 for a hospital. A hospital steward was in charge of the patients and the county physician, Doctor Harvey, was hired to attend them. 21

Graham County built its own hospital in 1888 on the courthouse grounds. Other county hospitals were established during the 1890's. A hospital was included in the Arizona Copper Company's building at Clifton by 1885; a prefabricated building was set up at Bisbee in 1884 by the Copper Queen at the insistence of Doctor Thomas Darlington; Doctor Warren E. Day advertised a hospital in the Bradshaws for the convenience of the miners at the Peck, Silver Prince, Black Warrior, and the Tip Top camps in July of 1880.

Accommodations for the sick, being what they were, did not attract those who had the means to afford a hotel room, or the means to rent a house. When health seekers arrived in greater numbers than ever after the railroads came to the Territory, hotels in Phoenix and Tucson were

20. The story of Maricopa County Hospital fortunes and misfortunes in the Phoenix Herald, 1883-1895.

21. Minutes of the Board of Supervisors, Pinal County, 1886-1889.
crowded not only with the health seeker, but by the winter visitor, the tourist, mining officials and other business entrepreneurs. Hotels offered furnished rooms and restaurant service, boarding and lodging houses burgeoned, and many private homes began to take in the health seeker.

The move to build sanitoria started early in Arizona, encouraged in part by the lack of commodious hotels and the affluence of some of the health seekers. The movement may have been instigated by the sanitorium built by Edward Trudeau at Saranac Lake, New York, in 1884, for tuberculosis patients. The idea of special accommodations for persons suffering from consumption was beginning to formulate in the minds of physicians if it was not clear as to the reasons behind it—especially by those undertaking to build a sanitorium in Arizona.

A Mr. Weaver was reported to have a sanitarium in Yuma by 1882, but there is little additional information on the subject. 22 A Sanitarium of North Arizona is mentioned in a history of the Territory in 1884, located in Yuma for patients that were sent there by surgeons on the coast. 23 The natural heat cure was beneficial for the cure


of Bright's Disease, consumption, rheumatism and neuralgia in a place noted for the complete absence of malaria.\textsuperscript{24} Agua Caliente Hot Spring had fifteen invalids there in 1879.\textsuperscript{25} Monroe Springs on Castle Creek was a favored retreat for residents of Prescott and Phoenix. In 1888 thirty people were there at one time at the lodging house run by a Mrs. Grove and daughter. A stage line left Phoenix weekly for the springs.\textsuperscript{26} Hooker Hot Springs, thirty-five miles from Willcox, was advertised widely in 1888, the springs reputed to contain medicinal value with six hot and one cold sulphur springs.\textsuperscript{27} Mr. H. C. Hooker and J. M. Trantham had constructed two large adobe buildings there for patrons in 1888. Two years later the advertisement stated that good board and finely furnished rooms with splendid baths could be had at Hooker's Hot Springs for $12 per week or $2 per day.\textsuperscript{28}

\begin{itemize}
\item \textsuperscript{24} Elliott, \textit{History of Arizona Territory}, p. 106. Elliott quotes Dr. A. M. Loryea of San Francisco; a Dr. A. F. Sawyer of the coast also sent his patients to Yuma.
\item \textsuperscript{25} \textit{Arizona Sentinel}, September 6, 1879.
\item \textsuperscript{26} \textit{Arizona Weekly Miner}, July 13, 1877; \textit{Daily Phoenix Herald}, August 23, 1888 and September 6, 1888.
\item \textsuperscript{27} \textit{Tombstone Epitaph}, July 7, 1888. The springs were located by a Dr. King, a somewhat mysterious figure who arrived in 1879 and who met a mysterious death in 1884; the doctor was something of a recluse, resented any intrusion on his property, had an old adobe building constructed which contained human skeletal remains discovered after his death.
\item \textsuperscript{28} \textit{Arizona Daily Star}, advertisement run for 1890-1891; later advertised as Gatewood Hot Springs.
\end{itemize}
Yuma advertised a sanitarium at the Southern Pacific Hotel, "The Sanitarium of the Southwest." Mr. S. S. Gillespie was the proprietor and the beneficial waters of the Colorado River were one of the attractions offered. The following year, Mr. E. S. Dodge, of Oracle, reported that his hotel was well filled with health seekers in the Catalina Mountains. Dr. George W. Liggett of Oswego, Kansas, visited the Oracle ranch and published a glowing account in the *New York Medical Journal* in 1891, extolling the beauty of the place, the joys of outdoor life, the superb food of tenderest beef and sweetest mutton, fresh vegetables all winter, and walking, riding and hunting for exercise. All in all, the climate of Arizona was recommended for tuberculosis sufferers and especially at this time, for the rebuilding of the system after "lymphazation of the patient."  

29. *Arizona Daily Star*, September 3, 1890. Advertisement stated that the Colorado River waters were remarkable for their curative powers.

30. Ibid., April 22, 1891, reports the hotel well filled. A Dr. J. J. Tuthill served as physician at the health resort or may have been a health seeker himself, died in 1898; the *Arizona Daily Star*, May 24, 1898, reported that he had spent two years at Oracle. George W. Liggett, "Arizona: A Winter Climate for Consumptives," *New York Medical Journal*, LIII (March 28, 1891), p. 367.

The doctors had surely done their part in bringing the attention of their fellow physicians to the superiority of Arizona's climate. Contract Surgeon Benjamin McPhail wrote an article for the *Virginia Medical Monthly* on the advantages of the climate of Arizona as early as 1874; Assistant Surgeon Charles L. G. Anderson read an article before the Washington County Medical Society in Hagerstown, Maryland, on April 9, 1890, entitled "Arizona as a Health Resort," which was later published in the *Medical Record*. Dr. William Hibbard also published an article in the *Medical Record* in 1893 which gave increasing argument that Arizona's climate was superior. Dr. Mark A. Rodgers published an article entitled "The Climate of Arizona" in the *Medical and Surgical Reporter* in 1896. Local doctors were quoted

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in the Arizona Daily Star where publisher Louis C. Hughes ran a daily column entitled "Tucson as a Sanitarium," and as Governor of the Territory, Hughes included statements by Dr. Scott Helm, Surgeon General of the Territory, relative to the claims of Arizona's climate resources. 34

The sanitarium movement got off to a great start in 1892; Gatewood Hot Springs formerly Hooker Hot Springs, advertised that the water contained Lethium, a metal which resembled potash and soda, and modern bath houses were to be erected at the spot where General West had sent a surgeon with sixty men to recuperate in 1862 and where Doctor King had sought and found "the fountain of youth—or life." 35

The Cochise County Sanitarium under Dr. Ira B. Hamilton, as physician in charge, with Dr. George E. Goodfellow, as consulting physician, was advertised widely. The water from the Huachuca Mountains was unsurpassed both as to quantity and quality, and the location was in the midst of the most magnificent scenery in southern Arizona. Rates for private patients were reasonable and conservative, public wards were large, commodious and clean, and surgical

34. Articles appearing in the Daily Star by Doctor Matas (November 15, 1896), Doctor W. B. Purcell (November 22, 1896), Doctor John Gaff (January 10, 1897), on climate and tuberculosis. Report of the Governor of Arizona, 1894, p. 51; 1895, p. 60.

35. Arizona Star, April 21, 1891.
operations of all classes were performed. Nowhere was there more aseptic atmosphere than in Tombstone. The medicinal and curative properties of Castle Creek Hot Springs was praised, the water especially cured numerous kinds of complaints. Transportation could be improved, the Arizona Journal Miner observed, and the Springs would rival many similar resorts throughout the country. Dr. Oscar Lincoln had observed at least a dozen cases of kidney diseases cured during his sojourn there.

Tucson proposed to build a sanitarium on the military plaza to cost $60,000 with furnishings one-half that amount. The sanitarium would take the entire twenty acres of the plaza, and have plenty of trees and a lawn to make an oasis in the desert. The Board of Trade held a meeting and Dr. Hiram W. Fenner gave some remarks on the healthfulness of the climate and the number of health seekers who came but who could not find sufficient accommodations. Fenner believed it to be a good investment. L. Zeckendorf subscribed $5000 and three days later capital stock in the amount of $50,000 had been subscribed, the

36. Epitaph, January 17, 1892. Edward Holbrook was steward, nephew of Dr. Handy; later became a physician.

37. Arizona Weekly Journal Miner, March 9, 1892.

38. The Arizona Star, November 12, 1891 and February 2, 1892.
remainder, or $10,000 was to be sold at $5 per share. The Star predicted that the hotel would pay not less than 12 percent per annum for every dollar invested.\(^{39}\)

The idea then was not a sanitorium as such, although the name gave it a rather high-sounding appeal. Never mentioned were accommodations for persons acutely ill, for the emphasis was on the ambulatory health seeker, the vacationer, and the tourist. The invalid seeking cures at either of the Hot Springs would, of necessity, need a strong constitution to travel to the springs and survive.

Phoenix had not been idle. In February, 1893, the plans for the Ward Sanitarium were well underway. This sanitarium was to be located one and one-half miles northeast of the town on a quarter section of land which had been laid off in 80 foot lots in a block of twenty-four. The building proper was to be in the form of a cross on a tract 300 by 600 feet, with accommodations for 75 guests—the building to be surrounded by spacious verandas and a promenade on top of the building for those desiring the sunshine of the day or the cool evening breezes. The grounds were on an elevation 18 feet above the town. The building would be constructed of brick, lighted by electricity and heated by steam heat. Cottages would be

\(^{39}\). Arizona Daily Star, April 9, 1892.
erected on the lot adjoining the main building for those who preferred living out. The lots were to be taken up by purchasers and sold at reasonable prices with the understanding that $50,000 would be raised by April 1st, and improvements to cost not less than that amount in building, furniture, grounds, and street improvements. If this amount was not raised by that date, all persons were released from their agreements. 40

Dr. William Henry Ward was president of the Sanitarium Company and filed the articles of corporation. The offices were located in the Porter Building and a crowd was reported waiting outside of the offices to invest. 41

Nothing more was reported on either the Tucson or Phoenix sanitariums. Dr. Goodfellow purchased the Cosmopolitan Hotel from Hiram Stevens in early 1893 for $2,800 cash down and several months later an incorporation was underway in Tucson to erect a large hotel on the site of the Cosmopolitan with Goodfellow offering to invest $10,000 and the hotel site. A total of $30,000 was already subscribed,

40. Phoenix Herald, February 9, 1893.

41. Dr. William H. Ward practiced in Des Moines until he came to Phoenix in 1891.
but the investment was not favored generally as many thought the site too far down town.\textsuperscript{42}

Dr. Charles H. Porter had plans to make Hooker’s Hot Springs into a sanitarium for the treatment of rheumatic diseases and diseases of the skin.\textsuperscript{43} California capitalists were reportedly interested in building a $25,000 sanitarium for asthmatic sufferers in Tombstone.\textsuperscript{44} Dr. William T. Barry of Florence leased the Southern Pacific Hotel at Arizola and remodeled it for a first class sanitarium in October of 1893. The handsome two-story building, with modern conveniences, was advertised as setting a good table, and especially adapted for pulmonary and lung sufferers.\textsuperscript{45}

Arizola, fourteen miles from the Casa Grande ruins, was a development of California capitalists. It was reported to be a beautiful place with streets lined with palm trees. Dr. J. M. Hurley, formerly of Carthage, Missouri, and a more recent resident of Pomona, California, held large

\textsuperscript{42} Goodfellow had leased rooms in a building on Warner Street, Tucson, for the hospitalization of his patients; later used the Cosmopolitan Hotel for that purpose. \textit{Arizona Daily Star}, January 7, 1893, April 1, 1893.

\textsuperscript{43} \textit{Phoenix Herald}, May 19, 1892; \textit{Arizona Citizen}, May 23, 1892.

\textsuperscript{44} \textit{Arizona Star}, June 28, 1893.

\textsuperscript{45} The \textit{Oasis}, August 17, 1893 (Arizola). Dr. W. T. Barry, popular physician at Florence (1892-1894), from Chicago but no record of his medical school. Departed the Territory following the death of his wife.
land interests in the surrounding valley harvesting large crops of wheat by 1893. Dr. Barry departed and the sanitarium became a hotel again.

The financial depression of 1893 evidently discouraged investors for the numerous ventures failed. Yet the move to establish a sanitarium began again shortly thereafter. Old Fort McDowell was fast becoming quite a sanitarium in 1894. Dr. Charles D. Rich had five patients under treatment there by the last of January of that year. Health seekers were enjoying the Acadia, at Oracle, under the proprietorship of Mr. Dodge, and the Catalina Mountain resort was advertised as cool and pleasant in July, and entirely free from dust. Dr. William P. Chenoweth associated with Dr. F. H. Wells, Mr. H. K. Chenoweth, and others, for the International Sanitarium to be built in Nogales in 1895. The contracts were let in March of 1896, and the building was completed in August of that year at a cost of $10,000. Located on Sonoita Avenue, between Crawford and International Streets, the handsome and imposing brick structure was 90 by 120 feet with an inner court of


47. Ibid., January 31, 1894.

48. Ibid., advertisement in July 24, 1895 issue.
25 by 80 feet. It was open for business on the first of April in 1897.49

Why not have a surgical institute in Tucson? Tucson's unrivalled climate would then become known throughout the world, said the Star in 1895, and specialists from the East would bring their critical cases to Tucson.50 Dr. Mark Rodgers thought that a surgical as well as a medical sanitarium would become world famous. Dr. H. N. Matas made plans for a Tucson sanitarium on grounds that he had purchased adjacent to the University. He proposed to build twelve handsome brick cottages suitable for one or two families at $2,500 each, and a main building for the reception of patients which would also serve as the home of the resident physician.51

Tucson had an opportunity that should not be allowed to pass by, a local newspaper advised, for there would be excellent accommodations for 500 patients at Fort Lowell and the government was now advertising the buildings for sale. This would make a handsome and convenient suburban village to Tucson, with no time lost in arranging some plan

49. The Oasis, November 23, 1895, January 7, 1896.


51. Ibid., May 19, 1896. The doctor had purchased land in Drakes addition, a sixty-five acre tract; reported that there was sufficient water to irrigate the tract.
for the purchase of the buildings and grounds. An Assistant Surgeon of the United States Marine Hospital Service came to investigate the sanitary conditions of Prescott with the view of establishing a sanitorium for the treatment of tuberculous patients at Fort Whipple. A Doctor Reynolds from Chicago came to look over the Territory for a site suitable as a sanitorium location in 1898 also. Doctors Fenner and Matas expressed their views on the matter with the former favoring a location in the Santa Catalina Mountains and the latter holding to his preference for small cottages and one large building for general use located near the town.

Doctors Purman and Ancil Martin secured a five year lease on the Alhambra Hotel in Phoenix in April, 1896, for the purpose of opening a sanitarium there. The hotel was refurbished with rich brussels carpet, furniture of antique oak and mahogany, with beautiful portieres and fancy table covering—an air of elegance and yet a homelike appearance.

52. Arizona Daily Star, September 1, 1896. Fort Lowell was abandoned in April, 1891.


54. Arizona Daily Star, September 18, 1898.

55. Arizona Weekly Journal Miner, April 1, 1896.
Electric bells in each room summoned the matron. The bathroom feature was worthy of special attention with rolled top porcelain tub, hot and cold water, and flush toilet with "all late parts attached." The sanitarium, located at Third Avenue and Adams Street did not flourish too long for by August of the next year, the Doctors Connors, osteopaths, had secured the Alhambra on the corner of Third Avenue and Adams for an osteopathic sanitarium.57

"The Phoenix Sanitarium," located at 630 North Center Street, was ready to receive patients in February of 1896. The rooms were large and sunny and each had a fireplace. Dr. Harrison Edward Stroud was the general practitioner in charge, gave special inhalations and administered oxygen in lung disease.58 "The Phoenix Infirmary" under the aegis of Doctors Henry A. Hughes and Logan Demeron offered facilities for the treatment of all medical and surgical cases.59 The Sisters of Mercy

56. Arizona Gazette, May 12, 1896.

57. Phoenix Herald, August 20, 1898. The doctors, D. L. and W. J. Connor, arrived in Phoenix with Colonel A. L. Conger in 1898, a prominent Ohio Republican, who suffered a stroke of paralysis and who advocated treatment by the osteopathic method, sponsoring the first two osteopaths to arrive in Arizona. Conger left, the doctors no longer operated the sanitarium after March, 1899.

58. Ibid., January 24, 1896.

59. Arizona Gazette, January 8, 1885. The facilities were described but the location was not given except that it was in Bill's addition. Accommodations were available to all physicians for their patients.
completed their hospital in 1895 in Phoenix which was available to patients of all doctors, located between Fourth and Fifth Streets and had six rooms. 60

In 1896 the Sisters of Mercy also established a hospital in Prescott which offered accommodations for the sufferer of chest conditions. 61 Later additions were made to both hospitals under the Sisters of Mercy, at Prescott and in Phoenix. 62 In Tucson, the Sisters of St. Joseph erected a sanitorium on ten acres of ground secured by them and adjacent to St. Mary's Hospital. The building,

60. Phoenix Herald, January 24, 1895. The hospital was on Polk; the convent on Fourth and Monroe Streets with a three-story brick building serving as school.

61. The Sisters of St. Joseph discontinued the Prescott Hospital around 1883; several kinds of hospital facilities served Prescott thereafter until 1896. It is not known why the hospital at Prescott was discontinued as it appeared to be well patronized by paying patients as well as county patients. There may have been some opposition to awarding the contract for the care of the indigent to the Sisters' Hospital, as was the case in Tucson.

In 1886, Sarah Ford received the contract for the care of the indigent sick; in 1888, a Mrs. Mary Bowen established a private hospital which also was used as a county hospital; by 1891, the county farm was in active operation and invalids were sent there. Dr. Day became the physician of the county hospital.

62. A new building was constructed in Phoenix in 1900 and enlarged in 1911. The hospital in Prescott was relocated. The Oasis, August 23, 1896, "The Sisters' Hospital in Prescott recently has been enlarged by the erection of a new two-story building." The hospital burned in 1939 and was not rebuilt. (Information from Mary Sills, office of the Yavapai Health Department).
constructed according to plans formulated by Dr. H. W. Fenner, became known as the "Round House." It served the people of Arizona from the time of its erection in 1900, as a sanitorium, and later as part of the hospital accommodations of St. Mary's until torn down in 1965.

There were numerous other moves, or reported moves, to build sanitoria in several different communities during these years, but none came to fruition. Dr. A. M. Green became the instigator for a sanitarium to be located in the Huachuca Mountains at Ramsey Canyon. The city of Mesa decided to donate land for the estimable Dr. C. D. Weeks on which to build a sanitarium in 1900. Two modern hotels—one in Phoenix and the other in Tucson—appeared to suffice for the would-be investors in the sanitarium enterprise. The Adams Hotel in Phoenix was unrivaled in the entire Territory—Tucson acknowledged the fact—but came up with the New Orndorf which was second in accommodations and modern conveniences. The New Orndorf was the old Cosmopolitan Hotel. Dr. Goodfellow sold the building in

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63. Information from Sister Aloysia, Sisters of St. Joseph Carondelet, St. Mary's, Tucson.

64. The Oasis, April 22, 1899.

65. Arizona Silver Belt, January 4, 1900. Dr. O. D. Weeks practiced in every town and village and was often arrested for his questionable practice and his questionable diploma.
1896 to Charles De Graf who remodelled it. Opened in January of 1897, the hotel boasted baths on each floor and bells in each room to summon the attendants. 66

The health resorts at Oracle under E. S. Dodge, and at Agua Caliente Hot Springs under George H. Thompson, offered comfortable accommodations. 67 A number of tent cities appeared in Tucson and Phoenix of which little is known save the objections of the people living nearby these temporary and poorly planned arrangements. 68 The colonies usually had from twelve to fifteen tents in a block. Many units were not tents at all but a strip of canvas overhead with all manner of siding for protection against the weather. 69 Occupants used the nearby ditches or arroyos for disposing of garbage and waste—in Phoenix it was the irrigation canals—and thereby a sanitary problem was created.

Some tent colonies were under expert management, providing more care in the accommodations offered so that

67. Advertised in the Star in 1898; Acadia Ranch Health Resort at Oracle and Agua Caliente Hot Springs. Accommodations at the latter were minimal, Transactions of the Arizona Medical Association, 1901, pp. 15-18.
69. The tent colonies existed in Tucson, Phoenix, Yuma, Mesa, Prescott, and elsewhere.
the patients received maximal benefit from the open air method of treatment. Pamsetgaaf, a word contrived from the first letters of the requirements for treatment of tuberculous patients as set forth by the eminent Osler--pure air, maximum sunshine, equable temperature, good accommodations and food--was the name of the tent hospital located in the pines near Prescott and under the medical direction of Dr. John W. Flinn. The canvas tents were provided with wood floors and a veranda so that the patient could spend time in the open air and yet be protected from the weather. Maximum rest and minimal exercise was prescribed and together with the good food gave the patient the essential requirements of treatment as it was determined at that time--and at moderate rates besides.

Numerous other sanitaria were established during the territorial period and many shortly thereafter. The health seeker continued to come to Arizona and be

70. Dr. John W. Flinn, a graduate of McGill University in 1895, came to Kingman, Arizona in 1898, to Prescott in 1902. Active in the Association for the Prevention of Tuberculosis, the Arizona Medical Association, and Yavapai County Medical Society.


72. The Mira Monte Sanitarium established near Nogales in 1911; a Sanitarium at Pinedale, Arizona had a prospectus in advance of their building, 1913; and doubtless numerous others that were not recorded.
accommodated in hotels and boarding houses, the sufferer with tuberculosis along with those seeking relief from other conditions. The danger attendant to such an arrangement was one that the doctors had to consider for tuberculosis was becoming a very serious problem, superior climate notwithstanding. How to control the problem was another matter for a divergence of opinion existed among the medical profession at that time over the communicability of tuberculosis.

There were eight county hospitals in existence at the end of the territorial years, all with a physician designated in charge. A territorial enactment in 1889 stipulated that no person would be a qualified bidder for the care of the indigent sick who was not a regularly licensed physician and surgeon. The bidder would also be required to comply with the laws of the territory in regard to the regulations relating to the practice of his profession. Each bid would specify distinctly the price proposed to be charged for each day's attendance upon indigent sick persons, including medical attendance, medicine, food and lodging. Territorial papers observed that this law made the physicians a privileged class, that any person should be allowed to furnish food and general maintenance.

73. Enacted by the Fifteenth Territorial Legislature on March 21, 1889.
for the sick; this service could be done by the non-
professional as well as the professional physician.\footnote{74}

Exceeding the number of county hospitals were
those of private ownership throughout the Territory. Mining
companies and railroads maintained eleven hospitals for
their employees and beneficiaries. The United States
Government had a hospital at Laguna Dam in Yuma, and one
at Roosevelt, Arizona. The prison hospital at Yuma also
boasted twelve beds, maintained by the territorial govern-
ment.\footnote{75} Four privately owned sanitoriums were located in
communities throughout the Territory, and six privately
owned hospitals served the paying guests.

Dr. Prince A. Melick built the Williams Hospital
in 1897 and served as physician in charge of the fourteen-
bed structure for forty years. Mrs. Melick served as
secretary and nurse. Dr. Melick also had some side-
investments in ranching, mining, and in an electric light
and power company. The doctor was a division surgeon for

\footnote{74} \textit{Epitaph}, April 9, 1899, Editorial comment.

\footnote{75} The Territorial prison at Yuma attracted physi-
cians on a transient basis from time to time. Drs. de Corse
and Taggart served longer than any other physicians in
connection with their practice in Yuma. Marshall F. Price
served one year (1883-84), a former Army surgeon; Henry
Yardwood Baldwin (1884-86); Roland Lee Rosson (1886-70);
J. L. Shibley (1887); Dr. Peter G. Cotter (1893-96); Thomas
H. Sabin (1896-98), among the early ones. Dr. Cotter started
the prison hospital.
the Santa Fe Railroad, physician to the Saginaw-Manistee Lumber Company, and was active in the Arizona Medical Association throughout his medical career.  

Enoch B. Ketcherside and James A. Ketcherside, father and son, established the Yuma Heights Sanitarium in 1904 and were also the physicians in charge of the Yuma County Hospital. The Ketchersides were graduates of the University of Tennessee Medical School, came to Arizona in 1895 and settled in Jerome. Dr. James Ketcherside was appointed prison physician in 1907 and superintendent of the Territorial Insane Asylum in 1909, where he served until 1911.

The problem which confronted the Territory from the beginning, and which was never satisfactorily resolved throughout the territorial period, was the care of the mentally ill. Until the Sixth Territorial Legislature took action in the matter in 1871, the care of the insane was up to the county officials with confinement of the person declared to be insane placed under guard or in the jail house. Minutes of the county board of supervisors record monies paid out for the guard of insane persons, board and

76. Dr. P. A. Melick came to Williams in 1895, and remained to become a prominent physician and citizen of that community, not only as a physician but to invest his time and money in other worthwhile enterprises.
lodging provided, until such persons could be confined to a safe place. Doctors appeared to receive hazardous duty pay for their attendance on an insane person. The sheriff received extra compensation for guarding the person or for hiring additional guards.

The Territorial Legislative Assembly in 1871 outlined the procedure for declaring a person insane—he was to be brought before the probate judge and examined by one or more graduates of medicine and reputable practitioners thereof. Between 1871 and 1873, negotiations were underway to find an institution that would care for the insane of the Territory as counties had found it prohibitive to keep those patients for a long period of time. The confinement in the county jail was a liability for the person as well as the jailers. The Seventh Territorial Legislature in 1873 authorized the governor to enter into contract with the authorities of the State of California for the accommodation of insane persons in an institution there. A contract was then negotiated with the private asylum of Doctors Langdon and Clark at Stockton, California, for the care of

77. The Howell Code defined "insane person" to be construed as to include an idiot, a non compos, lunatic, and distracted person.

Acts, Resolutions and Memorials of the Sixth Territorial Legislative Assembly, p. 64.
all insane patients committed to that institution from Arizona. The responsibility of the county ended when it had transported such persons, declared insane by the procedure prescribed, to Stockton, California, and delivered them to the custody of Langdon and Clark.

Yavapai County allowed John G. Campbell $750 to transport an insane person from Prescott to Stockton in 1872. This was transportation by wagon, the patient strapped in the wagon, two men to accompany the driver, a distance of some 600 miles. A Mr. A. E. Davis transported a man from Mineral Park to Stockton in a covered spring wagon at a cost of $400. Bids were let to the lowest bidder for the transportation. Langdon and Clark charged the Territory $10 per week for the care of each insane person committed there. Not provided for was the return transportation of the patients once committed and declared cured.

In 1877 the Territorial Legislature requested that a doctor be appointed to visit the patients confined at the Stockton Asylum and make a report on those patients sent there from Arizona. Governor Anson P. K. Safford appointed

78. Acts, Resolutions and Memorials, Seventh Territorial Legislative Assembly, January 20, 1873, p. 79.

79Minutes of the County Board of Supervisors, Yavapai and Mohave Counties.
Doctor A. E. Stockton of Stockton, California, to perform this duty and a report on each patient's progress was printed in the territorial newspapers thereafter. 80 Nine persons from Arizona were confined at the Stockton Asylum in 1879, some of whom could have been sent out for a few months, Doctor Stockton reported, but transportation and re-entry would not warrant it. Some were improved, some were no better, and one had died of consumption. 81

Beginning in 1882, territorial newspapers carried items agitating for the care of the insane in Arizona. The contract at that time was $6 per week per patient confined in Stockton, which was considered to be quite expensive. High transportation costs were pointed out as needless expenses for the counties, and patients could not be returned to their homes for visits. Various people had visited the institution at Stockton and reported shocking conditions. Attendants were drunk on duty and no system existed for the care of patients. The entire procedure should be brought to the attention of the Prison Commission. 82

80. Arizona Citizen, July 24, 1879, report of Dr. Stockton addressed to Governor J. G. Gosper, Esq.

81. Ibid. Doctor Stockton was authorized $40 for making each visit.

82. Arizona Sentinel, September 2, 1882; Arizona Weekly Miner, October 28, 1881; and the Phoenix Herald, April 15, 1884, to cite a few.
The Thirteenth Territorial Legislature, meeting in 1885, appropriated the money for the building of the Insane Asylum at Phoenix—the cost to be $100,000. The measure was opposed by some in that the expense would be greater than the amount charged by Langdon and Clark. Only a few Phoenix citizens wondered if it would be such a good idea to have the insane asylum in their city. Dr. Oscar Lincoln, of Prescott, was one of the three directors named for that institution, and there followed immediately the charge that the directors were selling the bonds at a private sale when they were to be offered at a public sale.

The magnificent structure was ready for occupancy in August of 1886, but Governor C. M. Zulick refused to have the patients transferred from Stockton until months later. Governor Zulick had also found it inconvenient to attend the cornerstone laying the preceding March.

There was ill feeling on the part of many people concerning

83. *Daily Phoenix Herald*, February 4, 1885, "Will Phoenix lose her chance for the capital by grabbing at an Insane Asylum bait? Of what benefit is an insane asylum to the valley? Will it eat more of our pork and beans? Will it bring money into the valley? Is it more of an inducement for settlers to gather about us than the capital would be?"


the entire plan, but this became insignificant when compared with the contention and disagreements that followed when the asylum was in operation.

Newspapers speculated on the appointment of the superintendent for the asylum. A number of doctors were said to have applied. The appointment of Dr. Oscar L. Mahoney to that position was announced in mid-December and by December 30, 1886, the patients were transferred from Stockton to the Phoenix institution. I. L. Ward was the lowest bidder for the transfer of patients at a cost of $42 per patient. Seventy patients accompanied by six attendants brought the patients by train from Stockton. The papers reported that this was a skillful job. By the second week of January, 1887, the asylum had become a place of sudden interest on the part of the people of Phoenix.

Within three months one patient was sent away cured and the paper predicted that three more would be sent away cured within the next week. The doctor's wife, Virginia Russon Mahoney, also a graduate physician, acted as matron.

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86. Oscar L. Mahoney came to Arizona in 1883 engaging in general practice with a specialty in diseases of the eye. Served later as superintendent of the Maricopa County Hospital for ten years.

87. Arizona Miner, December 30, 1886; Phœnix Herald, January 13, 1887; January 19, 1887.
for the women's ward. 88 All went well for one year when a discharged employee published charges against the superintendent. He stated that he had to wait upon Doctor Mahoney rather than upon the patients; that the attendants had to eat in the wards rather than in a kitchen provided for that purpose; that Doctor Mahoney entertained his friends, who occupied seven or eight rooms, with board being furnished by the Territory; that patients were tied hand and foot to the iron bedsteads with no mattress or pillow; and that inmates were on the payroll at $30 per month. Various other charges of negligence and misconduct were also publicized. 89

Other complaints had been forthcoming from time to time, mostly about the expense in running the institution; the cost of $1600 per month appeared outrageous to many. Dr. Mahoney resigned although the newspapers thought that he should not be allowed to elude the charges brought by the former employee. 90 Dr. Isaac S. Titus, a former superintendent of the Stockton Asylum, was promptly hired to

88. Virginia Russon Mahoney practiced with her husband in Phoenix from 1884-1886.


90. *Arizona Citizen*, June 2, 1888; and other papers outside of Phoenix complained that the institution was being run by Phoenix officials when the asylum belonged to the Territory as a whole, not Phoenix.
replace Mahoney, came highly recommended, and brought a library weighing 6000 pounds with him. The Fifteenth Territorial Legislature commended Doctor Titus for his efficiency in administration, the expenses of maintaining the asylum being $4,754.42 less than the year previous. Other territorial newspapers observed that the howl about home rule was certainly set aside in this case; an outsider having been appointed to a position that twenty physicians in the Territory could have filled just as well.

The newspapers noted many details of the administration: a steward was discharged and Doctor Titus hired another; a woman admitted to the asylum developed typhomalaria and died, her body covered with welts--from natural causes, the authorities stated. Dr. Titus gave his report at the end of 1889. The well had caved in and another well was needed with brick curbing in place of wood; the cesspool had filled up and another one should be built; the kitchen range was destroyed by chemicals in the water, the range having to be kept hot at all times to keep the water pipes hot; a fence was needed to keep the roaming herds from

91. Kelly's Legislative History, p. 142.

92. A number of physicians came to Arizona applying for the position; those applying had been here but a short time, one being Dr. Henry A. Hughes who came in 1886.

93. Phoenix Herald, December 6, 1888; Clifton Clarion, July 10, 1889.
the garden. There were 72 patients—54 male and 18 female; the monthly expenditures were $1,766.40, of which $827.99 was for current running expenses and $948.41 was for salaries which made a per diem expense of 0.19 per capita.\textsuperscript{94} The Board of Directors refused to expend the appropriations made by the Legislature for the improvements needed and Doctor Titus resigned.\textsuperscript{95}

Dr. Luther C. Toney relieved Doctor Titus in April of 1890.\textsuperscript{96} Toney fared no better, having charges published in the local papers of his treatment of the patients by a discharged woman employee.\textsuperscript{97} Dr. Toney answered the charges, explaining the use of hypodermics administered, of wet packs and forced feeding as part of the treatment. Dr. Toney was more rigid in his discipline than his predecessor, a

\textsuperscript{94} Phoenix Herald, January 9, 1890.

\textsuperscript{95} Whether Doctor Titus resigned or was requested to do so is not known. He published in his report that the Directors refused to expend the necessary money.

\textsuperscript{96} Luther C. Toney served as contract surgeon 1882-1890, practiced before that date in New York, Illinois, Washington and Nebraska. He moved several times after 1891, to Bisbee and El Paso, Texas. Doctor Titus died in 1892 in Phoenix.

\textsuperscript{97} Phoenix Herald, July 31, 1890. The charges originated in the Gazette, copies of which are not available. Mrs. Weed, the discharged employee who made the charges public, had no ill feelings toward Doctor Toney, but thought she should have been given some notice. Charges mainly were the administration of hypodermics and the treatments instituted by Toney.
reporter announced after a visit to the asylum, the charges were unfounded. There were 80 patients under the doctor's management and his administration was praised for efficiency. 98

The $6000 turned back by the Democrats could well have been spent in improvements, Senator W. H. Hardy charged, in investigating the maintenance of the building. The roof leaked—it should have had overlapping metal in the beginning—the plastering was impractical as the floors and ceiling should have been of steel. The fence that had been erected was better than nothing but none too good, and only the walls of the building were sound. 99 Electric lights and water from Phoenix would improve the place, and the patients could well be put to work on the grounds.

Expenses rose to sixty-nine cents per patient per day, a total cost of $1,876.73 for the month of July, 1890, with 74 patients under treatment. Two employees were discharged for drunkenness, and there were charges of mismanagement. The Phoenix Gazette was relentless in its criticism of the superintendent. 100 If the charges were

98. Phoenix Herald, October 9, 1890.
100. Arizona Star, July 9, 1890; July 29, 1891. The Gazette was published by Dr. Henry Hughes who wanted the job for himself, according to the Arizona Miner, August 21, 1891.
true, then Doctor Toney should be removed, the *Arizona Star* contended. ¹⁰¹ The *Phoenix Herald* praised the administration of Doctor Toney. Reports were made out by every employee and full records were kept on all patients, the paper stated, and any visitor could tell at any moment just what happened to the patient from the time of admission to the moment of inquiry. A fire alarm bell had been installed so that attendants could be summoned to any part of the building in a moment. Constant vigilance had to be maintained and it so happened that Mrs. Toney entered a ward and found a patient kicking the stove over by way of diversion. This episode was an argument in favor of steam heating, which should have been adopted at the outset. The building had electric lights and was also protected against floods as patients had worked on the levees to prevent a recent flooding of the asylum. Inmates also painted the walls and a carpenter was building a library. ¹⁰²

Dr. Toney resigned in August of 1891 and Doctor Joshua Miller, practicing physician in Prescott, was appointed by his friend, Acting Governor N. O. Murphy. Dr. Miller remained for two years and then resigned, presumably at his own request or the fact that a new governor was

appointed. Governor L. C. Hughes appointed Doctor Dennis J. Brannen of Flagstaff, who did not want the job and declined. "Is the Governor going outside the Territory to get a superintendent for the Insane Asylum?" the Phoenix Herald inquired, and immediately answered its query by saying that no physician in Arizona, fitted for the position, could afford to sacrifice his practice for the salary of $2500 per year. 103

Dr. Ira B. Hamblin who served as first assistant to the physician in charge of the insane asylum in Columbus, Ohio, was appointed by Governor Hughes in June of 1893. The doctor was not an invalid, the Herald explained; he had just a minor throat affliction which the Arizona climate might improve. 104 Dr. Hamblin made many improvements by installing a metal roof, a new kitchen, and by using the patients to keep the grounds in good condition. Ninety-seven patients were under the care of the doctor and his estimable wife. The Star praised the appointment, predicted that a great reform would be inaugurated and the cost of maintenance would be greatly lowered, and that the doctor had long experience in the matter. 105

103. Phoenix Herald, May 11, 1893.
105. Ibid., the Arizona Star was published by Governor L. C. Hughes.
The editor of the Gazette called upon the asylum to see what manner of conditions needed remediying and found that the foundation of the building was sagging, the plastering falling off, the plumbing was horrible as slop and sewage had to be emptied by hand, water poured through the roof, and the whole place gave an appearance of desolation. Dr. Hamblin had to remedy all of these defects which resulted in the charge of enormous expense in running.\(^{106}\)

Patients were now allowed the liberty of the farm at stated intervals whereas under past management, some were locked up and others chained down. The lock and chains had been removed and more modern methods employed in the treatment. Those with homicidal manias, instead of being thrown into dungeons as if they were criminals, were handled with firmness and kindness, the results being that little difficulty was experienced in their management. Mrs. Hamblin supervised the women's wards, and her experience in the best asylums of the country was proving of great value in Arizona. The management was also most economical, the Star predicting that it would be 33 percent less than last year.\(^{107}\)

A new roof was put on, the old roof being used as a ceiling for the wards, and an entirely new foundation made

\(^{106}\). Phoenix Gazette, June 6, 1893.

\(^{107}\). Arizona Daily Star, August 11, 1893.
for the building. Drainage was still imperfect for the basement was entirely flooded with sewage. A new kitchen and dining room were among the necessary requirements in addition to a new sewage system.\textsuperscript{108} There were reports of patient cures—a patient admitted in the last stages of consumption and hopelessly insane was admitted in May and by August of that same year, discharged completely restored to health in mind and body.\textsuperscript{109}

Dr. Hamblin was asked to resign when Governor Hughes departed the governor's chair in 1896, presumably to make room for Doctor Henry A. Hughes, who finally received this long sought for appointment.\textsuperscript{110} All employees under Doctor Hughes had to be Arizonians and Democrats, the \textit{Herald} observed.\textsuperscript{111} Dr. Hughes sent three wagon loads of patients to the city to view the circus and gave the patients a treat at Christmas by supplying a turkey-duck-goose dinner. Hughes served until the new administration when Governor Myron McCord re-appointed Dr. Hamblin in 1897.\textsuperscript{112} When Governor

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\textsuperscript{108} \textit{Arizona Daily Star}, August 13, 1893.
\textsuperscript{109} \textit{Phoenix Herald}, June 25, 1896 and July 2, 1896. Doctor Hughes was appointed by Governor Benjamin J. Franklin, served less than a year.
\textsuperscript{110} \textit{Ibid}.
\textsuperscript{111} \textit{Ibid.}, July 2, 1896.
\textsuperscript{112} \textit{Ibid.}, October 1, 1896, October 8, 1896, December 31, 1896.
\end{flushright}
N. O. Murphy became Governor in 1898, he re-appointed Doctor Miller.

The hope was finally expressed by some of the territorial papers that the position of superintendent of the insane asylum would cease to be a political football, and that a good administrator would be retained as head of the institution which, in its ten years of existence had six changes of administrators. Dr. William H. Ward, appointed superintendent in January of 1899, retained that office until 1906, a record for that time. Until the end of the territorial period, three more superintendents had charge of the asylum with Doctors Ray Ferguson (1906-1908), James A. Ketcherside (1908-1911) and Herbert K. Beauchamp in 1911 to 1912 when A. C. Kingsley was appointed to that office on April 1, 1912.

The superintendents, operating under pressures from political, personal, and economic groups, fulfilled their


114. Dr. Ward held extensive investments in Phoenix real estate; opened an office in the Cotton Block; originally came to Arizona for his wife's health. He was seventy years old when appointed.

115. Milestones, A History of Seventy-Five Years of Progress at the Arizona State Hospital, 1887-1962 (Phoenix, 1962), compiled by the publication committee, Eli Schlosberg, Chairman, gives a good historical sketch of the institution and the changes made over the years.
obligations as well as could be expected under those circumstances. The emphasis was on custodial care and economic management; the protection of the community from the deranged person. The utilization of employees untrained in the care of the mentally ill, and the inadequate physical plant that broke down and fell far short of satisfactory accommodations would have taxed the best administrator. Charges were always exaggerated and the interference, generally by persons who knew less about the matter, resulted in some uncalled for criticism against the doctors personally. Treatment of the insane, above and beyond mere custodial care, would await another generation.

Addiction to alcohol and narcotics was fairly common and a frequent cause for committing a person to the insane asylum. Saloons were one of the first necessities of the early mining camps. The sale of opium and other narcotics was governed by some regulation except the one prohibiting the sale of the drugs. Opium dens occupied

116. Until the law restricting the sale of morphine, opium, or any of its alkaloids, extracts, cocaine and chloral, went into effect on March 16, 1899, all such preparations could be purchased at the drug store. The only restrictions which existed were: the pharmacist had to have a license to sell the drugs, a proper label was required, the use of such drugs to commit a felony was prohibited, the pharmacist was to keep a record of all purchases of lethal drugs with the name of the purchaser thereon. Revised Statutes, 1877.

The law of 1899 required that the above named drugs were to be sold only on prescription thereafter.
the attention of village authorities mainly because they were kept by a Chinaman and there was much general dislike for the Oriental during the 1880's in western territories and states. Opium dens were a nuisance, declared so by village ordinance, and a campaign to rid the community of the dens was in effect at all times. The sale of morphine, laudanum, and other narcotic preparations went on unrestricted.

Patent medicines, guaranteed to cure the individual of the alcohol, opium, and morphine habits, were advertised in all papers. Among the many institutes that sent their representatives to Arizona, none received the welcome that the "cure" for alcohol and opium did.

Territorial papers carried the notice of an institute proposed by Doctor Leslie Keeley of Dwight, Illinois,

117. Articles on opium smoking and the keeping of opium dens abound in territorial papers: Territorial Enterprise, August 15, 1877; Arizona Miner, October 24, 1879, and March 25, 1880; Arizona Citizen, December 4 and July 26, 1881; Tombstone Nugget, September 3, 1881; Epitaph, April 4, 1882; Phoenix Herald, March 17, 1884.

All towns and villages had ordinances which prohibited the smoking of opium; territorial papers expressed the general antipathy for the Chinese in all towns and a boycott was urged against employing them in homes or in patronizing their laundries or wash houses.

118. Tombstone Epitaph, April 13, 1889, a small boy was sent to the drug store for the laudanum that a woman used to commit suicide; Arizona Citizen, March 13, 1886, a soldier purchased two ounces of laudanum which he used to commit suicide.
for the cure of drunkards. The institute would cost $600,000 the papers reported; the eminent doctor could not have chosen a better field. The taste for intoxicating beverages was eradicated within ten to twelve days, another newspaper announced, the hypodermic injections of chloride of gold were being used with wonderful results in Illinois. There were thirty-three branches of the Keeley Institute in operation by March of 1892, another paper reported, and in all 50,000 persons had been cured. The injections of the bichloride of gold were mere elements only, Doctor Keeley was reported to have stated himself, his method being a continuous graduated system of treatment. Only those anxious to be cured were taken for treatment.

The Bichloride of Gold Institute of Pasadena, California, advertised in territorial newspapers by May of 1892. The item included the statement that the Keeley Cure for dipsomania might be recognized by law, that every person sentenced to prison as a result of the intemperate use of

119. Arizona Silver Belt, January 16, 1892.
120. Ibid., February 20, 1892.
121. The Arizona Star, March 27, 1892. Dr. Keeley, the Star reported, was born in St. Lawrence County, New York State. Served as surgeon in the war. Beyond that he did not care to discuss personal history. The company was composed of the doctor, a brother-in-law, and a young chemist of Chicago, and profits were in sight to the extent of one million a year from the Dwight establishment alone.
alcohol might be required to take this cure at the prison hospital; the Legislature of Ohio was considering this. Also advertised was the fact that the Bichloride of Gold treatment would cure persons of the cocaine, morphine, chloral and tobacco habit. The "Cure" was given at an institute where a pleasant boarding house, at very reasonable rates, was available. People were invited to come and see, and to talk with patients undergoing the cure. A Doctor F. F. Rowland was in charge of the Pasadena Institute.

The Bichloride of Gold Institute in Tucson was a marked success, the Star announced by July 28, 1892. A large number of persons were cured of the drink habit and some had been cured of opium and morphine addiction. It was a worthy institute, the paper pronounced, and it was now proposed that the state take it up and introduce the treatment into all of its prisons and wherever a person committed an offense as a result of intoxication. Dr. Chenoweth was reported to have introduced the bichloride of gold treatment in Nogales and Doctor Matas held the agency in Tucson, with both institutes in Tucson and Nogales doing

122. Arizona Journal Miner, May 11, 1892, advertisement.
123. Ibid.
exceptionally well. Thirty people had been cured in Tucson and the number in Nogales was not given.\textsuperscript{125} "The International Bichloride of Gold Institute" in Tucson was located on Pennington Street, opposite the court house.\textsuperscript{126} When Doctors Matas and Garnett left for a trip to Mexico City, Doctor Whitmore took charge of the Institute.\textsuperscript{127}

Dr. I. H. Moore opened an institute in Phoenix and advertised the "Arizona Ensor Institute" for the treatment of the liquor, morphine, opium, and tobacco habits.\textsuperscript{128} This institute would accept and guarantee to cure the worst cases of liquor, morphine, cocaine, and tobacco habits provided the mind was in a sane condition. Ladies were handled by the institute as well as men, with private treatments if so desired. There were fourteen large rooms with baths attached, and the treatment lasted three weeks

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\item \textsuperscript{125} Arizona Daily Star, October 11, 1892.
\item \textsuperscript{126} Ibid., advertisement in the October 22, 1892 issue.
\item \textsuperscript{127} Ibid., October 24, 1892. Dr. A. A. Garnett of Colorado Springs opened an office over Martin's Drug Store in 1891; no additional mention of the doctor after his departure for Mexico City in October of 1892. No record of diploma.
\item \textsuperscript{128} Arizona Journal Miner, advertisement in the December 7, 1892 issue. The only Dr. I. Moore on record was a Dr. Isaac Moore who resided in Bisbee in 1888. The Epitaph, October 16, 1892, mentions that Dr. Moore, former Bisbeeite, was in from Chicago.
\end{itemize}

The only location mentioned in Phoenix was that it was in the Gibson Block.
for ordinary cases, difficult cases required a little longer. The cures were given without pain or nervous shock and the medicine given contained no drug which would create an appetite of itself. The Ensor Institute enjoyed marked success at the beginning with its first patient graduated in December, two weeks after it opened. There were about forty persons in Prescott that were likely candidates for the cure, the Miner estimated. Phoenix papers announced two graduates of the Ensor Institute and both were loud in their praise of the treatment, in addition, one of those graduated was one of the most confirmed drunkards in the Territory.

The appearance of the Keeley representatives in Phoenix to establish their institute caused the Ensor Institute to initiate more competitive advertising. The Ensor method was a sure and safe vegetable remedy, one of Doctor Ensor's genuine preparations. "Why take poison when pure invigorating tonics will effect a cure?" the Ensor people asked; the hundreds of so-called cures based upon minerals were not the genuine cure. After the Ensor Institute closed in the fall of 1893, territorial newspapers

129. Arizona Journal Miner, December 21, 1892.
130. Phoenix Gazette, December 18, 1892.
131. Ibid., advertisement in the September 8, 1893 issue.
discovered that they did not pay their bills.\footnote{Arizona Journal Miner, October 4, 1893, stated that some $30 had been owing them since last March for advertising purposes. It was hoped that the cure was better than their ability to pay.}{132}

Dr. George E. Prewitt, official representative from the Keeley Institute at Dwight arrived in Phoenix in January of 1893, being one of the regular staff physicians from that place, and immediately quarters were set up and ready to receive patients. This was the only authorized institute in Arizona for the Double Chloride of Gold Treatment and the treatment originated by Doctor Leslie Keeley was not used by anyone except those established by that company under the uniform name of the "Keeley Institute," Dwight, Illinois.\footnote{Arizona Star, January 1, 1893.}{133} The institute in Phoenix was under the general management of Mr. James E. Bottoms who paid a visit to Tucson to investigate the possibility of establishing an institute there. If six or more cash patients could be obtained to begin taking the treatment, the Institute would be opened in Tucson, the Star announced.\footnote{Ibid., February 18, 1893.}{134} Yet that same paper two months previously announced that Doctor Matas was again conducting the International Institute for the cure of liquor, morphine, and tobacco habits, but made no mention of bichloride of gold.\footnote{Ibid., July 15, 1893.}{135}
Dr. Prewitt left the Phoenix Institute to open a similar one in Prescott, Doctor Nimerad Hudson having arrived from Dwight in order to continue supervising the Institute in Phoenix. Governor L. C. Hughes presented Doctor Prewitt with a gold watch upon his departure from Phoenix.¹³⁶ Dr. Prewitt again returned to Phoenix when Doctor Hudson resigned. A Doctor Calvin Rhea came to take over when Doctor Prewitt left for his old home.¹³⁷ Newspapers no longer carried notices or advertisements of the Keeley Institute in either Phoenix or Prescott. Like the sanitarium movement, the treatment was doubtless curtailed due to the Panic of 1893 and shortage generally of cash.

Alcoholic addiction was a major economic problem on the frontier, and so was the narcotic habit, especially when the county had to pay for the care of such persons and their families. The dissolute woman was as much of a problem, for women often took drugs to excess. What was to be done with them? Members of the Phoenix City Council considered the problem and a suggestion was made that they

¹³⁷. Ibid. Dr. Hudson resigned; August 9, 1893, Doctor Rhea arrived, no diploma on record for Rhea; Doctor Prewitt returned to Missouri.

Other doctors advertising the Keeley Cure were Doctor G. H. Keefer of the Opera Drug Company, in the Tempe News, December 3, 1892.
be sent to the Florence Crittendon Home for reform. 138

Dr. William Duffield observed that less than one percent quit the habit and reform appeared hopeless. One councilman suggested that the women be sent to the city jail where a ward had lately been fitted up for them at an expense of $100 or more. 139

Narcotic addiction was curbed by the enactment prohibiting the sale of drugs without a prescription. A number of territorial physicians were later to become strong supporters of temperance groups which proposed a reform in alcoholic excesses. Institutes continued to exist for the purpose of treating narcotic and alcoholic addicts, but such persons usually ended their lives in jail or in the insane asylum as public charges in territorial Arizona. 140

138. The Florence Crittendon Home, established in Phoenix in 1897—a home for unfortunate girls. Mr. Charles Crittendon came from New York to Phoenix in that year to effect the plan for the home.


140. Arizona Gazette, March 4, 1898; March 1, 1898; Arizona Daily Star, August 21, 1894.
CHAPTER VIII

HAZARDS OF THE HEALTH PROSPECTOR

Alacranes, or scorpions, were mentioned of old among the Arizona arthropods, interesting but venomous, and considered to be quite prevalent in Spanish times in Sonora. Doctors accompanying the first surveys across the regions searched out and sent specimens of the fauna of the region to the Smithsonian Institute. Many miners and soldiers camping out in the early days were found by the scorpion, primarily a nocturnal animal, usually biting the sleeper if he was disturbed in his nightly ambulations. Surgeon Elisha Baily was stung in the left foot in 1873, while encamped near Camp Beale Springs. The wound was painful and caused the surgeon discomfort both local and systemic for several days thereafter.

Scorpions attacking the sleeper or the unwary were recorded frequently, the only fatalities were among small children, and the bites in such cases were not determined until the child became violently ill and went into convulsions. In the absence of a doctor, applications of a

1. Arizona Miner, August 9, 1873.
variety of solutions were made to the swollen area surrounding the bite. Among the treatments on record were ammonia, baking soda, and vinegar. Four fatalities resulted among children under six years of age before medical attendance could be had. Adults resorted to the old stand-by, whiskey, and endured the "agony" said to result from such a sting for hours thereafter. This medicine and treatment appeared always to be available in every camp.

The veteran traveller learned to be on the lookout for the scorpion, and the long-time resident had no excuse for entering a darkened room without first checking—as Charles Rapp did not do before retiring. Rapp sat down in close proximity to a scorpion. The sting aroused that gentleman no end, the Arizona antidote was not strong enough, and Mr. Rapp was confined to his bed for several days.

Surgeon Charles Smart included the treatment for the sting of a scorpion in his "Handbook for the Hospital Corps of the Army." Diluted ammonia or *liquor potassae* was the recommended application at the site of injury; there


was some suffering systemically after the first few hours of intense pain at the site, the stings generally not fatal. The bites of centipedes and tarantula caused much the same reaction. While in camp, Judge Purcell was bitten in the neck by the latter insect and it was thought that the judge would survive after several days.

The venom of the Gila monster, or *Heloderma suspectum*, was proved to be fatal to all living things. Dr. Handy had made an experiment by placing the monster in a cage with live chickens which the animal promptly bit and the chickens were dead one-half minute thereafter. There was no question then that the venom of the Gila monster was much more rapid than that of a rattlesnake. Dr. H. C. Yarrow of the Smithsonian Institute, concluded that the Gila monster was non-poisonous and that it was the Arizona whiskey used in treatment which killed the victims. This statement aroused no end of controversy among the experts on such matters in Arizona. Cited in argument were the number of fatalities which had resulted from the bite of

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5. *The Oasis*, July 30, 1898.


the monster. The doctor was advised to make the experiment on himself. 8

Walter Vail, while riding a short distance north of Pantano, saw an unusually large specimen of the Gila monster which he promptly killed and tied to the back of his saddle to present to a friend. While Vail was showing the specimen to a friend, the reptile took hold of the second finger of his right hand and held fast. A knife proved useless in separating its teeth to release the bitten man. A stick was finally procured which separated the jaws of the monster, and Doctor Handy was telegraphed for immediately. Vail was brought back to Tucson in a "special" engine. The patient suffered great pain and his tongue was so badly swollen that he could not articulate clearly. 9

Now this was an important case, a Tucson paper announced, from a scientific standpoint as it was a square bite and the victim was a healthy man not addicted to alcohol. In all cases reported thus far, where death had ensued, the victims had been hard drinkers so that the degree of poisoning by the reptile could not be fully determined. It was generally conceded that the presence of

8. Arizona Journal Miner, August 1, 1888; St. John's Herald, August 23, 1888. The cases cited as fatalities were not clearly the result of Gila monster's bite.

alcohol in the system in large quantities had much to do in causing death. There were no such complications in the present case, and the strength or degree of the poisonous effect of the reptile would, no doubt, be determined. 10

Vail recovered but not without considerable inconvenience. The treatment given by Doctor Handy was not recorded, but the doctor pronounced the bite of the Gila monster exceedingly poisonous and the wound a very dangerous one. 11 Assistant Surgeon Edgar A. Mearns did not think that the monster's poison was deadly as there were no poison sacs. Whatever poison it possessed appeared to come from the saliva in the reptile's mouth. The breath of the monster was nauseating, ornithologist Mearns noted, and he experienced a reaction of nausea when a specimen that he obtained blew its breath in his face, a fact witnessed by a fellow officer accompanying the Mexican Boundary Commission. 12

While on a hunting expedition in 1900, Horace E. Mann of Phoenix found two Gila monsters peacefully slumbering. He tied the tails together and slung them over the rifle's end with the result that one monster took hold of

11. Ibid.
Mann's shirt and the other fastened itself on his arm, cutting through a thick shirt sleeve, with a bite in his arm one inch in length and half an inch deep. Mann promptly pressed the blood out of the wound and upon reaching camp applied common saleratus "which every Arizonian carries with him," and also put some ammonia on the wound, experiencing no other inconvenience.\textsuperscript{13} The Phoenix paper reported that this was remarkable in that several people bitten over the years had lost their lives and Vail had almost lost his arm.\textsuperscript{14}

These instances were cited as examples of how poisonous the Gila monster was in an article appearing in the \textit{Scientific American} some years later. The writer listed the arguments for and against the assertions that the Gila monster was poisonous, concluding that it was a most poisonous reptile.\textsuperscript{15} Dr. Goodfellow wrote an article to correct some impressions in this prior article. He was well acquainted with all the facts of the cases presented. One man who was bitten and reported to have died from the bite, actually died from the effects of acute alcoholism as the doctor had performed the autopsy himself. As for

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  \item \textsuperscript{13} \textit{Arizona Silver Belt}, June 14, 1900.
  \item \textsuperscript{14} \textit{Phoenix Republican}, June 15, 1900.
  \item \textsuperscript{15} D. A. Willey, "Gila Monsters," \textit{Scientific American}, LXXXV (September 15, 1906), p. 192.
\end{itemize}
Vail having ill effects from the bite received ten years previously so that he eventually died from the wounds, this was not so. Dr. Handy's treatment of Vail had been to cauterize the wound, making an excessively sore finger for some time afterward, but the finger was neither paralyzed as reported, nor was it useless. Vail died as a result of a streetcar accident ten years later in Los Angeles. Goodfellow had been bitten while engaged in studying the reptile, and aside from the usual soreness resulting from a lacerated wound, no inconvenience was experienced.16

If much irritated, the Gila monster ejected the contents of his stomach which was more or less fetid, Goodfellow reasoned. Dr. R. W. Shufelt of the Smithsonian had conducted exhaustive studies on the monster, during his visit to Arizona in 1891, and had come to the same conclusion as he did, that the reptile was non-poisonous.17

If there was some disagreement about the bite of the Gila monster being poisonous, there was none about the bite of a rattlesnake. Of the large number of snake species


17. Ibid., p. 271. Later authorities concluded that the Gila monster's venom had local irritant and neurotoxic effects, a venom that was conducted by the reptile's teeth. Sherman E. Minton, "Snakebite," in Cecil-Loeb's *Textbook of Medicine*, p. 1797.
which make their home in Arizona, only two are considered to be dangerous—the rattlesnake and the Sonora coral snake. There were a few reports of snake bites among the military who scouted over a large portion of Arizona Territory. Compared with the number of snakes, bites were infrequent.

The veteran prospector and soldier were on the alert—for reptiles as well as Indians. He wore some protection—boots and buckskin wrappings—and was looking for evidence of gold as well. The rider on mule or horse was safe unless the animal reared unexpectedly at the sight of a snake across the trail.

The experience of Doctor Samuel Woodhouse with a rattlesnake became a part of the report of that expedition in 1851; the snake undoubtedly became a part of the collection sent to the Smithsonian.\(^\text{18}\) The doctor's treatment of his bite was undoubtedly a sample of over-treatment, but the bite of a rattlesnake could prove fatal as shown by numerous instances where care was not exercised. Survey parties were accompanied by Indian scouts, aware of the presence of the snakes, and on the alert to danger. When the country appeared to be free of hostile Indians and

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18. For Doctor Woodhouse's treatment, see page 68. The report of his treatment became a part of the official report of the expedition down the Zuni and Colorado rivers of Major Lorenzo Sitgreaves, incorporated in Senate Document, No. 59, 32nd Congress, 2nd Sess.
people travelled about with less protection, the number of snake bites increased. Or, there were probably more people in the Territory than ever before, inexperienced as to hazards that might be encountered on the trails.

Some cases resulted fatally because of a complete disregard for the seriousness of the matter. Captain S. C. Whipple, an old pioneer living near Nine Mile Station near Yuma, stepped on a snake and was bitten, doing nothing about the matter except to send to town for a vial of ammonia. A messenger summoned Doctor Lionel B. Joseph from Yuma, but by the time the doctor arrived, it was too late. 19 Mr. Louis Thompson was bitten while working on his ranch on the Salt River and rode post-haste to the doctor, encountering on the way Doctor Cook who rendered prompt attention and the man returned to his ranch. 20 A neutralizer for the poison was a most necessary medicine in the doctor's medicine kit; the veteran traveller carried ammonia or soda with him at all times in addition to the chief remedy of them all—whiskey.

Home treatment consisted of sucking the wound, applying ammonia or baking soda to the site, placing a tight bandage above the wound if on an extremity, and in

19. Arizona Miner, May 6, 1880.
20. Phoenix Herald, November 18, 1885.
some cases scarifying the wound before rushing to the
doctor. Ammonia was also administered internally as well
as locally, brandy and whiskey given whether the victim was
child or adult. A variety of other applications were made
for the wound, numerous preparations administered intern-
ally, and the patient so treated survived or expired.

A child at Tacna was treated by its mother who
placed a tight bandage on the leg above the bite, applied
soda, and then the father stopped the train enroute to Yuma
to transport the lad to the doctor. Numerous doctors
attended him but the nine year old boy died. 21 When a ten
year old lad was bitten on the hand; his father cut away
the flesh, corded the finger, gave the child brandy, and
in one hour and forty minutes had the patient in Doctor
Taggart's office--the child survived. 22 A boy of thirteen
was bitten while playing near Picacho. A Mr. Elliott
immediately scraped the poison from the wound with a pocket
knife, applied golindrina, "or snake weed," and then
bandaging the wound in baking soda rushed the lad to
Doctor Barry in Florence. The foot swelled and turned
black but in three days the lad recovered. The snake
had eleven sections to his rattle. 23

22. Ibid., May 9, 1891.
Doctors often spent the night at the patient's home to see the victim through the immediate effects and to administer stimulants as needed. A surgeon at Fort Huachuca advocated that injections of potassium permanganate solution into the wound, or into incisions made alongside the wound, and keeping a tight tourniquet above the wound was better than ammonia. Ammonia was the best and almost only known remedy for the bite of a poisonous snake, a Phoenix paper declared. Ammonia with the use of stimulants was about the only treatment recommended by the British who had found it useful and used it extensively in India. Coal oil, turpentine, a freshly killed chicken applied to the bite, were all used locally. Whiskey was the universal antidote internally.

Edward Hull, prospecting along lower Lynx Creek, was bitten by the snake while feeding his horse. The fang had to be cut out with a razor, and an iron bolt heated in the campfire was used to cauterize the wound. Hull took a large dose of ammonia and buried his leg in the wet sand to reduce the fever. He was unable to go for help or even to untie his horse which stood in the hot sun for two days.

24. Tombstone Epitaph, August 9, 1890.
Finally he managed to rescue his horse and proceed to town for treatment.²⁶

As Will McLaborn, employed on Carter's Cattle ranch, tied his horse to a bush, a snake struck him on the end of his little finger on the left hand. McLaborn ran as fast as he could to camp about 100 yards distant and seizing a hatchet, chopped the finger off between the second and third joints. After binding up the wound as well as possible, he started to town and went to Doctor Cotter in Yuma. The doctor found the bone badly shattered and amputated the finger at the second joint. "Instead of losing his life, McLaborn is only short two joints of one finger," the Yuma Times concluded. "The grit that he showed is probably unsurpassed."²⁷

The bite of the skunk was feared equally to that of a rabid dog after 1886 when newspapers recorded that hydrophobia followed the bite of the former animal. Ranch hands and prospectors sleeping on the ground were bitten, and the victims died either from hydrophobia or the fear of the disease, according to the various reports. One woman, bitten on the hand by a coyote which had been chased into the house, became unbalanced through fear of developing

²⁶. Arizona Silver Belt, July 6, 1899.
²⁷. Yuma Times, July 9, 1892; also quoted in the Arizona Star of the same date.
hydrophobia and shot herself. A ranch hand bitten by a skunk while sleeping near the Verde, developed symptoms of rabies, walked in circles and frothed at the mouth, refusing to eat or sleep until his death. Since no doctor had been summoned until the day of his death, the diagnosis is not clear. Doctors did attend patients having rabies, however, and the skunk bites were treated often at the time.

A program was initiated annually to eliminate the hundreds of dogs which appeared to run in packs in the towns and villages of Arizona. Village ordinances were enacted at the time of a rabies scare which notified dog owners that all dogs found running loose would be shot. In the process, valuable dogs were killed along with worthless curs.

In the treatment of skunk bites, Doctor Noon of Oro Blanco advised a thorough cleansing of the wound, the use of very hot water and soap, the application of tincture of cedron seed into the laceration for pain, the use of well carbolized vaseline on lint applied to the wound, and the administration of tincture of cedron seed on a lump of sugar afterward for pain. Of course, rabies could develop yet, the doctor concluded, but the wound was healed.

29. Ibid., June 25, 1890; Arizona Star, June 27, 1890.
Mexican boy bitten by a skunk at Crittenden developed a clear case of hydrophobia, as diagnosed by Doctor H. B. Davidson; the boy died. The Epitaph advised the extermination of skunks as well as rattlesnakes. Horses belonging to a rancher near Tucson were bitten by a skunk and developed hydrophobia.

Dr. William T. Barry of Florence sent the first patient from Arizona to the Pasteur Institute in Chicago in January of 1893. A young girl was badly bitten by a dog, the wounds cauterized and the father advised to take the child aboard the first train for Chicago, which he did. The father returned before his daughter and announced that the treatments were going well, and that eighteen injections were necessary before the anti-rabies treatment was completed. A man came in from the Bradshaws to Doctor Scott Helm, the doctor sent the man to Chicago immediately for the Pasteur treatment as he had been bitten by a skunk several days before. A man bitten by a rabid horse went to Chicago from Tempe early in 1894, and thereafter a

31. Tombstone Epitaph, August 14, 1892. Dr. H. B. Davidson spent a brief time in the miners' camps in Cochise County.

32. Arizona Star, October 4, 1892.

33. Ibid., January 4, 1893.

34. Phoenix Herald, June 1, 1893.
number of persons took the train to Chicago on the advice of their physician. 35

The train trip to Chicago and the eighteen-day treatment constituted an expense that was not easily afforded during the early 1890's. Nor did all persons ascribe to the treatment, the fear of rabies to the contrary. Animal bites were fairly common, stray dogs far from rare, and sometimes a child was first seen by the doctor after the symptoms of rabies were evident, or far too late to risk a trip to Chicago. One child in Florence died enroute to the local hospital, the symptoms of rabies fully developed before she was seen by a physician. 36 A man bitten by a skunk three weeks previously, thought nothing of the bite until symptoms developed and he died in the Flagstaff jail. Dr. Cornish confirmed the diagnosis in this case with Doctor Francis who noted that the only cure for rabies was the Pasteur treatment. 37 A man in the Verde Valley was bitten by a skunk and advised to go to Chicago but stopped enroute in Kansas City where he was persuaded to try the mad stone treatment. He died several weeks after his return to the Verde Valley. 38

35. Tempe News, March 24, 1894.
37. Arizona Silver Belt, July 22, 1893; also Coconino Sun, n. d.
38. Phoenix Herald, July 22, 1897.
Dr. Clarence E. Yount of Prescott delivered a paper on the subject of rabies at the nineteenth meeting of the Arizona Medical Association in 1909 wherein it was shown that a total of thirty-three patients had been sent to the Pasteur Institute in Chicago over the past eighteen years and that the Institute later established in Austin, Texas, had received four cases from Arizona between 1904-1908. Within a two year period—May of 1907 to May of 1909—a total number of eighteen persons had been bitten by skunks in the Territory, with five deaths resulting from no treatment. The skunk menace in Arizona was considerable, Doctor Yount reported, and it was the most prolific endemic source for rabies in Arizona. Skunks were rather timid and ordinarily did not bite, the doctor observed, so that when they did bite, the animal should be submitted for observation.

The bothersome screw worm was not limited to Arizona but more noted there perhaps, due to the mild climate and the general popularity of outdoor living and sleeping. Dr. Kendall treated such a case of human infestation in Prescott in 1875. The prospector had been ill with fever in


40. Ibid.
the Bradshaw Mountains, the fly evidently depositing her eggs in the patient's nostrils while he was asleep or too ill to notice. Dr. Henry A. Hughes treated several cases of screw worm in 1889, the doctor ascribing these cases to the fact that the persons treated had nasal discharges or nosebleed, and the fly was attracted to the nostrils for this reason.

A man died in the Kingman Hospital in 1896, in excruciating agony, the cause not known until the worms began to drop from his nostrils. A screwfly had deposited its larvae in his nose while he was asleep and the maggots had entered his head before he awoke. He was brought too late to the hospital—the stench from decaying flesh and wiggly worms was sickening. Dr. H. F. Walters extracted 110 screw worms from the nose and soft palate of a prospector in Tombstone in 1898. Dr. Hughes again advised people to beware the screw worm fly, gray in color, but resembling the common housefly otherwise. This fly could deposit its eggs and do its mischief in less than one

41. Arizona Miner, November 5, 1875.
42. Phoenix Herald, May 30, 1889; Arizona Miner, July 18, 1889.
43. Arizona Silver Belt, July 30, 1896.
44. Tombstone Prospector, December 4, 1898.
second, the doctor warned. He reported on one case where he was called to the country to treat a woman suffering from severe pains in her head; he extracted 100 screw worms from her nose.

An historical sketch on the screw-worm fly and a resume of the literature on the subject was presented to the members of the Arizona Medical Association during their fifteenth annual meeting, held in Phoenix in 1906. The fly, capable of laying hundreds of eggs which hatched out in from one-half to nine days into the screw worm, or maggot—which in turn reached maturity in about one week—ravaged healthy and diseased tissue in a most persistent and destructive way. There had been considerable notoriety attached to the fly of late, Doctor Yount reported. Cattlemen and ranchmen were concerned over the damage to livestock, but human infestation was considered to be quite rare. The doctor had sought out cases among his colleagues in Arizona throughout the year of 1905 and come up with a total of twenty-three cases collected from all quarters of the

45. Arizona Silver Belt, June 7, 1900.

Territory with the treatment being very much the same, differing only in the method of administration.\(^7\)

Chloroform by spray, injection, application, in dilution or combined with olive oil, was the treatment of choice. Some anesthetizing agent as cocaine was often employed, irrigations of permanganate of potash 1-2000, or peroxide of hydrogen; the worms were extracted with forceps. Morphine for pain, and other supportive measures generally were indicated. Two cases resulted fatally; the worms were not the entire cause of death, but a contributing factor. The nose was the site of 78 percent of the cases reported, wounds the site of 17 percent, and the ear the site of only four percent of the cases.

A discussion among the doctors present as to treatment and diagnosis, precautions to be observed in preventing the infestation, also brought forth additional cases for discussion. Dr. Yount concluded that the larvae once hatched were capable of boring into healthy as well as diseased tissue. The doctor was commended for his comprehensive research into the matter; his paper was published in the *Journal of the American Medical Association* the year following his presentation before the Arizona doctors.\(^8\)

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\(^7\) Yount, "Human Myiasis from the Screw-Worm Fly," p. 42.

Insolation or sunstroke was early listed among the causes of death to both military and civilian persons by the post-surgeon at Fort Yuma. Deaths in 1855 of cerebral congestion were also recorded. The verdict was that Fort Yuma was without doubt the hottest military post in the United States and troop movement was always accompanied by some cases of heat exhaustion or extreme prostration of one kind or another. Troops in sight of the Colorado River after the long marches across the desert could not be restrained from plunging in the cool water, often with fatal results. Surgeons protested the heavy clothing issued the troops. Parade was in full dress on the parade ground where all was rock, with not one single blade of grass, vine, or tree worthy of the name to be seen. 49

The military marched early in the day with reveille sounding at the only hour when it was possible to sleep, according to one authority. 50 Marches were generally short and a new camp reached early—to fight insects the remainder of the day or try to find some shade or coolness far into the night, only to be awakened at three o’clock to begin


anew. Freighters drove their wagons as long as the mules held out, the mules often having more staying power than the driver with riders discovering a wagon proceeding at a slow course off the trail or stopped altogether with the driver unconscious or dead. Mental derangement due to the rays of the sun was the diagnosis given, and often the wagon was found with the driver wandering around in a confused state.

"The heat of the summer is high, its peculiar dryness prevents any injurious effects, and sunstrokes are rarely heard of in Arizona," Patrick Hamilton wrote in 1881. 51 The annual report of the Governor of Arizona Territory carried the same sentence in 1881. 52 Later reports of an official nature were tempered somewhat but newspapers boasted that a case of sunstroke was never known in Arizona. 53 It was granted that the thermometer reached a greater height in Arizona than in the East, but, owing to the remarkably dry and pure atmosphere, 110 degrees of heat in Phoenix was no more oppressive than 85 degrees in Boston. The sun's rays were tempered by the winds from the cool

53. Arizona Sentinel, June 12, 1885.
plateau and sunstroke was unknown as harvests were gathered without serious discomfort to laborers.\textsuperscript{54}

Territorial newspapers published the cases of heat stroke or sunstroke—the terms were used interchangeably—that occurred from time to time. Three men died of sunstroke on the same day that they became ill, one a sheepherder, another a carpenter, and the third a teamster. All became unconscious, rallied and died a few hours later.\textsuperscript{55}

The \textit{Citizen} in August of 1885 announced that that day Arizona had forfeited her claim to exemptions from sunstroke, and quite a number of cases attested to that fact. The unusual humidity was the cause, for there was little discomfort when the air was dry and the temperatures were high.\textsuperscript{56}

Dr. Hughes had some observations to make on the effect of the extreme heat of the Salt River Valley, before a meeting of the doctors in 1896.\textsuperscript{57} Some physicians said that there was no such thing as thermal fever or sunstroke,

\begin{itemize}
\item \textsuperscript{54} Rand McNally, "The New Southwest," Pamphlet No. 24 (Chicago, 1895).
\item \textsuperscript{55} Phoenix Herald, August 8, 1881; Arizona Miner, August 12, 1881.
\item \textsuperscript{56} Arizona Citizen, August 22, 1885.
\end{itemize}
the doctor observed, and such physicians might be honest in their opinions but quite ignorant of the facts. These physicians were the ones quoted by real estate boomers and their opinions written up in circulars which were distributed far and wide. But there were a number of cases of sunstroke that occurred each summer, rare as they were ordinarily. The summer of 1889 was a bad one and Hughes himself had treated seven cases. Several deaths occurred, among them a case of measles and a case of typhoid fever complicated by the heat. Newborn infants were particularly susceptible to the extreme heat, their temperatures could suddenly climb up to 105 or 106.5 degrees within twenty-four hours. In the cases cited, the temperatures of the rooms were from 113 to 114 degrees, in houses without any protection from the rays of the sun.

For treatment of thermic fever, as the doctor called it, cold water and injections of antipyrin were used. Hughes preferred antipyrin over any other coal tar products for it was more soluble and better adapted for hypodermic use, more reliable and uniform in effect. Newborn infants were placed in a tub of cold water until their temperature was reduced, a wet thin cloth then spread over them and fanned until the danger was past. One blessing of the heat for infants was the lack of cholera infantum in the Salt River Valley. When the mercury reached 100 degrees, the
cholera vanished. Another fact noted by the doctor was that the hottest months were the healthiest ones. Other than a case of thermic fever now and then when the temperatures became extreme, everybody was well when it was hot.58

Dr. Charles H. Jones considered the matter of thermic fever and the climate of Arizona.59 A very large majority of the cases occurred among people of intemperate habits, the doctor believed, even though the number of cases seen were rare. The case that Doctor Jones treated was a saloon keeper, also addicted to the use of the product dispensed as well as a user of morphine hypodermically. One July day in 1898, having complained previously of a throbbing headache, the man was found unconscious. The skin was hot and dry, the whole body in tremor, eyes red, pupils contracted, pulse bounding. The patient registered a temperature of 112 degrees. Ice water was applied and two men with strong palm leaf fans worked vigorously by constantly fanning the body, which was stripped and covered with a sheet wrung out of the ice water. A pillow case filled with pounded ice was placed under his head at the nape of the neck. Two grains of antipyrin were administered hypodermically and


in forty-five minutes the patient's temperature had dropped to 109 degrees.

The temperature continued to abate until it reached 101 where it held for some time, and by the next morning the man was conscious and rational. Strontium bromide controlled the headache, the patient remained under cold cloths for a week, lost fifteen pounds, and had no further symptoms. He also used less morphine than formerly. Two points were emphasized by the doctor: first, the method of treatment which was an improvement on the old methods used; second, that cases of heat stroke were relatively unknown in Arizona. The old method of plunging the patient into a tub of ice water produced too great a shock; rubbing the body with ice as advised formerly was too slow. The ice-cold sheet was less disturbing and temperatures were reduced more rapidly; yet control was more perfect. This was the only case the doctor had seen or treated in his eight years of residence in Arizona.

Dr. Hughes took immediate exception to the statement of Doctor Jones that there was no thermic fever in Arizona. That was well enough to be told by real estate men; it would do to put into folders sent out to gull the tenderfoot; but it would not do to discuss in any meeting

of physicians who had been in the Salt River Valley for any length of time. Every summer people died in Arizona of thermal fever. The last summer alone there were eight or ten deaths in and about Phoenix caused by thermal fever with all the attendant symptoms and with temperatures of 109 and 110. The majority of course occurred among hard drinkers, and among men who lost sleep and dissipated in other ways. It also occurred among infants, among cases of enteric fever, and measles, and among a number of people who never touched liquor. People die from heat, the doctor insisted, and it was not correct to say otherwise.

The hazards encountered in Arizona were not peculiar to that Territory alone, for similar conditions existed elsewhere in the southwestern regions. They were among the conditions not mentioned in advertising literature for the region. Physicians were cognizant of the existence of the hazards and had a realistic appreciation of their import.

62. Ibid., p. 27.
CHAPTER IX

THE ARIZONA MEDICAL ASSOCIATION

A few of the towns in Arizona had shed the rough clothing of the frontier for the fine fabric of the city by 1890, though the majority of the communities still retained much of the ruggedness of the typical mining camp or stage coach station. The Decennial Census of 1890 counted 88,243 persons in the Territory; boasted a mineral production of more than seven million dollars, exceeded by the cattle industry which reckoned the value of the cattle alone at almost twice that amount. There were many changes to be noted in the medical profession. The young graduate flocked to the towns and villages encouraged by the opportunities to be had as doctors for mining companies and the promise of a good practice in the larger settlements. There was always the lure of adventure--some promising mining claim that might be discovered. The influx of health seekers did not pass unnoticed by the doctor of medicine, for many came to regain their own health in a favorable climate. And with the serious doctor of medicine came also those who sought a fortune by any means, promising cures and restored health in a variety of ways.

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During the latter years of the nineteenth century there were some one hundred and sixty-two medical schools of varying descriptions, schools which were turning out graduates at the rate of approximately 7500 annually.\textsuperscript{1} The course of instruction in some of the better schools had increased from the two sessions of lectures of four months each—a standard which existed in 1860—to a four year curriculum by the close of the century. There were many gradations of this curriculum in as many schools. A few schools also awarded a diploma for a fee—in some cases as little as $20. The diploma was no longer a guarantee that the holder was a legitimate practitioner of medicine.

A diploma was the only requisite for practicing medicine in Arizona, the instrument duly recorded and copied in the books at the county recorder's office as provided by the law of 1881 enacted by the Eleventh Territorial Legislature.\textsuperscript{2} A physician was also required to register an affidavit, swearing that he was the person who had been awarded the diploma, and that he had attended at least one

\textsuperscript{1} Francis R. Packard, History of Medicine in the United States, 2 vol (New York: Paul B. Hoeber, 1931); Ernest E. Irons, The Story of Rush Medical College (Chicago: The Lakeside Press, 1953); Harris, The California Medical Story.

\textsuperscript{2} Acts, resolutions, and Memorials, Eleventh Territorial Legislative Assembly, pp. 10–11, February 3, 1881. The law was to take effect on May 2, 1881.
full course of lectures at the school from which such
diploma had been obtained. Accepted in lieu of a diploma
were the licenses granted from other states and territories
where a Board of Medical Examiners existed. No diploma or
license granted for a moneyed consideration alone, or one
revoked by the school or by an act of the legislature of any
state or territory within which the same was granted, would
be considered sufficient qualification.

The provisions of this 1881 law excluded from com­
plying those who had been practicing medicine in the Terri­
tory for five years previous to the enactment; excluded as
well were those prescribing for the sick, or who practiced
obstetrics in any town or village where no regularly
educated and licensed physician was practicing. A penalty
was provided for those violating the provisions of the act--
a fine of not less than fifty, nor more than one thousand
dollars, or, imprisonment in the county jail not to exceed
six months, or, both fine and imprisonment. Not provided
for in the act was a means for enforcing it.

The county recorder collected five dollars for
registering the diplomas—which were copied into the books
in Latin, Chinese and English;--who could translate the
Latin save a scholar? Diplomas written in Chinese
characters were sent to San Francisco for translation.
Affidavits were not always recorded; whether they were taken
or cannot be determined. A second law enacted in 1883 contained much the same provisions except the matter of definition of a medical practitioner—anyone who professed publicly to be a physician, who habitually prescribed for the sick, or appended the letters M.D. to his name. Omitted was the exclusion of those who had resided in the Territory for five years. Excluded from complying with the provisions of the act were the lawfully commissioned surgeons and assistant surgeons of the United States Army. A penalty for conviction included a fine of three hundred dollars and no more than one thousand dollars, imprisonment in the county jail not exceeding one year, or by both fine and imprisonment.³

Dr. Henri Narcissus Crepin, graduate of the Ecole de Medicine in Paris, with a license granted in California in 1876, was brought before Justice Charlie H. Meyer for practicing without a license. He had duly recorded his diploma in Pima County in May of 1883. Justice Meyer took

³ "An Act to Regulate the Practice of Medicine, Surgery, and Obstetrics in the Territory of Arizona," Acts, Resolutions and Memorials, Twelfth Territorial Legislature, pp. 211-212. Approved March 7, 1883, the Act to be in force on May 2, 1883.
the case under advisement and found for the defendant. Dr. Crepin, together with Doctor Henri N. Matas, were at that time the most highly educated physicians in Pima County, if not in the entire Territory.

There were no additional challenges of physicians that were recorded during the years, it being a matter of individual concern whether or not a physician possessed a diploma or had one on file. Certainly the Territory was filled with doctors of every kind who never filed a diploma and who were never apprehended for not having done so, and who practiced or advertised to practice medicine. Medicines were sold and dispensed at the drug store, by a graduate pharmacist or by whoever owned the drug store. A wide selection of preparations offered relief from every known ailment. The sick really did not need a physician, so competent were the panaceas for consumption, catarrh, constipation, and general weakness. Blood renovators, stomach bitters, specifics for every kidney ailment, liver disorder, agues, and fevers were available, as well as the "cures" for female complaints and loss of manhood.

4. Arizona Citizen, June 21, 1884. Dr. Crepin was born in France, came to America and Virginia City in 1864, interested in mining and practiced medicine, returned to France in 1874, returned to America and settled in Tucson in 1881; to California in 1888, died there in 1898. Son was H. E. Crepin who practiced in Tucson from 1886-89; 1897-1914.

5. Dr. Matas filed all of his diplomas after this, some six diplomas and certificates from schools in Europe and America.
"Tutts Pills for Tired Livers" was among the more catchy slogans. "Pink Pills for Pale People" advertised a cure for locomotor ataxia partial paralysis, St. Vitus Dance, sciatica, neuralgia, nervous headache, after effects of the grippe, palpitation of the heart, pale and sallow complexions, and weakness in all forms, male or female.

The majority of patent medicines carried the name of a doctor: "Doctor Acker's English Elixir has never failed to remove scrofulous or syphilitic poison," with the symptoms of approaching death pointed out as a tired feeling, dull headache, pain in various parts of the body, sinking at the pit of the stomach, all of which were indicative of poisoned blood. Doctor Radway's Sarsparillian Resolvent; Doctor Walker's Vinegar Bitters; Doctor Goulard's Celebrated Infallible Fit Powders were but a few of the preparations offered.

A number of doctors owned the drug stores which carried and sold these patent medicines and some compounded a few of their own. Alexander E. Mintie was a celebrated

6. Arizona Silver Belt, October 11, 1884; other territorial newspapers.

7. St. Johns Herald, May 22, 1897, and other territorial newspapers.

San Francisco specialist who filed a diploma from the University of Pennsylvania in each county visited, and who sold his Vital Restorative at $3 per bottle. "The Great English Remedy," it was called, the advertisements appearing in each local paper where the great surgeon of the English Medical Dispensary of San Francisco visited.  

The patent medicines became specialized and ceased to advertise a cure for every ailment. Warner's Safe Cure had seven different preparations, each one a specific for the diseases and ailments that affected the different systems of the body—one for the liver, another for blood, and the others specifics for diabetes, rheumatism and neuralgia, constipation and diarrhea, nervous diseases, asthma and throat afflictions, and a seventh for all stomach disorders. The advertisers also were well up on the germ theory with Doctor Davis' Painless Catarrh Specific having pictures of the germs which it destroyed in the advertisement. Darby's Prophylactic Fluid proposed to destroy all infection in the fevers of typhoid, scarlet, yellow fever,
measles, diphtheria, smallpox and cholera. The carbolic acid smoke ball was infallible for curing asthma, deafness, hay fever and diphtheria.\textsuperscript{12}

Visiting doctors became specialists; one advertised the cure of all bone deformities with appropriate appliances for each deformity; many advertised especially to cure the results of all youthful follies; some brought a microscope along with them and specialized in chemical and microscopic examinations of the urine; others cured rupture without the knife; representatives of "famous surgical institutes" came from England, Germany, and eastern cities of the United States or from California.

No attempt was made to hinder the circulation of these specialists. A few registered their diplomas in the appropriate county, the majority did not. Their welcome in a few of the towns was not particularly warm, as in Tucson for as long as Doctor Handy was there. Tombstone papers advised Doctor Cooper to discard his headgear, for anyone appearing there in a plug hat and boiled shirt had to stand the consequences.\textsuperscript{13} The public became somewhat immune to all the advertising which took up considerable space in the territorial papers. Celebrated cures and remedies both by

\textsuperscript{12} Arizona Daily Star, October 2, 1892; Arizona Citizen, October 29, 1887.

\textsuperscript{13} Tombstone Epitaph, January 31, 1892.
the specialist, or by some new patent medicine, supported the papers. The only complaint made was when such advertising space was not paid for.

The first move to form an organization of doctors in the Territory came in 1884. A Republican Party convention was held in Phoenix in April of that year and several physicians were gathered there from different sections of the Territory for the convention. Someone thought that it would be a good idea to organize the doctors, the idea probably originating with Doctor Frank Kenly Ainsworth, a prominent Republican from Prescott. No record exists of this first organization except what was contained in the territorial papers. A meeting was held and officers were elected, and a date set for a second meeting to be held the following October.14 Dr. Frank Kenly Ainsworth was elected president, William H. Cook, vice-president, and Doctor John C. Handy was elected secretary.15 Other territorial physicians who may have attended the meeting by reason of their

14. Phoenix Herald, April 26, 1884; April 28, 1884; Arizona Silver Belt, May 3, 1884.

15. Both newspaper accounts name Doctor Cook of Globe as the vice-president; one paper gives his initials as W. G. and the other as W. H. Cook. Dr. W. G. Cook practiced in Phoenix, partner of Doctor Wharton in 1882; died November 1, 1884. Dr. William Harris Cook practiced in Globe from 1882 to 1887, then went to Flagstaff, and later California. The paper probably meant this doctor.
presence in Phoenix at the time were Doctor James H. Taggart of Yuma, and Doctor Francis Henri Goodwin of Tucson, and whatever Phoenix physicians may have attended. There were no additional notices of meetings. Dr. Ainsworth was referred to thereafter as the president of the Territorial Medical Society until he departed the Territory in 1886, and by 1892, Doctor Cook had left the Territory and Doctor Handy was dead.

The Maricopa County Medical Society was organized on February 22, 1892, in a meeting held in the offices of Doctors Hughes and Dameron with Doctor Joshua Miller, superintendent of the Insane Asylum elected president, Doctor Hughes as vice-president, and Doctor Marion W. Brack of Tempe as treasurer. The other doctors present were not mentioned but a constitution and by-laws that were satisfactory to all present were adopted. At a meeting of the Society on May 3 of that same year it was decided to

16. Phoenix Herald, April 26, 1884, mentions the physicians from elsewhere attending the convention. None from Phoenix are mentioned.


18. Arizona Republican, February 22, 1892. The Maricopa County Medical Association was the name given to this organization, later changed to Society by which name it will be referred to here. Records of the Maricopa Society unavailable for this period.
initiate a territorial organization and a committee of Maricopa County physicians was appointed to extend an invitation to all "regular" physicians practicing in the Territory to attend an organizational meeting to be held in Phoenix on May 25, 1892.19

The invitations were mailed by a committee consisting of Doctors Henry A. Hughes, William H. Ward, and Ancil E. Martin of Phoenix, with Doctor Logan D. Dameron serving as secretary and signing the letter together with the president, Doctor Miller. It was the belief that there were many earnest and zealous physicians in Arizona, the invitation read, who shared the belief that the greatest good could be accomplished through organization, and that they were willing to contribute their time and talents toward the general interest of the medical profession. It was also deemed unnecessary to mention the reasons why the doctors should organize, as they were evident to all thinking physicians.20

Fifteen physicians attended this first meeting, welcomed by Governor N. O. Murphy with an encouraging address following the prayer of the Reverend Doctor Pearson.

19. Minutes of the Arizona Medical Association records.
20. Copy of the invitational letter on file at the Arizona Medical Association Headquarters, historical records.
A room in the Commercial Hotel in Phoenix was the meeting place with Joshua Miller as temporary chairman until the nominating committee met and permanent officers were elected with the result that Doctor Miller remained in the president's chair. Drs. Ancil Martin, Michael Gilbert, and Isaac B. Hamilton were elected as first, second, and third vice-presidents respectively; Doctor John Trail Green as secretary, and Doctor Walter Henry Sullivan of Tombstone as treasurer—the latter not being present at the meeting.\(^1\)

One physician from each county would serve on the judicial council, and only two of those present were elected to the council--Doctor Hughes for Maricopa County and Doctor Thomas S. Sabin for Pinal County. The remaining members of the council had undoubtedly signified their interest in the organization by letter. Hiram W. Fenner for Pima County, Surgeon Banjamin F. Pope for Yavapai, Peter Gerald Cotter for Yuma, Charles Henry Porter for Cochise, Thomas S. Collins for Gila, and Percy G. Cornish for Coconino formed the judicial council. Apache, Mohave, and Graham counties evidently had no physicians to represent them.

After the election of officers the members attending enjoyed a banquet at the hotel, with no pains spared either by the Maricopa County Society or the proprietor of

\(^1\) Biographical data in Appendix II.
the hotel to entertain the guests, which included many other citizens of Phoenix. A constitution and by-laws were adopted the following day, and the meeting adjourned to meet again in June, 1892.  

Nine of the fifteen charter members were from Phoenix and included in addition to the officers elected and mentioned, Junius E. Wharton, Neil McIntyre, George Keefer, Logan Dameron and Carroll Rawlings. The six members from out of town were: Drs. David Mock and Marion W. Brack of Tempe, M. M. Gilbert of Mesa City, Thomas H. Sabin of Gila Bend, John T. Green of Tucson and Isaac B. Hamilton of Tombstone. The group was as representative of the doctors in the Territory at that time as possible with all age groups, medical schools, and activity within the Territory noted. Doctors of Civil War vintage included Wharton, Gilbert, and Ward; a middle group was represented by Brack, Hughes, Keefer, McIntyre, Miller and Mock. The remainder were in the younger age group and well under thirty years of age, recent graduates of medical schools.

Two of the charter members came to Arizona for their own health. Dr. John Trail Green died of pulmonary hemorrhage six months after the meeting; Carroll Rawlings

22. The above from records of the Arizona Medical Association.
died within two years. Two others came because members of their families were in poor health. All held interests in other business enterprises from mining, real estate, ranching, drug stores, and raisin farms. The loss by death of two of the charter members, and loss of interest by four others, reduced the original group to nine. There is no record of Doctors Wharton, Mock, Keefer, or Gilbert attending subsequent meetings. Subsequent listings of the Association also show that Doctors Hamilton and Sabin joined the Association in 1893 when they were present at the organizational meeting.

Not present were the two surgeons, George E. Goodfellow and Scott Helm; nor were the Homeopathic physicians in the Territory present. The Homeopathic doctors formed their own medical organization which existed until the members joined the Association in 1904. Division surgeons of the

23. For biographical data see Appendix II.

24. The exception was Doctor Green who held no investments.

25. Transactions of the Arizona Medical Association, 1901, and subsequent listings do not list Doctors Wharton, Keefer, Gilbert and Rawlings as members in 1892. All those present were supposed to be included as members; they may have desired not to be at that time but no mention is made of it in the minutes.

26. Dr. W. A. Hyde was elected president of the Homeopathic Medical Association organized in Phoenix on April 23, 1892; Dr. Charles D. Beldin of Phoenix, secretary;
Atlantic and Pacific Railroad met in Flagstaff on September 15, 1892, and completed an organization known as the Atlantic and Pacific Surgical Association. The organization was not in opposition to the Arizona Medical Association, rather, it was in conjunction with the Railroad Hospital Association and other programs of the railroad. Many of the doctors became members of the Arizona Medical Association later.

The second meeting of the Medical Association did not take place in June of 1892, but in February of 1893. Held in Phoenix, with a majority of new faces that did much to swell the membership and increase the interest throughout the Territory, many attended from towns not represented in the organizational meeting. President Joshua Miller presided, after the invocation by the Reverend W. E. Vaughn. Governor N. O. Murphy again welcomed the delegates. Absentees of the judicial council were filled from among the physicians present—a procedure that was to become routine with subsequent meetings when those appointed one

William Lawrence Woodruff, Phoenix, was treasurer. The Homeopathic Medical Association met until 1897 with notices of meetings held, officers elected, and additions in membership noted. It may have existed after 1897.

27. Coconino Sun, September 15, 1892. Dr. Kaster of Albuquerque, New Mexico, was president, Dr. Robertson of Gallup was secretary, Dr. William Murray Johnston of Williams was treasurer.
year failed to show up the next. Officers elected were Doctors Hughes, president with R. C. Dryden, C. H. Jones, and A. H. Hoeffer, in the vice-presidential offices. Logan Dameron was elected secretary, and William T. Barry, treasurer.

The major program on the agenda of the Arizona Medical Association at this time, Doctor Miller informed the doctors in his presidential address, was to have a state board of health established by law—and the doctor meant a state board rather than a territorial board, for he was in hopes that Arizona would soon be so honored. The idea behind this proposed legislation was two-fold: first, the prevention of contagious diseases; and secondly, the enforcement of the medical practice law. In connection with the first mentioned, prevention of contagious diseases, physicians would be given statutory authority to lead the people out of the dangers of these grievous infectious diseases whether they would be so led or not. The second duty of enforcing the medical practice law was obvious, as any law without someone to enforce or compel obedience to it, was inadequate and a dead letter.28

The desired objective in 1893 was to prepare a bill for presentation to the Territorial Legislature, then in

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session, which would embody the two most important needs of the public and the medical profession. Local boards of health in every city, village, mining camp or other place where people were congregated together would be clothed with sufficient authority to act, and act promptly, whenever an emergency arose. The local health officer could act immediately to control an outbreak of contagious fever. He would also be required to keep an accurate record of vital statistics and report them to the state board at regular times or as often as required. The local health officer would have the authority to regulate the sale of articles offered on the market with power to confiscate anything that was inferior or dangerous to the public health.

A standard of proficiency should be established for the practice of medicine and pharmacy and the board of health would see that this standard was maintained. This would be done without fear of favor, prejudice or partiality. An ignorant doctor or druggist was worse than none at all and the board's enforcement of the law would see the mountebanks and street fakirs disappear from Arizona to return no more.

Dr. Miller advocated that the sale of poisons should be prohibited and regulated by statute, especially those nostrums for the purpose of destroying life of the human foetus in utero. The advertisement of these
villainous compounds was sickening. The enormity of the crime of abortion could not be estimated accurately and Doctor Miller thought that at least half a million abortions were produced annually in the United States during the year just past. Laws should be enacted so that an abortionist would be convicted; laws were enacted to protect every other animal species save the human. The Anglo-American woman sacrificed her unborn child, her health, her hope of immortality, in obedience to a foolish fashion.  

Dr. Robert C. Dryden presented the bill on the creation and maintenance of a territorial board of health which was read and accepted for discussion. The Committee on Medical Legislation also read a report of a bill for the same purpose, and the two bills were read section by section, with portions of one bill and then the other adopted when the doctors agreed. The bill was then placed into the hands of an attorney for further revision before presentation to the Legislature. Dr. Dryden, a member of the House of Representatives from Apache County, presented the bill to the Legislative Assembly in March.  


Another doctor served in the House of the Seventeenth Legislature, Doctor Austin C. Wright, representing Cochise County.
The bill did not pass although the Journal of the House recommended its passage as amended. There is no copy of the bill, nor is there a record of discussion by the Legislature indicating why it did not pass. Dr. Hughes later assessed the blame to Governor L. H. Hughes who assumed the governorship on April 13, the last day of the legislative session. Governor Hughes appointed Doctor Goodfellow as Territorial Quarantine and Health Officer on June 1, 1893, an appointment much resented by Doctor Hughes. As long as Governor Hughes ruled the Territory, no legislation initiated by the doctors passed the Territorial Legislature.

What may have rankled somewhat was the fact that the Board of Dental Examiners did pass the Seventeenth

31. Kelly's Legislative History, p. 162, states that when Governor Hughes took the oath of office, he immediately notified both houses of the legislature that he was the governor of the Territory and made many appointments. The bill may have passed both houses but was vetoed by Hughes.

32. Transactions of the Arizona Medical Association, 1894, p. 5. Hughes noted that all appointments by the governor were of doctors who did not belong to the Medical Association. Goodfellow was Health Officer; Dr. Dennis J. Brannen was superintendent of the Insane Asylum; Dr. Scott Helm was Surgeon General. Brannen refused the appointment to the insane asylum, however, and another doctor outside the Territory was obtained.

33. Governor Hughes and Doctor Hughes, both Democrats, had no liking for each other; Doctor Hughes was reported to have gone to Washington, seeking the governorship for himself. Arizona Silver Belt, March 18, 1893; Arizona Star, March 3, 1893.
Legislature, a board consisting of five permanently located dentists appointed, and in action by September 10, 1893. Dentists organized in 1894, forming a Territorial Dental Association. The Dental Board was also active in hauling violators of the law before the justices of the peace and the day of the "visiting dentist," having questionable qualifications for that profession, was nearing an end.


35. The visiting dentist became a part of the Arizona scene early in the 1870's when Doctor R. Cutler arrived in Prescott in December of 1870. Some twelve transient dentists appeared during the 1880 decade, many made regular rounds and also treated military personnel at the different posts as the Army did not hire dentists until the Spanish American War. Some of these dentists had enviable reputations in their professions, many others engaged in dentistry as a side line.

Companies of dentists also arrived at intervals. The Happy Hour Dental Company in Phoenix in 1887 was very popular with the community, sponsoring programs at the Phoenix Opera House. Dentists used nitrous oxide for extractions by 1885. A death from the use of cocaine in extracting teeth caused the people concerned to start looking for diplomas in 1891. Up to that time the dentist carried recommendations from citizens elsewhere with him and advertised his references wherever he went.

36. Phoenix Herald, April 5, 1894.


Arizona Silver Belt, June 18, 1896; Arizona Star, March 21, 1896; Arizona Journal Miner, March 25, 1896, arrests of dentists practicing without a license.
The doctors continued to introduce bills during legislative years. A bill introduced in 1895 called for a board of health, the members of the board to consist of one member physician from each county. All candidates desiring the privilege of practicing medicine were to appear before the entire board for such examinations in order to obtain a license to practice medicine. A written examination was part of the procedure, the written examination taken before at least two members of the board with final action taken by all members. The same board would constitute an alert and vigilant group of physicians who would take prompt and vigorous action in the advent of communicable disease, an action far more effective than the usual combined, but unorganized, efforts of every individual in the Territory. The doctors making up the board would be in an authoritative position in their respective counties; they would also constitute a supervisory influence over the reporting of vital statistics.  

Also advocated by Doctor Ancil Martin, president of the Arizona Medical Association in 1895, was the enactment of a law protecting the newborn from blindness. The

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37. There is no copy of the proposed bill extant; the ideas embodied in the bill are taken from the presidential address and the discussion or reference to what the doctors hoped to accomplish by the legislation process.
instillation of a two percent solution of Silver Nitrate into the eyes of the infant at birth, as instituted by Crede, would prevent ophthalmia neonatorum. This was a serious condition in Arizona where the large majority of births were attended by midwives or by neighbors, and therefore, beyond the cognizance of the medical profession unless a law compelled the adoption of this method of prevention. 38

The Arizona Medical Association had made some gains, by membership alone; recognition by being admitted into national membership of the American Medical Association, in June of 1893. Two women physicians—Alice Marshall Givens and Eliza Ann Shaw Ingalls—were admitted into membership and the by-laws of the Association were revised accordingly to admit women by a rewording of membership qualifications. 39

Dr. Givens and Ingalls were not the first women doctors in Arizona. Twenty-one women arrived in various communities and filed diplomas from legitimate schools of medicine with the different county recorders during the territorial years, and proposed to practice medicine also. Five graduated from medical schools in California; the

38. Transactions of the Arizona Medical Association, 1895, presidential address of Doctor Ancil Martin whose specialty was diseases of the eye. The proposed law to prevent blindness did not pass during the territorial legislation.

remainder from eastern and mid-western medical schools. Seven elected to settle in Phoenix; the same number came to Tucson; two arrived in Prescott, two in Williams, and one each located in Bisbee, Morenci and Chloride.

Two women physicians came because their doctor husbands migrated to Arizona. A number came because members of their families were health seekers, and some may have come because of their own health problems. The majority remained but a year or two as far as records are available. There were three, in addition to the twenty-one who filed a diploma, who came before the law required the registering of that proof; they were no longer in practice after the law of 1881. Four of the total number were licensed to practice by the medical examining board established in 1903. Only two remained at the end of the territorial period: Virginia Russon Mahoney, wife of Doctor Oscar L. Mahoney, a graduate of Women's Medical College in Chicago in 1883; and Mary L. Neff, graduate of the University of Iowa in 1900. Both women were residents of Phoenix.

Territorial papers were impressed always with the arrival of a woman doctor; they referred to her as "Mrs. Doctor," whether she was married or not. The Arizona Medical Association granted membership readily to the women; some county medical societies were reluctant to grant membership at first but did so after some consultation
on the matter. Four of the women had graduated from medical schools before 1875; the majority received their diplomas during the years 1888-1900, a time when women were entering the medical and nursing professions in greater numbers.

Pointed out by Doctor Ancil Martin at the fourth annual session of the Arizona Medical Association were a number of menaces to the public health. The pollution of streams in Arizona was a major catastrophe, one only needed to look at Phoenix as an example. The sewerage of Phoenix was emptied into the river, the water from the river used for irrigation purposes and for drinking purposes in the farming communities. Livestock, at least, depended upon water in the ditches, and vegetables were grown by means of watering from the ditches. Only territorial legislation had the power to regulate this practice and control the evil. The company having the sewerage franchise had a farm for the purpose of sewage disposal but the level of the sewer mouth was so low that in order to raise the sewerage to a height where it would flow over the fields, it was necessary to flush the main with the water carried directly into the river by an open ditch. In summer time, the heat of the sun decomposed the refuse in the ditch which "lay festering and breeding death-producing ptomanes, typhoid, and tubercular bacilli," all of which found its way into
the river and mingled with the sweet waters of the only water supply available for families living in rural areas of the valley.\footnote{Transactions of the Arizona Medical Association, 1895, pp. 15-24. The presidential address of Doctor Ancil Martin was one of the longest on record.}

This would not be an easy matter to remedy, Doctor Martin concluded, as the powerful company having the franchise would fight any interference as only "soulless corporations do fight."\footnote{Ibid., p. 17.} The fight would necessarily involve the energy and determination of every right-minded individual in the Territory. A Board of Health should be established, or at least some executive body that had the power to investigate, correct, and prevent such nefarious acts.

There were a few other recommendations that the doctor had in mind: the present method of committing persons to the insane asylum without the right of appeal on the part of the accused. Under the present law, a probate judge, one physician and two witnesses could deprive a man of his liberty. The doctor thought that a board of control should be established at the insane asylum which would pass on the sanity of every applicant for admission to the asylum. This would prevent any possibility of
error or corruption. This board of three physicians could also visit the asylum from time to time to investigate the treatment of patients and to act as a consulting board for the physician in charge.

The age of consent should be raised from fourteen to twenty-one years in the Territory. If a woman was too young before twenty-one to manage her own estate, she was too young to decide the great question of the barter of her virginity. The present law was unjust. Men as law­makers and as gentlemen should blush at the injustice rather than unblushingly overlook the man's offense. There should also be some education in matters of sex, parents and teachers alike should remedy this lack of knowledge. Give women the knowledge that she may have some defense in the matter.

Theoretically a board of medical examiners would be a good group to pass upon the candidates for marriage. All persons suffering from any mental disease, tuberculosis, syphilis contracted under four years, and any other contagious diseases should be prevented from marrying. Any man convicted of a crime should be prohibited from marriage as well. Those convicted by the courts of crime should have recourse to have the marriage nullified with the county supporting the wife and children if they were unable to do so. They were at present county charges anyway. A
dissolving of the bonds of matrimony would lessen the number of criminals born. 42

Hygiene of mind and body should be taught the youth, the doctor continued as he unfolded some reforms that he deemed necessary, and physicians should counsel parents to instruct their children in these matters with the laws of sexual health somehow imparted to the young. Maternal impressions, impressions which were capable of causing mental and bodily defects in the child, were due to the emotional disturbances of the pregnant women, especially those emotions of unpleasant character. The mother should concentrate on the arts and sciences and so influence the mentality of her child. Children should be removed from undesirable homes and placed for adoption through the courts when parents were unfit— as an example, the woman who bartered her favors, while she led her little boy by the hand. 43

Cremation was a far more sanitary means for the disposal of the dead and should be encouraged by all

42. Heredity was the foundation of all life, the power for evil as for good, according to the belief not only of Doctor Martin but others who proposed similar recommendations. The assassination of numerous prominent persons was cited as proof of the fact that the assassins were all of families with criminal background. Numerous diseases were also inherited, according to the belief at that time as well as the predisposition to criminality.

43. Transactions of the Arizona Medical Association, 1895, presidential address of Dr. Ancil Martin, pp. 15-24.
progressive minded individuals. A national bureau of health to oversee the public health generally was envisioned. The employment of diphtheria anti-toxin to reduce mortality due to that disease had demonstrated its effectiveness in from none to fifty percent reduction. The reluctance of physicians to use the anti-toxin was understandable and probably it was best to wait for the tests of its use by scientific and governmental institutions.44

The immediate problem, however, the enactment of a board of health, appeared to be insurmountable. Drs. Hughes, Dameron, and Miller had appeared before the Legislature in behalf of the passage of the bill, and had even had a conference with Governor Hughes in regard to the matter. The bill was read and debated and considered from time to time; why it did not pass was not recorded.45 Two hundred copies of that portion of Doctor Martin's presidential address dealing with the proposed bill were distributed among the legislators, but the bill was defeated.

44. Presidential address of Doctor Ancil Martin, pp. 15-24.

45. Journal of the Eighteenth Territorial Legislature, 1895. The Board of Health Bill, read the first time on February 28, 1895, and introduced by A. J. Doran, president of the Council, Council Bill No. 57, deferred; House Bill No. 6, Board of Health introduced by G. W. Hunt in the House, laid on the table; another bill introduced by A. C. Wright, House Bill No. 11f, on a later date, defeated. Two doctors served in the House: A. C. Wright and Mariano Samaniego who formerly practiced medicine.
The Board of Medical Examiners was established by law during the Nineteenth Territorial Legislative Assembly on March 18, 1897, by an "Act to Amend an Act to Regulate the Practice of Medicine in Arizona."\(^{46}\) What circumstances caused the doctors to drop the Board of Health aspect of the proposed legislation and try for a regulatory measure in medical practice alone was not disclosed. Content to have at least this much of the desired legislation, the members of the Medical Association agreed that it had its weak points, but was better than the previous law regulating medical practice.

Provided for in this new law was an examining board to be composed of five physicians, each one a graduate physician of at least five years consecutive practice and engaged in the practice of medicine at the time of his appointment. Two physicians from the regular school of medicine, two from the so-called homeopathic school, and one from the so-called eclectic school of medicine were to be appointed for terms of five years, except that first board would have the doctors serve for one, two, three, four, and five year terms with appointments made at the expiration of the terms from among the physicians of the appropriate

\(^{46}\) Acts, Resolutions and Memorials, Nineteenth Legislative Assembly, pp. 86-87, enacted into law on March 18, 1897.
schools. The Board would organize and elect its own president and one secretary, and make such rules and regulations for its government; would meet quarterly and at such other times as deemed advisable, and examine all persons eligible to practice medicine under the Act, but the examination of each applicant would be conducted by the members of whichever school of medicine the applicant might choose, and upon their approval, a certificate would be issued by the Board.

"Any person shall be regarded as practicing medicine who shall profess publicly to be a physician or who shall prescribe for the sick," the new definition of medical practice read.\(^{47}\) It was unlawful to practice medicine, surgery, or obstetrics in Arizona unless such person had a diploma regularly issued by a medical college properly and lawfully organized under the laws of the State or Territory wherein the college was located; it was unlawful to practice medicine, surgery, or obstetrics in Arizona unless such person had passed a satisfactory examination before the examining board provided for in the Act. Exceptions were those women who had practiced obstetrics, those physicians who had complied with the present existing

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\(^{47}\) Acts, Resolutions, Memorials, Nineteenth Territorial Legislative Assembly, 1897, p. 87.
law, those who performed a gratuitous service in cases of emergency, and the physicians or surgeons of the United States Army in the discharge of their duty.  

Persons found guilty under the provisions of the law would be subject to a fine of from $100 to $300, or by imprisonment in the county jail from three to six months, or, by both fine and imprisonment. The law was signed by Governor Benjamin J. Franklin who appointed the first Board of Medical Examiners for Arizona Territory. Drs. Henry A. Hughes and Darius M. Purman of Phoenix represented the school of regular medicine; Doctors Charles D. Beldin of Phoenix and W. J. Davis of Morenci represented the homeopathic school, and Doctor Charles Winter Woods of Jerome represented the eclectic school of medicine. Dr. Purman was elected president, and his term of office was for five years; Beldin was secretary for a term of four years; Doctors Hughes, Davis and Wood had terms of three, two, and one years, respectively. The old law of copying diplomas was no longer in vogue, the Phoenix Herald announced, and all physicians had to obtain a certificate from the Board to practice.

48. Acts, Resolutions and Memorials, Nineteenth Territorial Legislative Assembly, 1897, p. 87.

49. Phoenix Herald, April 22, 1897.
The Board of Medical Examiners held their first examination for applicants in October, 1897, and the questions were published one week afterward in the Phoenix papers. Dr. A. Cuvier Jones of Tucson who took the examination, reported that of the five applicants taking the exam, he was the only one that passed. He was quoted as saying that the examination was the most difficult of any that he had ever taken, and, in fact, much more rigid than necessary. Governor Myron McCord wrote a letter to the Board of Medical Examiners which was made public, suggesting that the questions might be too stringent since only those fresh from medical school could answer them. The governor thought that the law was a good one, but if only a few could answer the questions it would serve no purpose. By making it far too technical, the examination might not be in good form and he advised making it a fair examination.

Dr. Edward Allison Butler of Prescott was appointed to the Board in March of 1898 due to the failure of Doctor

50. *Phoenix Herald*, October 14, 1897. See Appendix I.

51. *Arizona Citizen*, October 6, 1897. Dr. Jones came to Arizona via Colorado in 1889, advertised that he did much surgery, departed some time at the end of the nineteenth century.

52. *Phoenix Herald*, October 14, 1897.
Davis to qualify for membership on the Board. 53 Twenty applicants were to appear before the Board in October of 1898, but only four appeared. 54 Dr. H. M. Cory of Globe reported that he passed, but his license or diploma was not recorded in any county that he practiced in thereafter. There appeared to be some confusion over this matter of recording the license within the county after licensure by the examining board.

A test of the law was made in Phoenix in December 1897 when Ah Yeng, arriving from San Francisco, advertised that he was a Chinese physician and began to practice and dispense his herbs. There were some satisfied patients who soon began taking the prescriptions of herbs, patients attesting to the fact that they were cured by the doctor's ministrations. The matter was referred to Doctor Beldin, secretary of the Board, who went before Judge Kibbey and had the would-be practitioner arrested. 55 Ah Yeng's fate

53. Dr. W. J. Davis, in charge of the Arizona Copper Company Hospital in Morenci was said to have received his medical education in Canada, but no diploma was recorded. For medical schools of remaining members of the Examining Board, see Appendix II.

54. Arizona Silver Belt, July 14, 1898. Dr. Cory arrived in Globe; October 6, 1898, reports on the examination; no record of his filing his license; departed for Pearce in March, 1899.

55. Arizona Gazette, December 10, 1897.
is not known, but Ah Yim, Chinese Tea and Herb Sanitarium, was still in business the following year in Phoenix, treating with and selling medicinal herbs. 56

Magnetic healers advertised that they diagnosed and treated successfully, not only magnetically but by means of vapor baths. 57 Some were clairvoyant, and advised that they could locate mines. 58 A Mrs. Melton was said to have the strongest magnetic power of any person living. The vibrations from her hands were felt as plainly as those from an electric battery. She cured by the laying on of hands and she cured the most chronic and acute diseases without asking or being told a symptom. The cure was permanent because Mrs. Melton removed the cause as she cured the disease. 59 One patent medicine man was arrested during this time for selling medicine without a license and for using indecent language. He was fined $3. 60

56. Arizona Gazette, January 1, 1898, advertisement with picture of Ah Yim.


58. "Madam Carroll of San Francisco, diseases diagnosed and treated magnetically and vapor baths given; East Adams Street." Madame Carroll was also a business medium, advertised that the location of mines was a specialty. Advertisements ran to May 2, 1898, Phoenix Herald.

59. Arizona Gazette, January 8, 1899.

60. Ibid., August 6, 1897.
The illustrious Oscar Dalton Weeks, celebrated California specialist, was the bane of the medical profession during the years 1890-1900, as he travelled the Territory over, establishing a medical practice in villages and towns, preaching with a magnetic power, healing and selling medicines. His diploma from the American Health College of Cincinnati, duly registered in each county recorder's office wherever Weeks intended to practice, gave him immunity from arrest although he was arrested in several counties. The diploma authorized the holder to "preach and heal with Spiritual Powers and Religious Process, Develope Prophecy and Higher Communion, and to solemnize Marriage, according to law, and to attend funerals." It conferred membership in the Vitapathic Society on Doctor Weeks, and pronounced him a Doctor of Health and Minister of Life. 61

The question was whether this diploma constituted authority for the grantee to practice medicine. Weeks filed his diploma in Yavapai, Maricopa, Gila, Cochise, Navajo, and Coconino counties. The doctor was arrested in Benson in 1896, and again in Solomonville in the same year a few weeks later. Weeks paid a $100 fine in Benson but emerged unscathed at Solomonville. 62

61. Copy of the diploma registered in one of the counties. The diploma was granted on May 4, 1890.
The life of the American medicine man was not without its hazards. A burly Irishman struck the illustrious Doctor Weeks in the face in Clifton. During his sojourn in Globe, a dissatisfied patient pulled a gun on the doctor. The patient was arrested and a $300 bond was signed by Weeks and his partner to appear against the patient at the next term of court. Both Weeks and his partner, C. J. Williams, did not appear and no more was heard of Doctor Weeks in Arizona Territory. 63

The defects of the medical law of 1897 were soon obvious to all members of the profession. A committee on legislation set about in 1898 to present some modifications for more effectiveness. 64 Not until 1901 was the whole matter of legislation again brought up for serious consideration. The governor had appointed a more representative Board, but the appointments did not suit everyone. Dr. Purman was still the president, Beldin served as secretary, representing the homeopathic doctors, and Doctor Woods of Jerome the eclectics, with the addition of Doctor Winfred Wylie of Phoenix—both a doctor and a lawyer—and Doctor

63. Arizona Silver Belt, March 1, 1900; June 14, 1900. The patient was released from all charges thereafter.

64. Transactions of the Arizona Medical Association, 1898.
Goodfellow of Tucson. 65 This made the ratio of regular physicians assigned to the Board more in line with the total number of physicians of that group practicing in the Territory. Dr. Goodfellow's residence in the Territory at this time was in doubt as he appeared to be living in a somewhat transient state between Tucson, Los Angeles, and Sonora, Mexico. 66 The change in membership of the Board, plus some revision in the method of examination of the candidates was incorporated into the law enacted in 1901 whereby the applicant would be permitted examination in materia medica and therapeutics by a board member of the appropriate system of medicine to which he lay claim—regular, homeopathic, or eclectic, but the action of the entire board would be necessary for the granting of a license. 67

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65. Dr. Winfred Wylie—called Win Wylie—also Colonel Wylie. A graduate of Atlanta Law School in 1895, Wylie had graduated from Rush Medical College in 1877 and practiced until he had a breakdown when he took the course in law.

66. Newspaper items report Doctor Goodfellow in many different places at this point; he had reportedly left Tucson, a frequent visitor there and in Mexico where he held ranching and mining interests, and was also reported to be engaged in the practice of medicine in Los Angeles. Arizona Gazette, March 25, 1899, "Doctor Goodfellow pulled out of Phoenix last evening; said the Legislature was demoralizing him."

67. Title 53, Chapter 1, Revised Statutes, Session Laws of the Twentieth Territorial Legislative Assembly, effective September 1, 1901.
This enactment appeared to satisfy the medical profession for the time; several specialists and others professing to practice medicine were hauled before the justice courts and fined, departing the Territory thereafter. The law of 1903 which served the profession for the remainder of the territorial period contained a few additional provisions. The applicant would be a bona fide resident of the Territory and so would all members of the Examining Board. Records would be kept and applications for examination would be in writing to the Board. Each applicant would be required to furnish three affidavits from residents of the county in which he, or she, had previously practiced, attesting to the identity of the applicant, how long they had known the applicant, or if the applicant resided in Arizona. The affidavits would state the length of time and place, or places, where they had practiced, certifying that the applicant was a person of good moral character.

Certificates to practice medicine granted before the enactment of this law would entitle the physician to a license, but the physician had to make application to

68. Phoenix Gazette, January 23, 1902. Dr. McGrath fined $100 for practicing contrary to law; February 2, 1902, Dr. Dhul MacClaire, psychic reader, fined $200.

the Examining Board furnishing satisfactory evidence of this fact. If the physician had not qualified previously, an examination would be required. Physicians requiring an examination would have that examination in the practice of medicine under the member of the Board representing the school of medicine that his diploma indicated. Examination in the subjects of physiology, anatomy, pathology, chemistry, surgery, obstetrics, and gynecology would be conducted by designated members of the Board. The entire Board would pass upon each applicant. 70

Provided in the 1903 law was the revocation of licenses by the Board. If the physician had been guilty of any grossly immoral or unprofessional conduct since the issuance of the license, had been convicted of any felony, or other conduct rendering him or her unfit to practice medicine in the Territory, the license was subject to revocation. Records would be kept and retained; the definition of a person practicing medicine was outlined in detail, and penalties affixed for conviction of the violators.

The Act was in force and in effect from the date of its approval with those persons already engaged in the profession excluded.

70. Excluded from complying were midwives; pharmacists and dentists. They were not included among those who professed to practice medicine.
practice of medicine having until June 1 of 1903 to file their application for license and for approval of the same. And so it was that all physicians of the Territory who had ever been in practice, and who wished to continue practicing, in every town and hamlet wherever in Arizona, had to register. The payment of a $2 fee, together with their application, if approved, concluded the matter for those who had qualified under previous acts. Those with question­able diplomas, questionable practices, or with no qualifica­tions whatever, no longer practiced. They were not many, actually, for the proof of their ability lay in their practice and few not qualified withstood that test.

A Territorial Board of Health was also provided for by law on the same date that the medical law was signed. The law entitled "An Act to Protect the Public Health" created the Board with a president, vice-president, and a superintendent—the latter to be a practicing physician and the only one to receive compensation for his services at the salary of $1000 per year. The Act encompassed some very idealistic plans—hoping for accomplishments in the

71. Acts, Resolutions and Memorials, Twenty-second Legislative Assembly, pp. 108-111. The law was sponsored by Dr. John Rowland Whitesides, member of the Council from Mohave County; resident of Chloride, Mohave County; Surgeon for the Santa Fe Railroad and for the Goldroads Mining Company.
matter of public health, far beyond the scope of any one man's activity. The Board was to make and enforce all needful rules and regulations for the prevention, cure, and spread of any contagious, infectious, or malarial diseases. The superintendent was to effect quarantine, and isolation. He was empowered to kill, isolate, and remove animals; remove dead, decaying or putrid bodies; condemn, or cause to be destroyed any impure or diseased article of food offered for sale. The superintendent would cooperate, coordinate, and supervise the several boards of health in city, villages, towns, and counties; he would report the number of cases treated by him, the character and extent of all contagious and infectious diseases.

Each practicing physician was enjoined to report in writing, the death of patients and any contagious diseases discovered; each hotel-keeper to notify the local boards of any contagious disease. Each person dying had to be buried within four days; if dying of an infectious disease burial would be within twenty-four hours in a sealed metallic casket, funeral private.

Each parent or guardian having the care, custody, or control of any minor or other person "shall cause such minor or other persons to be vaccinated." 72 Schools would

exclude children with scarlet fever, diphtheria, smallpox, etc., by permission of the local board of health. The local board would examine cases, establish quarantine, and provide temporary hospitals. Vital Statistics would be recorded in a book at the county superintendent's office. Physician's certificates for death and birth would be provided.

Dr. Robert M. Dodsworth, a graduate of the College of Physicians and Surgeons in San Francisco in 1900, took over this momentous assignment, serving from 1903 to 1905. An organization was effected, vital statistics were recorded in some instances by the physicians. Items appeared in the territorial papers to that effect—whenever physicians made a report of the births attended. Dr. William Duffield became the superintendent in 1905 to 1907. A graduate of the University of Pennsylvania in 1893, Duffield had practiced in Pennsylvania, Iowa, and in Tampico, Mexico, before coming to Phoenix in 1895. In 1898, Duffield went to New York for post-graduate work in surgery. He served as city physician, fire department surgeon, and later became a candidate for the mayorship of Phoenix.

73. The salary of $1000 was not sufficient for a physician to devote more than passing interest to all of the duties prescribed by law. Dodsworth departed the Territory in 1905 for Long Beach, California.

74. Duffield practiced with Dr. Win Wylie in Phoenix; left for Los Angeles after 1907.
The first report in existence by the superintendent of the Territorial Board of Health was made by Doctor James W. Coleman on July 1, 1907. Coleman, who was appointed to that office that same year found no previous records, books, or reports when he took office. County health officers began to be noted in the different counties; records of communicable diseases were maintained by some health officers; birth registrations were still somewhat lacking since midwives attended the majority of cases, but doctors were also remiss in the matter. County health officers had problems: Dr. John Lacy wired Doctor Coleman from Graham County: "A case of leprosy in Clifton. Do not U.S. authorities take charge of such cases. What shall I do with it. Wire answer." Doctors became interested in the matter of supporting public health programs due to the increase of tuberculosis among the residents of the Territory. Dr. Henry H. Stone of Phoenix led the discussion of Territorial and Municipal health laws at the meeting of the Arizona Medical Association.  

75. Dr. James W. Coleman, graduate of Jefferson Medical College in 1893; came to Arizona for his health in 1896; physician for the Crown King Mine in Jerome for four years; to Tucson for three years; served as president of the Arizona Medical Association in 1905; died of tuberculosis in 1908.

76. Records of the Arizona Territorial Board of Health, collected by Marion Sprague of the Arizona State Health Department.
A resolution was adopted at this meeting calling for a reporting of all tuberculous patients to the board of health and requesting that rigid laws be enacted regarding the proper care of sputum with enforcement of the laws or ordinances. A request for a territorial laboratory was made at the 1907 meeting of doctors, the request presented to the Department of Agriculture of the University of Arizona. The laboratory would make an exhaustive and scientific investigation of cow's milk as supplied to the various communities in the Territory, with special reference to pathogenic organisms and with reference to tuberculosis.

A new law, enacted by the Twenty-Fifth Territorial Legislature in 1909, the last territorial legislature to convene, provided for more explicit programs of the Board of Health, in regard to birth registration and the recording of vital statistics generally. Dr. Edward Settle Godfrey, superintendent of the health board, had appealed to the physicians in the matter of public health and vital

78. Minutes of the Arizona Medical Association, 1906.
79. Ibid., 1907.
80. The law enacted in March 18, 1909, was a model public health law in the realm of vital statistics.
statistics at the meeting of doctors in May of 1909, concerning the overall health program. Dr. W. Jarvis Barlow, dean and professor of medicine at the University of California in Los Angeles, delivered the oration on medicine entitled "Modern Medicine; Control of Disease by Prevention," which so stimulated the doctors that they adopted a resolution calling for an extensive communication with all medical groups throughout the United States, seeking their cooperation in educating and apprising their patients of the true situation in Arizona—not to send their terminal cases to the Territory and thus prevent a needless hardship.

Dr. Robert Nelson Looney succeeded Doctor Godfrey as superintendent, serving in both territorial years and in the first years of statehood. Regional problems continued in the control of communicable disease as communities refused to be quarantined when major outbreaks occurred. One community charged that another had smallpox and Doctor Looney was called to settle the difficulty. The Board of Health was beginning to assume more than just passing interest in disease prevention and control by the end of the territorial years.

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82. Ibid.
83. Dr. Looney practiced in McCabe and Prescott; president of the Arizona Medical Association in 1910.
President Thomas B. Davis reported to the Medical Association in 1901 that there were fifty-six members in that organization and that twenty-eight applications were on hand. The doctor reckoned the physician population of the Territory at approximately 200 men of the regular school and the number practicing medicine exclusively would not exceed 100, possibly 110, which was as large a percentage of membership as any state or territory in the Union could boast. There was good attendance at the annual sessions despite the distances that had to be travelled—at no point in the Territory could a meeting place be found that required less than 300 miles travel on the part of many members.

The annual meetings of the Association had not been devoted exclusively to legislation; the major part of the sessions were presentation of papers regarding the practice of medicine, medical ethics, and a discussion of new methods of treatment with the latest theories and discoveries relative to disease causation. Drs. Henry A. Hughes, Joshua Miller, and Ancil Martin had been the staying members who kept the Association going through the territorial years until statehood and beyond. Joshua Miller died in 1901.

84. Logan D. Dameron served the Association in many capacities but was overshadowed by his father-in-law, Doctor H. A. Hughes. William H. Ward also served faithfully until
and many of the other members appeared on the scene for a time, either departed the Territory, or some lost interest, and a number died. Additional members that joined and remained faithful were Charles H. Jones of Tempe, Hiram W. Fenner and William V. Whitmore of Tucson, Thomas B. Davis of Prescott, Peter G. Cotter of Yuma, Otto E. Plath and Darius M. Purman of Phoenix.

A new constitution and by-laws were adopted in accordance with the reorganization plans of the American Medical Association in 1904. The county medical society was to be the component unit of the overall organization with representatives elected from these societies as delegates to the territorial organization, replacing the judicial council once elected by that body. Four counties reported organization and memberships at the 1905 annual session and another was added in 1907 with Cochise, Maricopa, Pima, and Yavapai the first counties, and Santa Cruz the fifth to have county societies. There remained the

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his retirement at age 75. Neil McIntyre and Thomas H. Sabin, of the charter members, attended meetings and supported the organization, also.

85. William T. Barry was an active participant during the few years he was a member. Luther C. Toney also contributed much during his residence in the Territory.

86. Dr. C. H. Jones died in 1907; Darius M. Purman died in 1904; Thomas B. Davis died in 1911.

problem of those counties not yet organized, whose physicians had joined together with other county societies or none at all.

The county medical society had been attempted in Arizona as early as 1879 with Pima County endeavoring to organize in that year. A notice to the effect that a meeting would be held on July 29, in the office of Doctor Mariano Samaniego at two o'clock for the purpose of forming a county medical association and that all regular physicians in Pima County were respectfully invited to attend or signify their views on the matter by letter appeared on the Arizona Star on July 13 of that year. The notice was signed by Doctors John W. Waters, J. C. Handy, M. Samaniego, T. W. Seawell, and R. W. Wilbur, all appending M.D. after their name.

A second notice of the meeting appeared in the Arizona Citizen on July 18, 1879, stating the objectives of the meeting. To prevent unauthorized persons from the practice of medicine and surgery was not the objective, Doctor Waters declared, that was a matter for the law to deal with; rather, the idea was to promote amicable and reciprocal relations among the members of the profession and to improve it by the interchange of views and

experiences, and generally do anything which had a tendency to aid the members in their practice which in turn would be of benefit to their patients. Whether this meeting was held or there were any subsequent meetings is not known, for there were no later reports on the matter.

Dr. Goodfellow, and other physicians in Tombstone, met regularly under the Microscopical Science Society which had among its members mining engineers and others. Reports of the papers read dealt with subjects other than medicine.

Dr. Frank Kenly Ainsworth was the president of the Yavapai County Medical Society before he was elected president of the Territorial Association organized in 1884. This county medical society was organized before 1893 as notices of meetings held were published in the Arizona Miner. Whether the Society was continuous from the one in existence in 1884 is not known. The minutes of the Yavapai County Medical Society, as re-organized in 1904, state that in conformity with the wishes of the American

89. This explanation was given by Dr. John F. Waters.

90. Tombstone Epitaph, March 27, April 17, and April 29, 1882. In addition to Doctor Goodfellow, Doctor H. Matthews, Professor James and other mining men, a few men with military rank appeared among the members.

91. Arizona Journal Miner, August 23, 1893, a notice that the Society would meet in Doctor McCandless' residence; September 20, 1893, Doctor C. A. Sewall, secretary, published a notice that a meeting was to be held.
Medical Association and the sentiments of the last Territorial Medical Association meeting, the old Yavapai County Medical Society met for that purpose in Doctor Clarence E. Yount's office on June 18, 1904. Invitations had been extended to all physicians in Prescott and in the surrounding towns and villages to attend; nine physicians attended this meeting. The next year the Society included thirty-one physicians from Prescott, Jerome, McCabe, Camp Verde, Williams, Winslow, Kingman, Seligman, Flagstaff, Poland, Crown King and Castle Hot Springs.92

Dr. Thomas B. Davis was elected president on motion of Doctor Day, Doctor Yount secretary and treasurer, Doctor Will S. Smith vice-president, and Doctor James M. Coleman of Jerome, delegate to the Arizona Medical Association. Brisley Drug Company donated a box of cigars for the occasion. The purpose of the organization was defined; eligible members included every legally (qualified) registered physician residing and practicing in Yavapai County, who was of good moral and professional standing, and who did not support or practice, or claim to practice, any exclusive system of medicine. The meetings were lively with papers on clinical medicine and surgical procedures delivered by

92. Minutes of the Yavapai County Medical Society as furnished by Doctor C. E. Yount.
the members, a discussion of health problems that existed in Yavapai County, and a program of health education in the public schools which would educate the people in regard to tuberculosis and other communicable diseases.\textsuperscript{93}

The Yavapai County Society entertained the members of the Arizona Medical Association during their annual session in April of 1905. A clinic at the Sister's Hospital and demonstrations of spinal anesthesia together with papers on clinical subjects comprised the professional program; a dinner and a reception at Whipple Barracks with a ride about Prescott in a Tallyho constituted the entertainment.

When an epidemic of typhoid appeared in Prescott in 1905, the Society urged the mayor and city council to take immediate action. The water from the Prescott well was declared utterly unsafe for use. The Del Rio Springs were also deemed unsafe, and all citizens were advised to boil water for drinking purposes. Tuberculosis cases in the town were to be registered and each individual patient instructed in how to prevent the spread of infection; apartments and rooms having been used by these patients were to be fumigated.

\textsuperscript{93} Minutes of the Yavapai County Medical Society, 1905.
All in all the Yavapai Society dared some brave undertakings. A resolution against nostrums was adopted and the newspapers were asked to refuse advertising for such useless and harmful substances. Patent medicines constituting the major source of advertising for the newspapers of that day, it is doubtful if they complied. The public generally should be informed of the public health laws of the Territory, and the Society considered some means of allaying the public with the facts by means of open meetings and educational programs. In all cases of abortion or miscarriage, members would seek a consultation when called to treat such a case in order to protect their good name; none would consent to see such patients except in consultation.

The Society urged that Prescott adopt a filtration plant for the disposal of sewerage; that a committee "wait on" one of the members who violated an agreement in regard to fees in county cases. The surgeon at Whipple was treating civilians, a violation of Army regulations, and he was to be so admonished. Statistics should be compiled on all typhoid cases; a more active program should be initiated in the matter of tuberculosis with free examinations of sputum in all indigent cases. The present health officer was incompetent and incapable of performing his duty and it was advised to get one who could. A resolution was adopted,
asking that the University of Arizona provide a laboratory for the chemical and bacterial examination of milk and water.  

Pima County physicians held their organizational meeting on October 13, 1904. Only six of the twelve doctors in the town attended. Officers were elected with Doctor William V. Whitmore as president, Arthur Wellsley Olcott as vice-president, and John W. Lennox as secretary-treasurer. The organizational meeting, held in Doctor Whitmore's office, completed the business matters at hand and as far as the minutes record, the society did not meet until the next year. The dean of Pima County physicians, Hiram W. Fenner, did not attend. He was elected delegate to the Arizona Medical Association. Mark A. Rodgers, leading surgeon of the town was there as was William Britts Purcell, physician and mining man. Henry E. Crepin made the sixth member, a noted internist active in the preventing of contagious diseases. A few more physicians affixed their signatures to the constitution and by-laws and were declared members. Pima County boasted fifteen members in 1905, including six physicians from Nogales and one from Casa Grande. Santa Cruz County would form their own Society in 1907. Pima

94. Minutes of the Yavapai County Medical Society, 1904-1912.
County recruited additional members to make a total of nineteen by that year including two from Yuma, one from Jerome, and one from Bisbee. The minutes of the Society include the titles of papers read during the meetings, the resolutions adopted, and attritions by death and removal elsewhere—of which there were many.95

Tucson was the meeting place of the Arizona Medical Association in 1908 at their seventeenth annual session and all members responded by assisting in every way possible to make the gathering a success. Dr. Hobart P. Shattuck offered the facilities of Whitwell Sanitarium for clinics. Doctor Rodgers conducted the clinic for the visiting physicians and Doctor Fenner entertained the doctors and wives in his lovely home on the corner of Stone and Pennington.

Pima County held to papers on medical, surgical, and obstetrical practice, and rarely became involved in controversial matters. Doctors Whitmore and Fenner guided the Society along smoothly; communications from other societies which called for resolutions were adopted seemingly without discussion, or the minutes do not record any dissenting opinions. By the end of the territorial period, all six of the charter members were active save one—Doctor Walter B.

95. Minutes of the Pima County Medical Society, 1904-1912.
Purcell who became one of the first members of the profession to meet his death in an automobile accident. 96

Cochise County boasted the largest membership during these early years. Organized in 1904, twenty-eight members were listed by 1905. Dr. Allen R. Hickman of Douglas was the first president, Doctor Harry W. Horn, vice-president, and Doctor Nelson C. Bledsoe, secretary-treasurer. Cochise County had members from eight towns and villages, grew to thirty-four members in 1907, with ten of the original members not listed in 1907, including the president and vice-president. Doctor Bledsoe continued to serve on the board of censors. Officers in 1907 included Dr. Fenn J. Hart, president, Dr. John K. Bacon, vice-president with two additional vice-presidents added in the person of Dr. James P. Armstrong and Dr. C. L. Caven; Dr. Edward S. Godfrey served as secretary-treasurer.

Bisbee led the list in the number of doctors, sixteen members came from that busy place; Douglas had six; Tombstone had three, as did Clifton-Morenci; the remainder were from Benson, Willcox, Metcalf, Paradise, and Lowell. Records are not available of what business was transacted or the nature of meetings held. The majority of the men

were young graduates, accepting their first positions with the mining companies. Those who remained would contribute much to Arizona Medicine in the ensuing years.

The county society experienced difficulty in growth and promotion of programs. Interests were transient with the arrival and departure of physicians characteristic of all territorial years. Distances between towns in the several counties made the attendance at meetings rather sparse. There were ten county societies organized and in existence by the end of the territorial period. Mohave, Gila, and Coconino counties organized in 1911; Greenlee and Yuma the following year. A few men in each county kept the society going and the leaders of the county societies furnished leaders for the territorial association.

The Arizona Medical Association counted a full score of years when the territory became a state in 1912. During that period of time the Association had nurtured the professional growth of hundreds of physicians. The medical profession as found in Arizona was also much aware of its responsibility in providing the best in medicine that was available at that time.
CHAPTER X

NEW THEORIES: MICROBES AND MOSQUITOES

The threat of cholera hung in the air in 1892. Territorial newspapers published much advice on the subject—how it was contracted, the symptoms of the disease, possible cures. The disease appeared in New York in the fall of 1892 and was reported to be spreading westward. Chicago would be holding a World's Fair the next year and it was feared that the disease would be disseminated throughout the nation by the visitors. It was said to be spreading through dried fruits imported from Asia and Europe. The Star assured its readers that there was no fear to be attached to the fruits of Arizona.¹ Dr. Thomas Darlington in Bisbee gave some rules for prevention: boil water, scald cooking utensils, eat no fruit or green vegetables as germs harbored there, eat no food exposed to dust, keep your hands clean, avoid fatigue, depression and anxiety, and take no drugs on your own.²

1. Arizona Star, September 8, 1893.
2. Arizona Journal Miner, September 21, 1892.
The members of the California State Board of Health inspected the old deserted buildings at El Rio for use as a quarantine station for cholera patients that might enter that state from the East on the Southern Pacific line. A passenger on one of the trains was removed from the train at Yuma who was thought to have had cholera and died. Doctors Ainsworth and McGowan had the train quarantined at Yuma and then decided that it was not cholera, the victim just having come from Kansas to visit relatives.³ Dr. William F. Chenoweth was appointed Sanitary Commissioner at the Port of Nogales by the U.S. Treasury Department, the appointment having been made on account of the cholera, the newspaper said. A petition for the doctor’s assignment was signed by nearly all the citizens of Nogales.⁴

All towns got busy on a clean-up campaign with a promise of a fine if the premises were not put in order. Tucson established a health committee with the mayor and councilmen making tours of inspection. Health Officer Weiser and the chief of police found nothing to complain

³ Arizona Star, September 24, 1892.
⁴ Arizona Star, September 17, 1892.
about in Tombstone but warned the residents to be careful. Dr. Scott Helm found 175 nuisances in Phoenix of which 113 were abated. Doctor Goodfellow, appointed Territorial Health and Quarantine Officer, conferred immediately with the California authorities as to what practices to take against the entrance of cholera into the Territory from the West. This appointment created a feeling of security and gave assurance that the health of the Territory in this respect would be thoroughly guarded, the Phoenix Herald announced.

Dr. Thomas S. Collins, in Globe, gave a history of cholera and a description of the disease which was published in the Arizona Silver Belt. Cholera was caused by the comma bacillus which gained entrance into the human body by drinking water or milk contaminated by the intestinal contents from privies or cesspools. The presence of zygomatric disease as diphtheria, scarlet fever, and others, was likely to act as fuel for the epidemic. The doctor advised that the disease was not communicable from man to man as such. The treatment should consist of bed rest, no

5. Arizona Star, September 20, 1892; Tombstone Epitaph, June 2, 1893; Phoenix Herald, April 20 and May 11, 1893.


7. Arizona Silver Belt, July 8, 1893.
food or fluid, the use of wet packs to relieve abdominal cramps, and opium might be indicated during the first stage. Leg cramps could be eased by rubbing and warm baths were also indicated for distress. Calomel was to be administered to cleanse the intestinal tract of the irritating substances and to act as a local antiseptic. The injection of saline fluids into the vein was sometimes resorted to, Collins reported, warmth and stimulation should be provided as supportive measures. The best means was prevention, keep the disease out of the country and quarantine the disease at its source.  

Other remedies published from time to time advised a mixture of aromatic sulphuric acid and paragoric in the proportion of one ounce of the former to three of the latter, taking one teaspoonful every four hours in four tablespoonfuls of water. It was also advised to add one teaspoonful of aromatic sulphuric acid to each quart of drinking water as a means of prevention.  

Various germicidal were recommended that would render the entire intestines antiseptic. Hydro-napthol, a preparation

3. Arizona Silver Belt, July 8, 1893, two column article by Dr. Thomas S. Collins.

9. Ibid., September 24, 1892.
related to carbolic acid but harmless, was reported to be a specific for all cholera germs. Patent medicines all had a ready cholera cure in a variety of preparations.

Cholera did not visit Arizona, but the usual plagues of diphtheria and scarlet fever did. The old plagues were still present, causing much mortality and grief, with an anti-toxin available for those who would use it in cases of diphtheria. Another plague, about which little had been said or mentioned, was also prevalent in Arizona, one that had been taken for granted until the fact that it was as sinister and communicable as any other disease began to make an impression on the medical profession with startling reality. The "white plague" it came to be called as it spread across the land taking its toll in every town, village, factory, school, and family. To escape the consumption, phthisis, pulmonary congestion, or by whatever name the condition happened to be called, the sufferer went West to regain his health in the pure air of the Rockies, or to the desert, or the glorious climate of southern California. The doctors did their bit in advertising that the climate was superior to any on the face of the earth, and that Arizona's pure, dry air would cure the pulmonary sufferer. Their

10. Arizona Star, October 2, 1892, cites the Medical News item reporting on Dr. Stewart's discovery.
articles published in leading medical journals of the East, letters to private physicians and to their schools of medicine, all extolled the healing properties of Arizona's sunlight and pure, aseptic air.

Some few couched their words of praise with the admonition that this was true only in the early stages of the disease; that those in the terminal stages could hardly expect benefit from climate alone. This did not stop the influx of health seekers, and they came in droves. The territorial newspapers recorded their departure, their funeral mostly, and interment in Arizona or the body was shipped back to their old homes either by Wells Fargo or later the railroads. Since not all who came were affluent, a great majority ended their days in the county hospitals, in private homes financed by the churches or other philanthropic individuals, relatives and friends. Whether able to pay or not, the tuberculosis patients ate and slept in hotels, lodging houses, or any accommodations that they could find with none to voice an opinion as to the wisdom of this wholesale influx of persons with a communicable disease.

The majority, however, were not considered invalids and came to earn their board and keep by any means at hand. The tuberculous person engaged in occupations and professions, for a living had to be made and only the more affluent could
afford the rest cure and sole enjoyment of the climate. The movement to build a sanitarium was not motivated by a desire to isolate the tuberculous patient from the rest of the population; it was only to build a commodious and attractive place for the health seeker who could afford it.

Robert Koch demonstrated the etiology of tuberculosis by his discovery of the tubercle bacillus in 1882; the means of diagnosing by laboratory examination could be determined from that date with a laboratory established in connection with the sanitorium founded by Edward Trudeau for the study of tuberculosis in 1894. X-ray, discovered by Roentgen, in 1895, aided materially in the matter of early diagnosis. By the closing years of the nineteenth century, it was an established fact that tuberculosis was not only communicable, but was the leading cause of death in all countries of the temperate zones where accurate vital statistics were collected. 11

The doctors of Arizona were certainly not unaware of the facts concerning tuberculosis since no small number of them came to Arizona because of the condition themselves. A great many of them died of tuberculosis in Arizona, with, perhaps, an equal number having been cured sufficiently to

carry on a medical practice. Accurate diagnostic means not being available generally, it is not known how many were thought to have the disease and perhaps had some other condition; or how many did have the disease and perhaps the diagnosis was not made. The fact that tuberculosis was prevalent among numerous groups of persons having as intimate contact with the public as the doctors did would not be reason to accuse them of spreading the disease during their medical practice.

The idea that tuberculosis was communicable gained credence slowly, especially among those of the old school who had lived with the disease and treated it most of their professional lives. George Goodfellow, never noted for his eminence in internal medicine but rather for his surgery, was reported to have published a three column article in a Los Angeles paper refuting the entire idea that tuberculosis was caused by a germ, that it was communicable, that it was infectious either from man to man, or from animals, living or dead, to man.12 Doctor Whitmore did not pretend to question the matter of the contagiousness of tuberculosis, but wondered that a patient having that disease should be

12. Arizona Journal Miner, October 28, 1896, reports that this article appears in the Los Angeles Times with no date given. A search of all Los Angeles papers for this period does not reveal the article. The resume of the article was given by the Miner.
shut away from society, or considered to be a menace to the health of the city's population. The doctor thought that the laity in their craze about the danger of consumption were exaggerating the actual danger. Whitmore recounted the great amount of interest that had grown in regard to tuberculosis during the past six years, when the most brilliant minds of the medical profession had been engaged in investigating along this line. And what had they come up with? Tuberculin, Antiphthisin, Nuclein, Aseptolin, and the like. The only way these drugs had proved effective was to kill the patient and then the bacilli. 13

The doctors engaged in a serious discussion of tuberculosis and the seriousness of the entire problem in 1901 during their annual meeting in Phoenix. Papers were read about the beneficial effects of Arizona's climate in the cure of kidney diseases and on the treatment of tuberculosis. 14 The management of the patient with tuberculosis weighed more heavily on the minds of a few doctors attending the session; where was he housed? what


provisions were made for the protection of those surrounding the patient? What, if anything, was to be done about this whole matter of infectious persons coming into Arizona towns and communities without precautions of any kind? 15

The heated discussion was instigated by Dr. Henry Hughes, who wanted to know if the doctors believed that tuberculosis was communicable. If so, what did they think of the matter? Hughes pointed out the problem in accommodating patients who came to Arizona for health reasons. The healing waters of the springs at Agua Caliente and elsewhere were undeniable, but what provisions existed there for people? It was found that the accommodations were very primitive indeed, and highly unsatisfactory. Then why invite people to come here for treatment, the doctor wanted to know, when there were no provisions for the people already in the Territory. And as for tuberculous patients, Hughes stated that he hoped not one more person with that disease would come to Arizona until there was some proper accommodation for his care and some measure adopted that would prevent the spread of tuberculosis, far and wide.

This statement brought forth considerable response. Several of the doctors present said that tuberculous cases

should not be kept out of Arizona or they themselves would not have been able to receive the benefits of climate. Hughes kept his position, and charged that the prevalence of tuberculosis was greater than ever before, that he was discovering new cases daily, not among people who came from elsewhere, but among people who had lived in Arizona all their lives. Hughes was supported in this contention by several physicians.

All the problems attendant to the management of the tuberculous patient as they existed in Arizona at that time were discussed. Houses or rooms occupied by tuberculous patients were not fumigated after the person vacated the accommodations—either by going elsewhere or having died in the rooms. Tuberculous persons occupied Pullman cars also, it was pointed out, and who saw to the fumigation of those berths? Tuberculous persons used restaurants at will, attended public gatherings, and were to be seen everywhere in stores, on the streets, in barber shops, and wherever the citizens of the town went. The tuberculous person expectorated freely on the streets and on the floors of public places as well as on the carpets in rooms of hotels and lodging houses. It was generally agreed that nothing could be done about keeping the patients out, but once the tuberculous patient arrived in the Territory, it was up to the profession to do something.
Doctor Hughes pointed out that increasingly large numbers of patients were ending up in the county hospitals, that unknown numbers were being supported by churches, secret societies, and by other charitable means, all an increasing burden on the Arizona taxpayer. Other doctors pointed out that the affluent who came balanced the books to some extent, that they contributed to the growth of Arizona towns and cities, and that there was no reason to speak of a burden on the taxpayer.16

The matter of treatment of tuberculosis continued to occupy the minds of the medical profession. There were so many serums that had been developed, and how good were they? Of what value were the inhalations that had come into such popular use? Oxytuberculine was used by a number of physicians, combined first with the sanitarium idea—a Pneumo-Chemic Sanitarium advertised as early as 1898, located in the Old Vendome Building on West Washington Street in Phoenix.17 Another sanitarium was planned for Scottsdale but it did not materialize. Dr. H. Vance Clymer also


17. Phoenix Herald, February 8, March 7, 1898.
administered Oxytuberculine in rooms in the Porter Build-
ing. "We only ask the patient to breathe," read the
advertisement of the Pneumo-Chemic Sanitarium. Pure Arizona
air, mixed with an antiseptic was forced through the nebu-
lizers at a moderate pressure which saturated the patient's
system, and destroyed the germs without the slightest
inconvenience or danger to the patient. Doctor Clymer
had thirty patients under treatment by the method at his
office, and all showed improvement.

Nothing so appeals to the patient with tuberculosis
as inhalation, Doctor Stroud reported in his comprehensive
review of the cause, pathology, and course of the disease.
The physician knew that there was nothing the patient inhaled
that could kill the tubercle bacillus, but, if the patient
insisted and felt better by using inhalations, it was best
to let him have them or he would go to the quack or charla-
tan for them. Good food with appropriate appetizing
stimulants, bed rest, and supportive measures and medicines
were the best treatment. To build up the system generally,
Stroud advised tonics, cod liver oil, and iron. Good teeth,

18. Phoenix Herald, January 7, 1898. Doctor Clymer,
graduate of Williamette in 1890, came to Phoenix in 1897,
remained for five years, then to Sonora, back to Yuma in
later years for Reclamation Service and as prison physician.

19. Ibid., November 1, 1898. A Dr. J. M. Lisle of
Columbus, Ohio, supervised the installation of the apparatus;
Dr. William Woodruff was the physician in charge.

20. Ibid.
good digestion, good elimination, all played their part in the treatment. 21

The doctor reported that the nitrogen gas injection, as used by Dr. J. E. Murphy of Chicago, had accomplished the best results yet as far as injecting medicine into the lung. Koch's serum was questionable as to efficacy. Medicines to relieve the fever accompanying the disease, the control of hemorrhage, and opiates for pain and cough were all presented by the doctor. Doctor Stroud also spoke of the ambulatory tuberculous patients; the ones that had to earn a living while trying to cure their tuberculosis—which were in the majority as far as he could see. It was one thing to say that persons suffering with tuberculosis should have bed rest and quiet surroundings, it was another thing to see how this would be accomplished with something like 70 percent of all persons have living tubercles within their system. The physician had to become reconciled to this fact and treat the patient according to his ability to continue work and support his family.

The meeting in 1901 closed with a resolution calling for every incorporated town or village to pass an ordinance to better protect its citizens from tuberculosis by providing receptacles containing antiseptic solutions at convenient

stations, particularly in public places, and to provide for the disinfecting of rooms at boarding houses, rooming houses, and wherever consumptive patients might lodge, upon the patient vacating such rooms.22

There was no unanimity of opinion in regard to the treatment of tuberculosis. The bed rest with minimal exercise, and good food regime advocated by Dr. John W. Flinn, and as practiced in his tent sanitarium in Prescott, was not condemned but thought by some not to be sufficient.23 Dr. F. M. Pottenger, of California, made a plea for the use of serum in the treatment of tuberculosis.24 The original tuberculin of Koch, and later preparations which were made by other men, had proved to be of value by stimulating the cells of the individual suffering from tuberculosis, to the formation of defensive bodies, the doctor contended. Additional proof was to be had by noting the cases which did not respond to the ordinary open air, dietetic, and hygienic treatment, but which improved at once when tuberculin was added. Certain sera, notably those of Fisch, Maragliano,


and Marmorek were the best known and had proved to be of value.

Dr. Charles C. Browning, medical director of the Pottenger Sanitarium, gave a more detailed explanation of the use of tuberculin, the preparation of the serum, and the comparative value of other such preparations. There was a bovine tuberculin, Koch's new tuberculin, and the watery extract preparation by Dr. Karl von Ruck. The doctor, after discussing the preparation and use of each, reported their effectiveness in the treatment of tuberculosis.  

Doctors remained somewhat skeptical having fresh in their minds the acclaim that greeted the first tuberculin serum treatment which proved so disappointing. The medical profession generally became embittered against all serums as a result. But the doctors listened and were courteous to the visiting physicians. The concerted fight against tuberculosis would occupy the minds of the medical profession for a good many years after the territorial period. A number of regimes and methods of treatment would be instituted through the years, the basis of them all being bed rest,

proper nourishment, and support for the body generally to
dfight off the invader. Sanitaria flourished until the mid-
twentieth century. Artificial pneumothorax, an array of
medicines, and general hygienic procedures all assisted in
the matter. Education of the public contributed no small
amount in reducing the number of cases.

Dr. Robert Craig, coming to Arizona for his own
health, had worked with the eminent Dr. John B. Murphy of
Chicago who advocated pneumothorax. Doctor Murphy came to
Phoenix in 1902 on a professional visit. Doctor Craig
together with Dr. Louis Dysart, practiced pneumothorax with
nitrogen gas in the days before x-ray. 26 Dr. Harrison
Stroud did considerable surgery in the course of his treat­
ment of chest conditions, treated empyema and lung abscesses,
and studied the manner of treatment of tuberculous cases in
the East and in Europe. John W. Foss was considered to be a
specialist in tuberculosis and presented many papers on the
subject, stressing physical development and hygienic living
as a means of general prevention, the use of serums to
prevent mixed infection in the lungs. Hiram W. Fenner
studied the latest methods of treatment in the United States
and Europe and initiated the open air method in Tucson with

26. John E. Murphy, eminent Chicago surgeon, looked
up his former pupils, Doctor Craig and Dr. A. R. Hickman,
both Rush graduates, practicing in Arizona.
the sanatorium at St. Mary's Hospital. A number of other doctors rose to prominence in the field of chest surgery by reason of their vast amount of experience in treatment of tuberculous cases in Arizona. This had to await the introduction of x-ray and laboratory in addition to the improvement of surgical technique.

Pneumonia eclipsed tuberculosis as the leading cause of deaths from pulmonary diseases shortly after the turn of the century. The diagnosis of pneumonia as differentiated from other chest conditions commonly labelled congestion of the lung came after the etiologic agent had been found. The pneumococcus discovered in 1884, thereafter became one of the greatest problems to confront the medical profession.

27. Artificial pneumothorax used as early as the 1890's in America was not used widely until the 1930's. Surgery during the territorial period was confined to rib resections and tapping the chest, drainage of pleural fluid and abscesses and drainage of cold abscesses.

28. The x-ray was not in extensive use by the physicians of territorial Arizona. The machine had been purchased by several physicians, among them Dr. Ancil Martin who had obtained one as early as 1898. The use of the x-ray was not discussed at the meetings of the physicians, which would have indicated its frequent use during the territorial years. Doctors Caven and Edmundson had a Scheidel-Western machine in Bisbee in 1902 and Doctor Plesnoe acquired one shortly after his arrival in 1904 as physician for the Calumet and Arizona Mining Company. Dr. H. E. Crepin, in Tucson, also was reported to have one of the first x-rays during the early years of the twentieth century, and several other doctors acquired them shortly before the close of the territorial period.

29. The pneumococcus was observed by Pasteur and Sternberg in 1881; shown by Fraenkl in 1884 to be the cause of pneumonia.
The three marked stages of congestion, consolidation, and resolution were characteristic of the course of pneumonia. A regime of treatment was instituted that became standard for the disease: the pneumonia jacket, fresh air and oxygen, stimulants when the crisis had dramatically arrived, and over all, good nursing care.

Captain Henry D. Thomasen employed tepid baths for the high temperature, the patients being immersed in a tub of water for that purpose. Veratrum viride was the favored drug employed early in the course of pneumonia, the drug acting as a powerful heart depressant which slowed down the rapid pulse. Dover's Powders and phenacetin were given for cough. Normal saline injections with adrenalinum, strychnine, nitroglycerine and digitalis were used to restore a weak pulse during the third stage of the disease.30

Venesection was employed by Doctor Thomasen to relieve an overburdened and dilated right ventricle. He advised that it be used only in rare cases as an extreme measure to restore the heart's action. The doctor placed


Charles D. Jones, "Use and Abuse of Veratrum Viride," Transactions of the Arizona Medical Association, 1897, pp. 33-34. Doctor Jones attested to the widespread use of this drug, commonly called hellebore, in the early treatment of pulmonary congestion.
his faith in the treatment of pneumonia in hydrotherapy, judicious use of drugs hypodermically, and the faithful, intelligent, and untiring efforts of the well-instructed soldier of the Army hospital corps. The corpsman, despite prophylactic measures exercised in the care of one pneumonia patient, developed the disease himself due to caring for the sick patient day and night which weakened his resistance to the infection.31

Post-pneumonia patients came to Arizona to recuperate, and to avoid the development of tuberculosis which was sure to follow all cases of weakened lungs. Pneumonia and the resulting complications of empyema and lung abscesses, occupied the attention of general practitioner and specialist for many years thereafter. Treatment tended toward the conservation of physical resources, oxygen administration, and supportive medicines and measures. The convalescence was prolonged and tedious always with the possibility of secondary infection.32


32. Ralph L. Alexander, "Convalescence," in Transactions of the Arizona Medical Association, 1906, pp. 67-70. The doctor thought that too many pneumonia patients were allowed full activities too early, and cited cases contraindicating this practice.
Typhoid fever epidemics were traced without undue difficulty by the doctors to the water supplies in the towns and villages. There was rarely a pure water supply and the problem of obtaining one was not always an easy matter. Rudimentary sanitation existed, garbage and debris collected from the streets mainly to remove unsightly and offensive material; privies were sunk in gravel without sealed vaults, the first rains were followed by surface contamination of the shallow wells. Typhoid and poor sanitary practices were synonymous, Dr. Thomas S. Collins concluded, especially in Globe where the water supply was contaminated by the first shower. Typhoid fever was so frequent and so much a part of every physicians' practice that the doctor was apologetic in presenting a paper on the subject. The classical symptoms of the disease were outlined. Temperature charts ascertained the progress of the fever, but Doctor Collins wished that there was a laboratory to establish an early diagnosis in that there appeared to be so many deviations of the typical symptoms at the onset. A Widal blood test would determine if the fever was malaria or typhoid. One had to wait for the characteristic tongue of typhoid, and the eruption that sometimes appeared on the chest and

abdomen. Frontal headache, weakness, epistaxis, tremor, dicrotic pulse, delirium, tympanitis, diarrhea, and stupor of typhoid came after one week and then the doctor could be sure that it was typhoid that he was treating.

The standard treatment was cold sponging, controlled diet, and Woodbridge's tablets, numbers one, two, and three, administered during the course of the fever. Bathing to prevent bed sores, oral hygiene, and the discriminating use of stimulants as whiskey and brandy, were all used in forty-six cases with but one patient lost during the year just past. The death had been caused by perforation and hemorrhage on the sixteenth day of fever. Perforation and hemorrhage in typhoid was also described in detail by Dr. Joseph Bullock. Extreme restlessness and sighing respiration, hot head and cold extremities were indicative of hemorrhage into the gastro-intestinal tract. Treatment was a sustaining action—bandaging of extremities, administration of depressants, digitalis and ammonia to sustain the heart, and constrictions such as ergot.

34. Woodbridge's Tablets One and Two contained different proportions of Podophyllin, Calomel, Guiacol Carbonate, Menthol and Eucaloptol; Thymol was added to Number Two; Calomel and Podophyllin omitted from Number Three.

35. Joseph Bullock, "Hemorrhage and Its Differential Diagnosis," Transactions of the Arizona Medical Association, 1897, pp. 59-64. Doctor Bullock was stationed at Sacaton in 1897-1898; elected to honorary membership in the Association.
The high incidence of typhoid fever during the Spanish-American War called for an official investigation and the development of a vaccine for prophylactic measures. Typhoid immunization was first tried by the Army on a volunteer basis in 1909 and later employed on a wide scale program in 1911 with the inoculation of troops along the Mexican border in 1911. The use of typhoid vaccine in civilian practice was instituted in Arizona in 1912 with information concerning the prophylaxis explained to members of the Arizona National Guard in 1912. This prophylaxis together with the search for carriers of the disease and eventual elimination of contaminated water and raw milk sources caused a decline in the morbidity and mortality rate of the annual outbreaks of the disease.

Amoebic dysentery was also a problem of the Spanish-American War, more especially among those troops returned from the Philippines although that country held no exclusive rights to the disease. Dr. Louis Dysart advocated the


injection of quinine and silver nitrate solutions into the large intestine as the best intestinal antiseptic for use in these cases. The doctor also preferred a solution of salicylic acid in a one-to-one thousand solution which was much less irritating and could reach the upper part of the colon when administered by enemata. Amoebic liver abscesses which required drainage was a frequent complication of the dysentery. Stools should be carefully examined for the amoeba, the doctor warned. Copious enemata to flush out the lower bowel with the salicylic acid preparation constituted the basis of all treatments outlined by Doctor Dysart.

The usual diarrheal remedies were employed, bismuth and opium leading the list. The surgeon at Whipple Barracks, recently returned from the Philippines was of the opinion that medicines were of little benefit. Patients from the Islands were shipped back as quickly as possible, he reported, and diet was the main method of treatment. The entire matter of diet in dysentery, enteric fever, and continued fevers was discussed by the doctors—the benefits of liquid diets, milk diets, or no diet at all. Therapeutic baths for the continued fever of patients in stuporous


40. Ibid., p. 55. Captain Harry Thomasen was the surgeon.
condition was a matter of individual treatment. Doctor Coleman of Jerome observed that 99 out of 100 of his patients did not have a bath tub, and the cold sponge would serve as well. The whole matter of enteric fever, typhoid fever, dysentery, and diarrheas was to determine what disease you were dealing with, and to do that, a laboratory was needed.

Coming to the fore was the matter of blood counts, used as a diagnostic procedure for anemias and other blood dyscrasias. The doctors presented some typical pathological findings that were determined by laboratory tests in pernicious anemia. Dr. George A. Bridge of Bisbee and Dr. Fred Wright of Douglas gave a presentation of such cases in 1907. They advised the physician to become adept in the matter of making his own blood count, or of interpreting the results of such counts if performed by a laboratory. There should be at least one physician in each community who was proficient in the matter, Doctor Wright thought, and every physician so qualified would then be able to render assistance to his colleagues in the matter of technique, and in interpretation.


Dr. Otto E. Plath maintained such a laboratory service in Phoenix for physicians of Arizona. Previously specimens had to be sent to San Francisco or St. Louis for diagnosis. Dr. Luther C. Toney mentioned sending his slides to Doctor Plath as early as 1898. Dr. W. Warner Watkins, a recent graduate of the Medical College of Virginia, came to Arizona shortly after his graduation in 1906, and attended his first annual meeting of the Arizona Medical Association in Eisebee in 1907. Doctor Watkins served one year as physician for the mining company in Morenci and then moved to Phoenix where his first case was to make a diagnosis on a patient suffering either from typhoid fever or pneumonia. The doctor became associated with Drs. C. E. Plath and E. Payne Palmer in the practice of medicine by 1906, the beginning of his interest in laboratory work which was to become his major concern throughout the remainder of his life.

43. Luther C. Toney, "Failures and Successes in Genito-Urinary Diseases," Transactions of the Arizona Medical Association, 1898, pp. 33-45. Doctor Toney reported that Doctor Plath had assisted in making a diagnosis when smears had been taken and were sent to the Phoenix doctor.

44. Reminiscences of Dr. W. Warner Watkins, Maricopa County Medical Society.

45. Doctor Watkins opened the first laboratory in Phoenix in 1914.
The spirit of inquiry and research characteristic of the physician who came to Arizona for serious medical practice and who devoted his talents fully in every respect to medicine was perhaps best exemplified in Charles M. Jones of Tempe. Doctor Jones practiced fifteen years in Arizona Territory, an amiable and kindly sort of person, yet, strictly professional and articulate on every subject that was the concern of the medical profession. It was the suggestion of Doctor Jones that a committee be appointed among the members of the medical association for the purpose of studying the native plants of Arizona in order to determine if any of them possessed some therapeutic value in the treatment of disease. Doctor Jones had gone among the Indians on his own, and had become intrigued by their sincere belief in the efficacy of plants used in the treatment of many ailments. "It is not simply our privilege," Doctor Jones told the doctors assembled, "but it's our duty" that an investigation be made of these plants used for centuries by the Indians and Mexicans residing in Arizona. A committee was appointed to make a study of the matter and six years later, Doctor Jones made a report,

the only member remaining, as he said, and more than likely the only one with a major interest in the matter.

The cooperation of one of the foremost pharmaceutical houses was enlisted to test the properties of hediondilla, or the shrub more commonly known as greasewood. This plant had been used in various preparations for a great many conditions among the Indians, from flatulence to rheumatic pains. Experiments had been performed by the pharmaceutical house on frogs, dogs, guinea pigs and turtles. The doctor had received a somewhat lengthy report, and but few results were available at the time. The plant extract was a stimulant for the heart in moderate dosage, especially stimulating upon respiration; had a depressant effect upon the nervous system, and had pronounced antiseptic properties. The doctor believed, in view of these findings, that the plant would be effective in febrile diseases, especially those arising from the digestive system; that its use would be beneficial in antiseptic action, in regulating the circulation, stimulating respiration, and as a sedative to the nervous system. The claims made for this plant, therefore, had physiological foundation.47

47. Charles H. Jones, "Essay," Transactions of the Arizona Medical Association, pp. 19-22. Hediondilla was the Mexican name; Covillae-tredentata the botanical name for greasewood. Parke-Davis was the Pharmaceutical Company performing the experiments.
Doctor Jones questioned the supposedly curative action of the plant in hemorrhoids, but believed that it was valuable in treating burns. He had applied the aqueous extract in several instances in treating such cases. When applied to wounds, the glossy coating excluded air, and together with its antiseptic action, was non-irritating and preferable to silver solutions used for that purpose. The coating would not crack as collodion did. The doctor believed that additional tests would indicate the use of the plant internally, an action that he was not ready to vouch for at that time. Samples of the solution were provided of the preparations considered of value which were manufactured by the drug company.\textsuperscript{48}

Nine years later, Dr. Elmer C. Bond of Phoenix reported on the therapeutic uses of \textit{Echinacea Augustifalium}, or Black Sampson, a plant indigenous to the central and western part of the United States. The plant had been used by the Indians for an unknown number of years, by physicians since 1871, and in more recent times to a greater extent. \textit{Echinacea} was a gastric and intestinal antiseptic, the doctor reported, was non-irritating and non-poisonous. It

\textsuperscript{48}. This report by Doctor Jones was the only one made as a result of his investigation into native plants. Doctor Jones died in 1907, and no more was said of a committee to investigate native plants.
was recommended for the sore throat of scarlet fever, acute tonsillitis, pharyngitis, typhoid, dysentery, appendicitis, and any irritation of the gastro-intestinal tract. In puerperal fever and in septic fever, the doctor found the preparation most useful; in wounds the application externally and the administration internally proved beneficial. Echinacea proved to be exceptional in snakebite when other remedies failed. Samples of the preparations made by a pharmaceutical house were provided, the tincture of the root extract, which was only one of many preparations available. 49

The theory of miasms was no more; it was now a question of mosquitoes and a study of their habits and habitats. Doctor Matas and his laborious study into all aspects of yellow fever lived to see the vector of that scourge searched out and convicted. 50 A theory advanced years previously and discarded was finally proved by scientific research. The fight now was to rid the earth

49. Elmer C. Bond, "Therapeutic Use of Echinacea," Transactions of the Arizona Medical Association, 1906, pp. 66-67. This report was not instigated by the committee on plant investigation; rather, it was offered as a report of a remedy that had been in use, prepared by the W. J. Merrill Company.

50. Henri Meru Matas, "Yellow Fever," Transactions of the Arizona Medical Association, 1898, pp. 46-62, a most comprehensive report of all that had been discovered about the case and its treatment up to that time. Doctor Matas died in 1904.
of the yellow fever mosquito as well as the malarial host. New methods of diagnosis and new discoveries had pinpointed the cause of diabetes with as yet no cure; there were many other medical problems looming on the horizon and much remained to be done.

Interest in native medicinal plants did not extend to the medical problems of the Arizona Indian. Dr. Charles Jones was one of the few physicians expressing an interest in native medicine. Dr. Joshua Miller spent several weeks collecting relics in the Hopi country and many more physician-anthropologists studied the cultural life of the various tribes in Arizona, publishing their findings during the latter years of the nineteenth century.51 The physicians hired by the government provided as much medical attendance as one physician could, having a clinical practice extending over 12,000 square miles which included a population of 18,000 persons. This was the case on the Navajo Reservation.52

No overall plan existed for this medical service for the Indians. The physician served without supervision and was adjured only to "overcome the evil influences of the

51. Arizona Gazette, October 29, 1897, estimated that the collection was worth $3000 and was located, temporarily, in the Normal School in Tempe.

52. Annual Report of the Commissioner of Indian Affairs, 1890, xxii.
native medicine men, to abolish their superstitious rites" and barbarous customs, to gain the confidence of the Indian, and to extend his influence among them by kind treatment, exemplary habits, and prompt attention. Among the physicians assigned to various agencies throughout the United States in 1890 were three Indian doctors who had graduated from schools of medicine. Dr. Carlos Montezuma, San Carlos Apache, was assigned to Fort Stevenson, North Dakota, and to the Carlisle Indian School from 1889 to 1896. The hope was expressed that more Indians could be assigned to the agencies as physicians.

Dr. Ales Hrdlicka was employed to investigate Indian health in the United States in 1908. The report furnished gave a deplorable picture of Indian health, and especially noted was the spread of tuberculosis and trachoma.

54. See Appendix II for biographical sketch of Doctor Montezuma.
55. Annual Report of the Commissioner of Indian Affairs, 1890, xxii.
among the Indians of the Southwest. A strenuous campaign and special field investigations started. A hospital was opened at the Indian School in Phoenix which cost $12,000. Arizona Indians were counted and examined—the findings at the close of the investigation disclosed the fact that Arizona had one-eighth of the entire Indian population of the United States within its borders. Some 32,231 Indians were counted and 8,940 cases of trachoma discovered. Other conditions were discovered as well but tuberculosis and trachoma were the most serious at that time. Of venereal disease, which had always been reported rife among the Indians by Indian Agents and others, there was no extensive prevalence.

The establishment of a chief medical supervisor of all Indian health activities began in 1908, which can be called the beginning of the Indian Health Service, augmented only during the 1920's by additional personnel and money to the extent that it could be called a service worthy of the name. The first real appropriation of any sizable amount

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59. Ruth M. Haup, The Indian Health Program from 1800-1955 (Public Health Service, 1959), provides much of this review of the health programs offered the Indian. Also, Annual Reports of the Commissioners of Indian Affairs, 1880-1910.
was the appropriation by Congress for trachoma control work.

The first large appropriation earmarked specifically for Indian Health Service came in 1911 when some $40,000 was so designated. There were other obstacles to any health program that might be instituted as shown by the resistance to the new medicines and new doctors who appeared on the scene by the Indians themselves. Later programs on a full scale found that personnel experiencing this reception had to gain confidence of the Indian before their efforts were acceptable.

The Indian Health Service, after the territorial years, is part of another story that must be told elsewhere. It is sufficient to comment that the Anglo-American and the Indian resident of Arizona existed together in the desert land, one taking little account of the other after hostilities had ceased. Certainly the native Indian, at the end of this time, was the worse off for contact with the Anglo-American invader.

60. The annual appropriation in 1955 was $13,000,000; the year the Indian Health Service was taken over by the U.S. Public Health Service.
CHAPTER XI

AN OLD FORTRESS DEMOLISHED

When Doctor Joshua Miller considered the advances that had been made in surgery over the thirty years just past, he likened the progress to an assault made continually against the old fortress behind whose wall so many of the vanquished had always sought refuge. The wall was spoken of frequently during Doctor Miller's surgical career—it was the unknown that students were warned against by precept and example—mostly against venturing into surgical procedures which involved the abdominal and peritoneal cavity, and of undertaking anything but the old tried and true methods of procedure.¹

Only the bold and adventuresome dared to break these rules. Goodfellow broke the ground in Arizona by his repair of intestinal perforations in the face of uncertain results; he also performed gastrectomies and colostomies in an effort to prolong life and relieve distress. While some of his cases did not survive, in others he was successful beyond hope. His colleagues deemed him a bold and somewhat

imorudent fellow—at least he was not popular with some of them. But the assault had been made and there were a number who followed in Goodfellow's wake—some with ability equal to that of his, and a number that should not have ventured into the field.

There was little left of this old bulwark, the doctor believed. The unrelenting wars of successful conquest had broken down the resistance until barely a shell remained—and this too would vanish as the surgeon dared what then seemed impossible—and what the demands of science and humanity required that he should know and do.

Doctor Miller was a surgeon of no little ability himself. He had been chairman of the department of orthopedic surgery at the University of Kansas for eight years prior to coming to Prescott. The surgeon could not gain proficiency by means of scientific research, Doctor Miller had said, it was only through the accidents that befell the human race that the surgeon learned and made progress. The doctor had attended a number of accident cases during his practice in Arizona, repairing the fractures and lacerations in the attempt to avoid lasting disfiguration.

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3. Arizona Journal Miner, December 13, 1890 and March 14, 1891, report the successful result of an operation when a thumb had been sutured into place three hours after the accident; Arizona Journal Miner, July 7, 1897, the repair of fractures and lacerations of the face.
Abdominal surgery proceeded at a quite rapid pace during the mid-1890's with abdominal tumors removed according to the report of the newspapers. The papers were becoming more circumspect in reporting surgery and surgeons and did not give intimate details of their operations to the press as formerly. A good many new doctors came to Phoenix about this time, and the reports were merely that a difficult operation had been performed which might be major or minor in character upon investigation. After the newspaper item that Dr. Charles McBurney had removed the vermiform appendix of a California millionaire, the appendectomy was performed a number of times. It was the opinion of some members of the medical profession that surgery was being performed by men not qualified for the procedure. 

Inflammation of the bowels became appendicitis without benefit of laboratory confirmation and the operation was performed a number of times with the patient surviving in some instances and sometimes not. Dr. Jack L. Walker came to Phoenix from New Orleans in 1893 and was associated briefly with Drs. Hughes and Dameron before his death the following year. The doctor had undergone an appendectomy

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4. *Arizona Gazette*, August 12, 1893, reported that Doctor McBurney had removed the appendix of John W. MacKay, California millionaire, not the first such operation of that nature by any means.

four years previously, and had suffered recurring trouble thereafter. The doctors performing the autopsy declared that the sutures had not held and that the doctor died of peritonitis. There was some caution exercised by the surgeons in rushing into an appendectomy without an established diagnosis.

A number of new surgeons appeared during the early 1890's in Phoenix—members of the homeopathic system of medicine and headed by Dr. Adelmer M. Tuttle who formed a partnership with Dr. William L. Woodruff in 1892. Doctors Tuttle and Woodruff performed a number of operations from skin grafting to the removal of ovarian tumors. The partners were augmented by Dr. William C. Robbins who was reported to have started a bacteriological laboratory in Phoenix in 1897. The partnership was dissolved by Doctor Tuttle's sudden death in 1898, of spinal meningitis. Robbins then entered into private practice.

5. Arizona Gazette, November 25, 1894.

6. Several deaths had occurred following surgery, reported by the papers, the nature of the surgery or the surgeons were not mentioned. Doctor Hughes gave a paper entitled, "Differential Diagnosis," a copy not available but discussions which followed in Transactions, 1895.

7. Arizona Gazette, January 20, 1896, removal of uterus and all appendages; Arizona Republican, June 11, 1892, Drs. Tuttle and Woodruff performed a successful skin graft for ulcer.

8. Arizona Gazette, December 7, 1897, Doctor Robbins arrived for his health; Improved immediately after his
For the most part, surgery continued in the capacity of a repairing agency for all the accidents and injuries in Arizona, with now and than an intervention to relieve some of the more pressing conditions that presented themselves. Dr. Frederick H. Welles repaired the damage to a perforated intestines caused by a 45 caliber Winchester rifle at short range. The consequent intestinal perforation and fecal extravasation was determined, according to the doctor, by nasal examination at long range. The two wounds in the colon were repaired, the abdominal cavity flushed out with gallons of warm boiled water, and drains inserted. The patient recovered as did a second repair of a perforated colon caused by a 44 caliber ball from a pistol. Doctor Welles also performed an appendectomy and operated on a strangulated hernia with good results in each case. The latter case caused the doctor much perturbation and perspiration. He reported that his patient was killed by a train six weeks after he had gotten him back on his feet again.

Doctor Welles reported that he was not successful in repairing the damage caused by a six-inch knife blade wound arrival; his laboratory reported to be one of the finest in the country; Arizona Journal Miner, May 11, 1898, and Phoenix Herald, April 20, 1898, all attest to Doctor Tuttle’s popularity.

which partially severed the liver, the operation was com-
pleted but the patient died 18 hours later from loss of blood,
and the shock which ensued. The case of gunshot wound was the
doctor's first major repair of an intestinal perforation.
Welles cautioned against the use of ordinary well water for
cooling the boiled water as he observed that his instructions
in the matter were not obeyed to the letter. Normal saline
for irrigating purposes was good to combat the shock in
flushing open wounds, Doctor Welles believed. 10

Doctors Hiram W. Fenner and Mark A. Rodgers were the
two surgeons in Tucson after Goodfellow left. Doctor Fenner
came to Arizona as physician for the Copper Queen Mining
Company in 1881 shortly after his graduation from the
University of Cincinnati in that year. He removed to Tucson
in 1883 and became division surgeon for the Southern Pacific
Railroad after Goodfellow resigned that position in 1893.
Between the time of his arrival and his appointment as
division surgeon, the doctor travelled extensively, taking
post-graduate courses and observing methods of treating
tuberculosis in Europe. He was really more of an internist
than a surgeon; was active in the Arizona Medical Association;

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10. Welles, "Report of Abdominal Section," the case
of gunshot wound was performed in the home of a Mexican fam-
ily; the remaining cases in the hospital in Nogales.
was one of the first members of the Board of Medical Examiners in 1903; served as regent for the University of Arizona; and was the dean of all Tucson physicians after the death of John C. Handy.  

Mark A. Rodgers came to Arizona for the first time in 1892 and located permanently in Tucson in 1895. The doctor had studied under Dr. Stansberry Sutton, eminent gynecologist in Pennsylvania, and had his own private hospital in Allegheny, Pennsylvania, prior to coming to Arizona for reasons of health. Doctor Rodgers founded the Rodgers Hospital in 1906 and sold it in 1913; moving to California in 1915. His practice included many cases of obstetrical complications as well as general surgery; on record was a cholecystectomy performed in 1898. The doctor made many trips East and to the coast. It is doubtful that he enjoyed good health, which may have limited him in the pursuit of his professional career. During his twenty year practice, Rodgers was known as one of the leading surgeons in the Territory.

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12. Doctor Rodgers' report of surgical operations, the majority of which were performed in Pennsylvania, was presented to the members of the Arizona Medical Association in 1898, Transactions, 1898, pp. 27-32.

13. Doctor Rodgers departed Tucson in 1915, died in California in 1917 at the age of 51 years.
Dr. Luther C. Toney became a specialist in diseases of the genito-urinary tract during the few years that the doctor settled down to practice in Bisbee between 1895 and 1900.\textsuperscript{14} The doctor also became a surgeon with considerable experience in urological cases; by 1898 he reported some twenty-nine operations performed for bladder tumors including six papilloma, twenty-two epithelioma, and one sarcoma type of tumor, the total number accompanied by a mortality of twenty percent.\textsuperscript{15} Doctor Toney also reported cases that ranged from urology, gynecology, and orthopedics in addition to general surgery occasioned by stab wounds and other injuries. The physician for the mining companies found that they had all aspects of medical and surgical practice during the course of their service in the camps and communities surrounding major mining developments. Doctor Toney was becoming something of a specialist in urology, either by choice or by circumstance. He appeared to be well read in that subject, and used the cystoscope for diagnosis. The doctor enlisted the aid of physicians experienced in microscopic examination of slides and specimens which he submitted to verify his own diagnosis.\textsuperscript{16}

\textsuperscript{14} L. C. Toney, "Gonorrhoea," Transactions, 1897, pp. 49-54.

\textsuperscript{15} L. C. Toney, "Failures and Successes in Genito-Urinary Diseases," Transactions, 1898, pp. 33-45.

Doctor Toney was afflicted with the wanderlust and his numerous changes of practice and location did nothing toward establishing a reputation in any one field of practice. Coming to Arizona originally as a contract surgeon in 1838, serving as physician to an Indian Agency for a short period of time, and as superintendent of the Insane Asylum, in private practice and as physician in mining camps, Toney eventually settled in El Paso, Texas, for the remaining years of his life after the territorial period.

The miner's work was not only peculiarly dangerous, Dr. James W. Coleman told the doctors meeting in 1901, but neither his surroundings nor his manner of work were conducive to health.17 The doctor was not reporting on the numerous injuries caused by falling rock, or accidental explosions, but more particularly the pathological changes found in examining men who had followed the occupation continually. Powder smoke headache was most frequent of the acute troubles, resulting often after giant powder blasting, where the miner had bloodshot and watery eyes, pupils contracted, flashes of light before the eyes, intense headache, restless twitching muscles, nausea, and vomiting. The

17. James W. Coleman, "Some Pathological Conditions to Which the Miner is Liable," Transactions, 1901, pp. 75-77.
victim staggered like a drunken man and was often discharged from work for that reason.

Sudamina, the skin rough and pebble-like, was another occupational disease. Chronic laryngitis, chronic bronchitis, and tuberculosis, with the lungs the color of the coal they were mining, or if hard rock miners, the lungs gray and gritty, were frequent conditions encountered. Miners worked thousands of shifts without missing a day, even working Sunday. Many worked overtime and the doctor had seen them so exhausted that a trifling illness carried them off. Doctor Coleman had been conducting some tests to detect chronic mineral poisoning in miners and smeltermen, and he undoubtedly had evidence at that time of general systemic poisoning by antimony, arsenic, copper and lead.¹⁸

Miners should be taught how to breathe, the doctor thought, so many of them were mouth breathers. The flickering of the candle light by which they worked undoubtedly did much to contribute to their chronic eye conditions.

This paper of Doctor Coleman's was the only paper presented in regard to the mining industry in Arizona during the territorial period, with the working conditions and hours

¹⁸. Doctor Coleman did not make a report of his findings. He left the mining company in 1906, died in Tucson in December, 1908, while serving as Superintendent of the Board of Health.
of work contributing no little to the number of accidents incident to mining operations.

Dr. Frederick Arnold Sweet served as chief surgeon for the Copper Queen Consolidated Mining Company in Bisbee from 1893 to 1903. The doctor was also company surgeon for the Arizona and Southeastern Railroad during his ten years practice in Arizona which ended with his death in 1903. The hospital of the Copper Queen accommodated sixteen patients and was rarely filled to capacity, the doctor noted in 1894. Doctor Sweet had a number of assistants during the years that he was there, young surgeons coming from the East, spending a year or two, and then returning home. Dr. Charles L. Edmundson came as physician for the Lowell and Arizona Mining Company in 1896, and also served the Calumet and Hecla Mining Company with Dr. C. Lee Caven as assistant in 1900.

Dr. Nelson C. Bledsoe arrived in 1904 as assistant surgeon for the Calumet and Arizona Mining Company in Bisbee in 1904, a recent graduate of the University of California. He remained to become chief surgeon to the company until 1930 when that company was sold to the Phelps Dodge Mining

19. Dr. Frank G. Eastman served from 1893-1895; Dr. Ernest G. Carter, was supposed to be Eastman's relief, no record of his arrival or departure.
Corporation. Doctor Bledsoe was first assistant to Doctors Edmunson and Caven until 1910 when he bought out the latter doctor's interest, serving for twenty years as chief surgeon in the active mining town. The mining companies operated without safety measures until 1910. When such measures were implemented by the mining companies, the accident rate subsequently dropped some fifty percent.

The mining company physician and surgeon had to be an all-around physician and surgeon, ready at any moment to go down into the mine to attend those injured or stricken. The doctors working in eight hour shifts at the top of the shaft had a crew of trained first-aid men down with the miners. The sand flow in the shaft was treacherous. A man fell and broke his leg and Doctor Bledsoe crawled into the drift to administer morphine to ease the pain consequent to his removal. An avalanche came and killed the miner before he could be rescued. The doctor was also the overseer of the public health outside of the mine. The town of Bisbee had 150 cases of typhoid in 1905; a sewer system installed in 1906 eliminated all typhoid. Smallpox was often imported along with the worker and his family that came from Mexico,

20. Information obtained from personal interview with Doctor Bledsoe in 1963.

21. A mining inspector was not provided for until after statehood. Many mining companies began to institute safety precautions before that date on their own due to the high accident rate; a number of smaller companies did not until required to do so by law.
and by 1906 an epidemic broke out in the town. Cases were isolated behind a barbed wire enclosure but one man managed to escape and was hidden by his friends. A town of tin-can shacks housed many of these transient workers and to search out the smallpox patient, Doctor Bledsoe enlisted the assistance of the sheriff. The two men found the patient and brought him back to the pesthouse.

There was surgery to be done other than accidents and injuries; a liver abscess was drained one hot day in a shack on the hill, the kitchen table serving as the operating theater. When pus and drainage flowed out over the table, the anesthetist promptly became ill. Doctor Bledsoe reported that the anesthetist later became prominent in public health affairs in New York. It was a most satisfying career, that of mining company physician, as far as professional experience was concerned. And for observing the changes in mining methods and operational procedure, there was no equal. Doctor Bledsoe witnessed also a change in the miners themselves as the old time American miner gave way to the English miners from Cornwall, called Cousin Jacks, who in turn were superceded by the miners from southern Europe. And then Finnish people came, with a later group still of people from Missouri.  

22. During his practice in Bisbee, Doctor Bledsoe had a new hospital constructed of fifty beds; saw a number
John E. Bacon started his Arizona medical career as contract surgeon with the Army at Fort Grant, coming from Fort Hancock, New Jersey, in 1900. The doctor located in Tombstone at the expiration of his Army duty, and remained there ten years serving as county physician and as surgeon for the residents until 1910 when he accepted the position of chief surgeon for the Miami Copper Company in Globe. Doctor Bacon returned to Chicago and to the East for refresher courses in surgery in order to perfect his own technique, and to discover the latest surgical procedures. During the close of the territorial period a new hospital was constructed with Miami, Globe and Inspiration communities joining in the project. Doctor Bacon drew up plans for the hospital himself. An active participant throughout his medical career in Arizona, in affairs of the Arizona Medical Association of which he served as president twice, of doctors come and go. Among his most poignant memories is the experience of taking the Arizona Medical Board examination on July 4, 1904, in the Phoenix capital building, with the temperature registering 120 degrees.

23. Dr. John E. Bacon practiced in Washington State in 1895. During the Spanish-American War he served as contract surgeon, 1898-1900, when he came to Arizona.

24. Doctor Bacon reported having worked under Dr. J. E. Murphy in Chicago and other eminent surgeons just for the experience of doing so during his trips to medical centers in Chicago and in the East.
Doctor Bacon also represented Arizona medicine at the national conclaves of the medical profession from time to time.

Doctors Bledsoe and Bacon were exceptions to the general rule of physicians and surgeons who came to Arizona. Before the medical practice law went into effect in 1903, few remained for any length of time. The transient surgeon came to the mining town and departed again within a year or less, having seen what the place was like. The majority of these doctors were graduates of reputable medical schools who registered their diplomas as the law then required in the county recorder's office, which is about the only record that exists concerning them. There were a few of the old-timers who never settled down for very long. Dr. Austin C. Wright stopped to practice at Morenci, Bisbee, Minas Prietas in Sonora, Douglas, Mammoth, and lastly in Nogales. Dr. Isaac B. Hamilton interspersed his Arizona practice with a few years in California and located again for a few years in Tombstone, Congress, Sonora in Mexico, and Tucson. Dr. Thomas S. Collins of Globe was always alert to mining developments elsewhere and went to investigate such far away places as the Klondyke, Central and South America, returning to Bisbee again before going to California.

The division surgeons along the Atlantic and Pacific Railroad did a lot of transferring and swapping about of
locations, up and down the line. From New Mexico to Arizona to California and back again until none of the original group of the 1880's were there at the close of the nineteenth century except Dr. Dennis J. Brannen who had long since left the railroad company's employ. Dr. D. J. Brannen was physician in charge of the Flagstaff Sanitarium, established in 1896, which had ten beds for private patients.

George Felix Manning came to Arizona in 1880 for reasons of health but there is no record of his medical or surgical practice until he registered with the Board of Medical Examiners in 1903. The doctor and his family came originally from Alabama. Six years were spent in Texas after his graduation from the University of Alabama in 1874 before settling in—or near—Flagstaff. An occasional note appeared in the territorial papers of the family spending the winter months elsewhere, and of trips made here and there in the Territory. The doctor had two sons who also graduated from the University of Alabama and registered to practice in Arizona before the close of the territorial period.

Flagstaff also had a county hospital of ten beds, a general average of beds for the various county hospitals except those of Maricopa, Yavapai, and Cochise counties which had seventy-five, forty, and thirty-five respectively. Well over 200 hospital beds were supported by the counties.
of Arizona; a number equal to that supported by mining companies and their benevolent associations. Private hospital beds totaled 206 with an additional 75 beds in private sanitaria. The majority of the hospitals maintained by the mining companies and those of private ownership were founded during the closing years of the nineteenth century or during the first five years of the twentieth. Not counted were the many tent colonies that existed in many of the towns and cities.

There seemed to be ample opportunity for the surgeon in Arizona as well as the internist, to develop his capacity as a specialist, and a number did. Dr. Ancil Martin was one of the first specialists in diseases of the eye, ear, nose and throat. Martin performed cataract removals, enucleations, tracheotomies, and treated numerous eye conditions and inflamed ears. He was one of the first proponents for the programs to save eyesight among school children by proper examination and testing. Martin crusaded always for the prevention of ophthalmia neonatorum; warned the doctors of the possibility of mastoid involvement from middle ear infection, and the danger of hearing loss due to chronic catarrh.


26. Ancil Martin, "Traumatic Iritis," Transactions, 1893, pp. 18-19; "Treatment of Acute Catarrh of the Middle
Dr. Henry Hughes also performed surgery on the eye. He was against the use of cocaine anesthesia in cataract operations and preferred general anesthesia for all eye work of that nature.  

Doctor Hughes devoted much of his time to general surgery although he had taken special courses in ophthalmology during his early medical career. Dr. H. N. Matas was also specially trained in eye work and his patients travelled to Tucson from all points in Sonora, Mexico, for attention to eye conditions.

Other than lancing and draining abscesses from quinney and performing emergency tracheotomies, there was little surgery done in the region of the throat. One of the first elective operations on record in the entire Territory was the trimming of an elongated palate by Dr. M. R. O'Reilly of Camp Date Creek; Dr. W. W. Jones of La Paz assisted. The patient was greatly relieved from the distress caused by this condition. Two weeks later the patient was wounded by Indians and it was feared he would not recover.

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28. Arizona Citizen, February 16, 1884; the doctor completed a special course in ophthalmology. Dr. Walter H. Purcell in Tucson also did some eye work; performed an enucleation, assisted by Dr. Mark Rodgers in 1897.

29. Arizona Miner, February 13 and February 27, 1869. This is the first record of Dr. Wilson V. Jones.
Patients reported to be suffering with intense pain behind the left ear or in the middle ear died without relief from surgery. Drs. Goodfellow, Spencer, and Whitmore attempted what may have been the first mastoid operation in 1892, but the patient died the next night. The patient had been troubled with an ear infection for some time.

Blood poisoning and the dreaded streptococcal infection of wounds was much discussed by the surgeons. A streptolytic serum was advocated at about the same time that the role of the streptococcus was clearly understood in 1903. Dr. James W. Coleman thought that the streptococcus played a greater role than any other germ. The cause of puerperal sepsis was known but prevention was another matter. Asepsis and antisepic surgery and midwifery did not exclude blood poisoning entirely.

practicing surgery; the second was during the year 1893 when he assisted Dr. C. H. Jones in a decompression.

30. Arizona Journal Miner, May 26, 1897, one patient was being readied for transfer to San Diego for an operation when he died; Arizona Daily Star, June 16 and June 17, 1892; the doctors performed an operation to relieve the severe inner ear infection, the patient unconscious and delirious.

31. Dr. A. M. Morton, "Two Cases of Streptococcal Infection Successfully Treated with Streptolytic Serum," Transactions, 1904, pp. 31-36; Doctor Morton was from San Francisco.

The scrupulous cleanliness of the area surrounding the confinement case was emphasized and the precautions that were to be taken by the physician, busy though he might be, in observing all measures of asepsis and antisepsis in attending the mother were outlined by Dr. Darius Purman in his presentation on the subject of midwifery. Bichloride of mercury was the favored antiseptic for use in home or hospital for external cleansing as well as douches of the same solution during the course of labor. The attendant was advised to give the douches carefully, and also administer them post-partum, the solution of the bichloride recommended for this purpose was a one four-thousandth solution. The irrigation of the uterus was only occasionally called for, Purman believed, and recognition of this necessity often decided fatefully the course of the post-partum period. A thorough irrigation of the uterus was deemed necessary after two or three days post-partum, when there was evidence of puerperal septicaemia. When the symptoms of restlessness, quickened pulse, elevated temperature, tenderness, and suppression of lochia together with a distinct odor developed, there came the dreadful fight for life. The doctors were admonished not to wear

the same suit in attending a confinement case that they wore while attending a case of scarletina or other infectious disease.34

Pyogenic infection, although due in the main to the streptococcus, was more often the result of mixed infection, Dr. James W. Coleman observed, and he described two cases—one of puerperal sepsis and the other a wound infection in which he used the fluid extract of Echinacea and Unguentum Crede.35 This case of puerperal sepsis was probably caused by a ruptured tubal abscess, the doctor thought, for the mother had had blood poisoning following the birth of her previous child. All symptoms of sepsis were present less than twenty-four hours after delivery, the doctor having given vaginal and uterine douches the previous day due to the foul odor of the lochia. Fluid extract of Echinacea was administered, ten drops every two hours, with applications of the silver ointment to the abdomen, sides of the thorax, legs and arms twice daily. Whiskey was used freely, alcohol baths, hot fomentations, vaginal and intra-uterine douches, all combined with the medicines brought the patient to health rapidly.

34. Ibid., p. 26. The treatment for puerperal sepsis was not given.

The second case of blood poisoning occurred following an injury to a miner's hand when a flying rock cut a gash, possible one-half inch deep, which bled freely. The miner applied some raw potatoes to the wound, reporting to the doctor thirty-six hours later. The entire arm was swollen, skin copper colored, temperature elevated, and a brownish serum oozed from the wound. Calomel was given to clean out the digestive tract. The wound was opened and cleansed with a hot antiseptic, and hot applications continued thereafter. Ten drops of the fluid extract of Echinacea every two hours was given, and the wound again opened with incisions two to three inches made on the arm, to the depth of the muscular tissue. Drains were inserted of gauze strips saturated with iodoform and Echinacea. The entire arm was then anointed with Unguentum Crede, which was also rubbed into the axilla. Hot fomentations were continued night and day. This treatment was continued with change of dressings and debridement of dead tissue from the wound; the man recovered with no residual impairment.

The treatment was not successful in a third case where a little girl ran a nail into her foot. No attention was paid to the wound until five days later when the doctor was called. The mother, in the meantime, applied some salt pork to the wound when the girl complained of pain and a chilly sensation. The entire foot and ankle was gangrenous
and the leg swollen to the knee, the swelling of a peculiar hard, white, glistening character indicating that the lymph vessels were clogged. When the knife was put to the foot, gas escaped which was heard all through the room, the doctor reported. The entire leg by this time presented the appearance of hopelessness, and the doctor was looking for a line of demarcation which might indicate where amputation could be performed as the infection had extended into the groin. The swelling subsided under the application of Unguentum Crede and the administration of Echinacea, with a free use of whiskey. The girl regained consciousness but died one week later of heart failure despite the administration of stimulants. Given another trial, Doctor Coleman would have amputated above the knee as soon as the swelling had started to subside.

Doctor Coleman had used Echinacea and Collargolum as principal remedies in numerous cases of septic infection; he recounted the cases which included infections of every type, the patient responding to the treatment with full recovery. He could not tell how the Echinacea worked; he only knew that it did. Soluble metallic silver was a powerful stimulant to the formation of white corpuscles, he believed, and no cases of argyria had developed from its use. The silver destroyed the germs, the Echinacea destroyed or neutralized their toxins, and he strongly
recommended both of these remedies to the profession.\textsuperscript{36}

The possibility of infection following surgery was a strong deterrent to many surgeons except in such cases where operative interference was imperative to save life. Hospital personnel were not trained nurses, in fact there were few graduate nurses in the Territory until after 1900.\textsuperscript{37} If the surgeon wanted expert attention to his patients post-operatively, he performed that service himself or instructed someone in that art. The first Sisters of St. Joseph received on-the-job training in nursing until they were gradually augmented by Sisters who had received a course in nursing before coming to Arizona. The two first schools of nursing were inaugurated by the Sisters of St. Joseph in Tucson in 1914, and by the Sisters of Mercy in Phoenix in 1910. The Sisters of Mercy, a nursing order, were in the Territory by 1895, and staffed the hospitals in Prescott and in Phoenix.

Doctors in charge of county hospitals and private hospitals had the responsibility of training the attendants in matters of asepsis. A number of women and men were adept in the art as far as the nursing care of the sick, if not in

\begin{footnotesize}
\begin{enumerate}
\item[36.] Coleman, "Blood Poisoning," p. 31.
\item[37.] The \textit{Oasis}, May 6, 1899, reports a graduate nurse brought from San Francisco to attend a post-operative patient in Tucson.
\end{enumerate}
\end{footnotesize}
aseptic technique.38 Doctor Goodfellow had a former hospital steward as an assistant. Doctor Whitmore always reported that he acted as nurse in the home following surgery performed there and stayed the night to perform whatever special care was indicated.39 The first surgeries performed in the home were more than likely attended by less infection than those of a later date in hospitals under the care of untrained personnel.

The greater number of babies born in Arizona during the territorial period were born at home, and a larger percentage were delivered by midwives than by the doctors, especially so among the Mexican-American population. The parteras of the latter group all appeared to have graduated from the same midwife school, according to Doctor Noon who reported his observations on the matter.40 There was much kneading of the stomach and shaking of the abdomen during the process of labor, and a tightly contrived bandage around the patient's abdomen seemed to seriously embarrass respiration as well as circulation. Doctor Noon was called

38. Information obtained from Dr. Meade Clyne in regard to Rodgers Hospital in Tucson where a graduate nurse was in charge after 1913; up to that time the attendants were trained and instructed by the doctors.

39. Dr. William V. Whitmore manuscript.

frequently only to control post-partum hemorrhage, caused in part, he believed, by this vigorous kneading and pushing to facilitate delivery. With all this, the midwives would do nothing in the matter of a retained placenta. Doctor Noon explained that he had been called frequently, some twenty-four to thirty-six hours following delivery, to perform this procedure only to find that gentle manipulation would effect the retained placenta's removal.

The midwives' "timid" use of water and non-use of any antiseptic whatever, with ablutions forbidden during the last month of pregnancy was surprising to the doctor in that, despite this "outrageous" lack of even reasonable cleanliness, there were no ill aftereffects. In only one instance had the doctor seen a case of puerperal septic fever following parturition among this group of patients. Quinine and fowler's solution administered, the latter quite freely, brought the patient to full recovery. The average results of lay treatment, destitute of all precautions and with no knowledge of modern obstetrical instruments appeared to be favorable, with lacerations of cervix or perineum practically unknown. Doctor Noon did not depreciate the value of modern procedures then current in obstetrical practice, but thought that care should be exercised in the indiscriminate use of forceps and curettes. There were cases that called for heroic measures, the
doctor recognized, but as a rule, nature was the best obstetrician, given sufficient time and reasonable assistance. 41

Dr. Mark A. Rodgers had considerable experience in the practice of obstetrics before coming to Tucson and during his medical practice there. The doctor reported on the treatment of eclampsia by the administration of magnesium sulphate hypodermically during his practice in Tucson. The patient's life was almost despaired of but saved, according to the doctor's belief, by this treatment. All classical symptoms of eclampsia were presented when the doctor was called with marked albuminuria, convulsions, and unconsciousness. Morphine was administered, the patient was packed in warm blankets with hot water bottles applied. Croton oil and digitalis had been given prior to the doctor's call. Doctor Rodgers administered five grains of the solution of magnesium sulphate hypodermically and as soon as the patient roused, teaspoonfuls of the solution were administered by mouth. There was marked improvement at once and copious evacuation. Delivery was effected by means of dilatation with Barne's bags and high forceps for there was complete uterine inertia. Complications were numerous as cardiac

41. Mark A. Rodgers, "A Case of Suspected Acute Patty Degeneration of the Kidneys; Eclampsia, and Remarkable Complications," The Medical and Surgical Reporter, LXXIV (March, 1896), pp. 319-324.
distress and respiratory collapse, had to be treated. Later complications of abscess formation from the hypodermic injection, of burns from the hot water bags, and of phlegmasia alba dolens. The albuminaria had cleared by this time, the patient revived and recovered with some residual impairment in the matter of cerebral coordination, speech slurring the most noticeable, and marked impairment of vision. Doctor Rodgers believed firmly that the magnesium sulphate saved the patient's life. 42

Dr. Francis H. Redewill also delivered a paper to the Association meeting in 1903 on the subject of "Eclampsia, Toxemia and Uraemia of Pregnancy; the Pathology and Treatment," and a report of such cases, none having occurred in Arizona. 43 The obstetricians' usual lot was described by Doctor Whitmore who probably registered more babies' births in Pima County than any other physician during his practice in that community. 44 There was not much discussion in

42. Ibid., p. 324. The patient was also mentioned in the Arizona Star, October 12, 1895. Drs. Matas and Rodgers unremitting in their care, remaining with the patient until all danger was past. Dr. M. A. Rodgers also performed caesarian sections, reported one case complicated by a splenic abscess. Minutes of the Arizona Medical Association, 1909.

43. Records of the Arizona Medical Association, 1903. Dr. Francis Hamilton Redewill came to Arizona in 1907; in practice with Dr. Win Wylie, then specialized in diseases of the nose and throat.

regard to the infant and its care; Doctors John W. Flinn and John F. McNally of Prescott, reviewed the subject of artificial feeding of infants with the make-up of milk formulas then in use discussed as to their advantages and disadvantages. An analysis of the constituent quantities of condensed milk and pure cow's milk was given, with a preference expressed for the latter. The modification of cow's milk for suitable infant feeding included: dilution with water, dilution with barley water, treatment with rennet, essence of pepsin, or lime water. Sodium citrate in the amount of one to three grains to the ounce of milk rendered the protein more digestible. Babies fed formulae of condensed milk usually developed rickets. There was no good substitute for breast milk was the general conclusion.

Dr. Stanley Stillman, Professor of Surgery at Cooper Medical College in San Francisco, delivered the oration on surgery at the 1909 meeting of doctors in Prescott. The paper was devoted to surgery in infancy, and the oration replete with illustrations of cases, as well as the current views of the problem by surgeons. Although Doctor Miller


46. Records of the Arizona Medical Association, minutes of the 1909 meeting. The oration given by Dr. Stillman, director of the clinic by that name in San Francisco, is unavailable.
had stressed the point ten years before that there should be more done in the matter of corrective work, especially among children having bone deformities, there is no record of anyone undertaking such measures in Arizona. Orthopedics, at that time, was directed mainly toward repair and restoration following injury. Dr. Isaac M. Zimmerman had presented a method of treatment for congenital club foot in 1902. Doctor Zimmerman started his regime of treatment on an eleven months old child with a congenital club foot two years before he gave the report of the case. The treatment consisted of a series of manipulations and exercises which the doctor performed and instructed the mother how to do them. The foot was massaged and exercised several times during the day, and bandaged in a figure of eight bandage at night. The child at the age of three had shown such great improvement that he thought no mechanical aid necessary; the doctor disapproved of radical measures in such cases until the child was at least ten years old.

The development of more rigid aseptic techniques reduced the likelihood of infection in elective surgery.

49. Isaac M. Zimmerman was reported to have practiced in Pirtleville.
and the wholesale use of antiseptics in contaminated cases greatly lessened sepsis. Some patients died immediately following surgery before death could be attributed to infection. Surgical shock and how best to combat that usually fatal complication was a frequent subject for discussion. Doctor Goodfellow used gallons of hot water to flush the abdominal cavity, not only for cleansing it of purulent material, but to prevent shock, as did Doctor Toney.

Dr. E. Payne Palmer, a relative newcomer to Phoenix, presented a paper to the doctors meeting in 1903 on the value of normal saline solution administered by mouth, by injection, and by transfusion. The physiological effects of the normal saline (0.7 percent solution) in hemorrhage, toxic conditions, and as a means to combat shock were presented as well as a review of its clinical uses. As a hemostatic in cases of hemorrhage, only 150 to 200 cc should be transfused at one time, the amount could be repeated three or four times in twenty-four hours; in uremia and puerperal eclampsia, it acted as a kidney stimulant. A depletory infusion was one in which blood was withdrawn in cases of uremia or toxemia, and a like quantity of the

normal saline infused into the vein. This lessened the toxic effects of poisoning from many sources—carbonic oxide, carbonic acid, chloroform, ether, chloral, belladonna, opium and morphine. In such cases, the saline solution diluted the poison in the blood and furthered the elimination of the toxic substances through its diuretic and diaphoretic action.

Normal saline could also be used in cholera, cholera morbus, cholera infantum, gastro-enteritis and enterocolitis where bowel movements were so frequent and profuse as to drain the system and impair strength; its use in diabetic coma, renal congestion, and severe burns, were also beneficial. Normal saline in the local treatment of burns with gauze saturated with the solution made an excellent dressing.

Before surgery and after surgery, Doctor Palmer advised that from 500 cc to 1000 cc would enable the patient to withstand the shock and loss of blood incident to the operation. The infusion apparatus should stand ready during the operation if there was collapse, or unusual amount of hemorrhage, and following surgery the solution could be given intravenously or by high colon injection. The patient suffered from less thirst, intense shock was lessened and the patient gained strength more rapidly. Normal saline was also advised for irrigating and flushing out the body
cavities during and after operation. In numerous cases of chronic infection as prostatitis, acute and chronic ilio-colitis, the doctor advised instillation of from two to four liters of the warm solution at a time.

The temperature should be from 98 to 115 degrees to suit conditions when administering normal saline; higher temperatures were recommended for shock. The solution could be injected subcutaneously or hypodermically, which might seem like less of a procedure to the patient. In all cases, the solution was of sterile normal saline. It was prepared by adding one heaping teaspoonful of sodium chloride to a quart of boiled water if an emergency existed and the solution could not be measured accurately. Under strict asepsis, no danger was encountered by intravenous or hypodermoclysis.

Chloroform had been the standby for all types of surgery; its administration was relatively safe when the surgery was performed under the most unrefined conditions. During the time that the surgeon operated in the improved hospital surroundings, chloroform continued to be used. Doctor Whitmore administered at least a hundred anesthetics each year during the time that Goodfellow was doing extensive surgery in Tucson, and ether was rarely used, he reported, in that time. The general sentiment among the medical profession had been that a physician who could not
do anything else could safely be entrusted with the anesthesia, Whitmore observed, but the importance of anesthesia was assuming far more stature by the first decade of the twentieth century. 51

Chloroform was not without its danger and some of the doctors arriving from eastern schools preferred ether, as did Doctor Rodgers in Tucson. 52 The use of cocaine as a local anesthetic was in general use by 1892, as dentists were using it for extractions. There were some unfavorable reactions to its indiscriminate use that were discovered too late to rectify. 53 Addiction to the use of cocaine became quite prevalent along with its use for anesthesia. 54

Doctor George Goodfellow was the first Arizona surgeon to have administered spinal anesthesia using cocaine crystals dissolved in the spinal fluid. At what point


53. Arizona Star, November 3, 1891; Phoenix Herald, November 12, 1891; a dentist in Tombstone administered cocaine to a patient who went into convulsions and died; the patient said to have used cocaine whenever he had a toothache; investigation as to dosage and preparation were over what was a lethal dose of cocaine.

54. Cures for alcohol and morphine also advertised a cure for the cocaine habit in 1892-1893.
Goodfellow started using this method of anesthesia cannot be determined. Dr. Hugh Young mentioned the technique used by Goodfellow which had been so successful in spinal anesthesia as early as 1905, which indicated that it had been in use by him prior to that date. Dr. A. W. Morton of San Francisco gave a demonstration at St. Mary's Hospital in Tucson in 1904 of the "efficacy, safety, and certainty of this method of spinal analgesia." Dr. Clarence E. Yount of Prescott, already familiar with the method, made some modifications in the preparation of the solution and the administration of the analgesia after Doctor Morton's demonstration. He reported on its use to the doctors meeting in 1905.

Medullary narcosis first came into use in 1885, Doctor Yount reported, with Dr. J. Leonard Corning in New York first experimenting with the solutions of cocaine injected into the spinal canal for the purpose of inducing


56. Minutes of the Meeting of the Arizona Medical Association, 1904, note that Dr. A. W. Morton, of San Francisco, gave the demonstration at St. Mary's Hospital at the meeting in Tucson on April 27.

analgesia. Doctor Yount had first become acquainted with this type of anesthesia in Washington, D.C., while at the Columbia Hospital for Women in 1900. The technique employed at that time was somewhat different from what was developed later. The first method was to prepare a sterile solution of water, and then drop one-quarter grain of cocaine into the solution of water, again boiling the solution before making the spinal puncture and injecting the solution into the spinal canal without loss of spinal fluid. This method of analgesia was employed widely by French accouchers who had great enthusiasm for it, the doctor reported, and of the first cases on which it was tried, all were used during the early stages of labor.

The cerebro spinal fluid served as the solvent in the cases demonstrated by Doctor Morton, reducing to a minimum the danger of infection and avoiding increased intra-cranial pressure. This method was adopted by Doctor Yount in seventy-two cases of operative surgery in Prescott. The technique of preparation and sterilization of the syringes, the careful step-by-step aseptic observances throughout the procedure, were described.

58. Ralph Major, A History of Medicine, II (Springfield: Charles C. Thomas, 1934), p. 1019, gives credit to Dr. Rudolph Matas of New Orleans in the clinical testing of spinal anesthesia in 1899. Novocaine came into use in 1904 (procaine hydrochloride), but the first spinal anesthesias were of cocaine.
The preparation used by Doctor Yount was tropococaine hydrochloride; the dosage determined—from three-fourths to grain one—in tablets placed in glass tubes previously drawn out at one end, and then sealed by flame at the other when the tablet had been placed within. The tubes were then marked by a file about mid-way to facilitate breaking them when needed. These tubes were then sterilized by subjecting them to 232 degrees of heat. Later it was decided to boil the tubes for five minutes as the prior method was believed to have impaired the analgesic properties of the cocaine. The latter method was found to be not deleterious or toxic in any way.

The spinal puncture with the needle inserted between the third and fourth, or fourth and fifth, lumbar vertebrae, directly in the median line, the spinal fluid obtained, used as solvent for the tropococaine, using fifteen minims of fluid, which when re-introduced into the spinal canal, completed the procedure and the patient was ready for operation.

The level of anesthesia was not always what was desired; nor was the duration as long as required for some surgery. And there were cases when chloroform or ether had to be used to complete the surgery, or used altogether. These occurrences were in the minority, however, the majority of operations proving the efficacy of this method, and the
superiority over other anesthesias for certain types of surgery. Headache resulted post-anesthesia in five percent of the cases, considered to be of severe type; slight headache in ten percent of the cases but considered trivial when compared with those following chloroform or ether. This type of anesthesia was not popular with the patients, however, for they had been educated for two generations to believe that absolute unconsciousness was necessary during a surgical operation. Doctor Yount thought that the surgeon might possibly be more at ease also if the patient were unconscious, but spinal anesthesia had its place in numerous instances where general anesthesia was contraindicated and in obstetrical and gynecological work.

From the types of cases described by Doctor Yount, the extent of a surgeon's practice could be gauged as it existed during the early years of the twentieth century in a town the size of Prescott although some of the cases were operations in which other doctors participated. Fifteen were orthopedic cases, twenty were cases of rectal surgery, eighteen genito-urinary, and there were four laparotomies. The remaining were obstetrical, gynecological, excisions and drainages of tuberculous abscesses, and one ruptured popliteal aneurism.59

59. A case report was presented on this patient in 1906, by Doctor Yount and Dr. R. J. Looney; Transactions, 1906, pp. 51-53.
Surgery continued its advance throughout the remainder of the territorial years with records of compound fractures of the tibia and fibula being wired and good results obtained whereas in former years an amputation would have been done with such fragmented bones not aligned properly.\textsuperscript{60} The doctor held clinics and discussed all aspects of anesthesia, the treatment of appendicitis and the differential diagnosis of such cases.\textsuperscript{61} They had visiting lecturers discuss the matter of thoracic surgery and the whole matter of surgical technique came up for a critical review.\textsuperscript{62}

Doctor Joshua Miller, first president of the Arizona Medical Association in 1892, would have been justly proud of the extent and variety of the papers delivered at the meeting of the Association some twenty years later. Sixteen papers were presented at this meeting, by the members, visiting dignitaries which represented physicians

\begin{itemize}
\item[60.] L. C. Toney, "Two Cases of Compound Fracture of the Tibia and Fibula," Transactions, 1907, pp. 101-105.
\item[61.] Minutes of the Meeting of the Arizona Medical Association, 1908-1912.
\item[62.] Dr. W. W. Beckett, of Los Angeles, delivered the oration on surgery entitled, "Thoracic Surgery," minutes of the 1910 meeting of the Arizona Medical Association.
\end{itemize}
from all areas of the Territory, as well as doctors from California, New Mexico, and Texas, and included in addition the president of the University of Arizona. 63

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63. The meeting of the Medical Association in 1912 was held in Bisbee with Dr. Francis E. Shine, president, and attended by physicians from Los Angeles, Silver City, and El Paso. Dr. Arthur Wilde, president of the University read a paper on "The Relation of the University of Arizona and the Arizona Medical Association." Minutes of the meetings of the Arizona Medical Association, 1912.
Anglo-Americans came from the East--across the continent and by way of the Isthmus--to reach the mining frontiers of the West. The "waves of civilization" reached not only the slopes of the Rockies, but beyond to the very ocean's edge. Some came in sturdy wagons and others in flimsy carts, on foot or mounted, alone or in caravans, and when they reached the gold fields, they mingled with those who came by ship. When the gold played out in California, they doubled back to ransack the eastern slopes of the mountains; some went north to the Black Hills, and others to the desert regions, wherever it was reported that gold was found. The precious metal was discovered in diverse regions at different times but always gold drew like a magnet the motley masses from many continents. The masses were a heterogeneous lot, of the rich, the poor, the beggar-man and the thief who came to scour the mountains and the valleys for the wealth that was to be had for the taking.

Doctors, lawyers, merchants and chiefs came too, abandoning their patients, clients, patrons, and jobs to heed the call of adventure. For the doctor this was
somewhat alien deportment; the medical profession was not counted in such large numbers among those dauntless pioneers wrestling a home in the trans-Allegheny wildernesses. There were more doctors by 1850, certainly, for medical schools had doubled in number in the two decades before the gold rush. Chemistry had come into its own and was among those courses offered in the medical school, more time devoted then to the chemical properties of drugs. Metallurgists and mining experts were on their way but for that time, the graduate physician was as near a scientist as any that existed. He was on the scene of the mining frontier as military surgeon, as scientist-physician with survey and exploration parties, and he was there because he wanted to be along with the rest of the throngs who came for the exciting adventure on the frontier.

Arizona as an appendage of New Mexico was investigated by the bold and intrepid mining developer in the days before the Civil War as old Spanish mines were re-opened and worked in Apacheria. Marauders and desperadoes also infested the regions for civil government was notably wanting. When military forces were withdrawn to join the Union defenses in the East, prospecting parties searched the regions north of the Gila River and east of the Rio Colorado. Rich finds, such as Antelope Hill and the Vulture Mine, were sufficient proof that the western counties
of New Mexico held much promise. The Territory of Arizona was created by Congress because of this rich mineral potential and military forces again came with officers of government dispatched to effect civil control. Military surgeons who came in an official capacity were soon joined by a force of voluntary doctors, civilians from all sections of the continent and from Europe.

Graduate physicians from the best medical schools in the land came along with those who adopted the profession from the school of experience. Hospital stewards and surgical dressers in the war just concluded became doctors of medicine; men who had apprenticeship training with physicians, and some who had attended schools of higher learning that had nothing to do with medicine adopted the title of doctor. Arizona had its share of every description and type, the best along with the worst, and who could tell the difference? Was a man with just a little medical knowledge better than one with none at all?

The doctor enjoyed an enviable reputation on the Arizona frontier. His opinions were sought out and regarded with deference on matters other than medicine. His scholastic achievements placed him in an especially favored position in the community and he fell heir to positions of trust and responsibility whether he so desired them or not. The doctor who managed to complete a full course of medicine
was more often than not from a family that had the means to provide this education. He came to the frontier communities with more than the usual amount of capital to invest and his investments in real estate and business enterprises gave him more than a passing interest in the affairs of the Territory. Often he did a little politicking on the side, and he was always aware of the opportunity to further his financial standing which he was able to do by reason of his position. The opportunist was present always on the frontier; when the doctor belonged to this category, that fact was readily apparent.

There were few of the thousands of doctors who came to Arizona who became permanent residents. The majority returned to their homes of origin when they had satisfied the lure of adventure, or, they went elsewhere to investigate. There were some who remained but shed their profession for more lucrative enterprises; some became affluent members of the Arizona communities, and many found fortune an elusive quality. Many joined the ranks of health seekers who came to Arizona throughout the territorial years.

The health prospector appeared on the Arizona scene early, not in the guise of the invalid at first. Men were advised to go West, it would make new men of them, the rigorous frontier life guaranteed to build up constitutional deficiencies, the frontier environment a desirable place to
make a new life free from undesirable influences of the old life in the East. The frail youth came to escape the factory pall of industrial cities; men sought the "sanitive effects" of the pure dry air for themselves or members of their families. Many came, not as invalids but to regain health after congestive conditions of the lung. They came to work and earn a living at some trade or occupation and continued to engage in all manner of activity including the practice of medicine.

Many were benefitted and had no further trouble; many worked until struck down by a pulmonary hemorrhage. There was no means of determining how many of the health seekers came because they had tuberculosis, or how many came because they thought they had the disease, or how many there were who came who had tuberculosis and did not know it. Diagnoses established by x-ray, laboratory, or other means were yet to be investigated. Too many came in the terminal stages of whatever disease was thought would be benefitted by Arizona climate and were interred beneath the soil of that benevolent land.

The Indian menace having abated, the railroads crossing the Territory providing easier transportation, the health prospector came in greater numbers. More families came and the more affluent arrived, the latter able to afford the luxury of spacious accommodations and freedom
from earning a living. Plans were made to provide more luxurious sanitaria for the affluent. The indigent were cared for in the county hospital, private homes, or wherever an accommodation could be found, supported by friends, lodges, or other philanthropic organizations.

Affluent and indigent both brought the germs of the dreaded tuberculosis, a threat now more insidious than the loathsome smallpox. Smallpox could be quarantined without fear or threat of reprisal. What could be done about this killer—less spectacular perhaps, but as fatal? The problem existed everywhere, not only in Arizona, but throughout the civilized countries of the world. There were new cures everywhere, not only among the patent medicines, but discovered by the medical profession, tried and found wanting. The medical profession in Arizona became alarmed until it was discovered that the problem concerned each and every individual throughout the country. United effort on the part of the physicians in Arizona and in the whole of the United States as well as volunteer agencies were necessary before the dissemination of the disease could be curtailed.

Not only was tuberculosis very much present in Arizona, but all the numerous diseases, contagious and otherwise, just as they were present throughout America. In time a vaccine would be discovered for some, the insect vector found in others, and some required ordinary sanitary
measures to stop the annual visitations. Injuries and accidents required a skillful surgeon, adept in the latest techniques and aseptic procedures before surgery was rendered safe. Arizona doctors, cognizant of the problem at hand, found that mutual benefit was derived from a discussion of the medical and surgical problems that confronted each one individually. The day of the lone practitioner attempting to deal with a multitude of conditions as best he knew how was no longer necessary. Help could be had from other members of the medical profession, assistance and advice were deemed of value and no longer counted as interference.

It was time to shed the bearskin dress of the frontier as far as medicine was concerned, and time to adopt the scientific principles of medical and surgical practice. A few serious minded doctors convinced of this fact, called others to join them in order to attain the overall objectives of scientific medicine. The Arizona Medical Association came into being as a result. Only a few doctors appeared interested at first, others joined the organization when it became evident that the problems were too many to handle as a divided profession. Disease could be prevented if there was a concerted effort on the part of each member of the profession, to register and record the prevalence of communicable disease and to take effective action against its spread. The Territory was rife with the charlatan and the
quack, all promising quick cures and remedies that were more often injurious to the patient than of benefit.

A diploma was no longer a guarantee that the holder thereof was a legitimate practitioner of medicine for there were all varieties and gradations of schools and diplomas. Even this requirement was a singular one, not demanded of any other profession in Arizona. The recorded diplomas nevertheless formed a record that was never to exist for any other group of men coming to the Territory of Arizona, or any other category of citizens.

The role of the reformer was not an easy one, the doctors soon discovered. There was little sympathy in evidence for the medical profession in the attempt to rid itself of all those not qualified. The status quo was acceptable, but when the law was passed, the doctors again were called to account. Questions were too difficult, it was reported, more reasonableness in the matter was politely requested from no less a personage than the Governor of the Territory himself. According to the doctor's viewpoint, the law was not stringent enough, but for the time the matter rested. Attention was turned to the practice of medicine and surgery, to an examination of the treatments for disease, for repair of injury, and the newer surgical procedures that were coming to the fore. There were new serums, new vaccines, newer methods of analgesia, and a whole new approach
to the prevention of accidents and disease. Laboratory methods were being used more and more as an assist to diagnosis; the x-ray would come during the closing years of the territorial period.

The territorial board of health had much the same difficulty in getting started. The law enacted was much too broad in scope and objectives when compared with the means provided for making it work. A later law provided much needed assistance in the matter and a real beginning in public health came under the aegis of a doctor who was cognizant of the overall problems involved. The board of medical examiners also became accepted as a new law provided for some authority to back up the provisions. All of this came about after ten years of effort, of pushing and supporting the measures advocated by all members of the medical profession.

Germs knew no boundary lines between the Anglo-American communities and the Indian Reservation. The United States Government had provided physicians to vaccinate as many of the tribes as was possible and to provide some dispensary service at the various Indian Agencies. The Indian medicine man held sway, as always, in curing and practicing with appropriate ceremonial rite. The hired physician was acceptable to some degree during widespread epidemics but there was no overall program of health service
until the close of the territorial years. A few doctors in Arizona recognized this heritage of native medicine as it existed among the Indians and the folk medicine in use among the Mexican-Americans for centuries. Only in later years did the research turn into a more extensive program of searching out the native plants for use in modern methods of treatment of disease.

Arizona was fortunate in many respects when it came to medicine. A wealth of mineral resources attracted the physician prospector who contributed something of his knowledge for the time he was there. The military surgeon brought in greater numbers by reason of Indian resistance provided a more stable system of medicine for help could always be obtained from the post-surgeon and shelter provided by the post-hospital. The health seeking physician, attracted by the climatic resources, contributed much to the quality of medicine, for he became a more permanent resident as the years passed. All three groups coming in renewed numbers insured that Arizona medicine was of a dynamic quality rather than provincial, in touch always with the latest in medical practice elsewhere.
APPENDIX I

EXAMINATION
APPENDIX I

BOARD OF MEDICAL EXAMINERS OF THE TERRITORY OF ARIZONA
EXAMINATION GIVEN IN OCTOBER OF 1897
(Phoenix Herald, October 14, 1897)

CHEMISTRY (Charles D. Belden, M.D.)

1. Give the common names of the two combinations of Hg and Cl.
2. How are the two distinguishable?
3. State the chemical formula of process of gathering Oxygen from K, Cl, O₂.
4. Discuss the Chemical and Physiological properties of Nitrogen.
5. What is the simplest test for the presence of Arsenic?
6. What chemical act is started by a starchy solution by adding a nitrogenous compound?
7. Name some fixed oils and their derivation.
8. Name some organic acids and their derivation.
9. Name some organic alkalies and their derivation.

PHYSIOLOGY

1. What is protoplasm?
2. What is an ovum?
3. Describe Osteogen.
4. Name the two classes of bone structure.
5. How is each nourished?
6. Give names and number of temporary or milk teeth.
7. Which permanent teeth come first?
8. Where do they appear and at what age?
9. Describe astigmatism, and what is its remedy?
10. What are the functions of the spleen?

OBSTETRICS

1. What changes occur in the menstruating ovule before passing into the Fallopian tubes?
2. What changes occur in the impregnated ovule while passing through the Fallopian tubes?
3. What is the term of gestation?
4. How early may a viable foetus be delivered?
5. What changes occur in the cervix uteri during the first eight months?
6. What changes occur in the cervix uteri during the
ninth month?
7. Discuss the causes and treatment of unavoidable
hemorrhage.
8. Diagnose between after-pains and the pain attending
puerperal inflammation.
9. Describe the lochia.
10. Give the best treatment for inversion of the uterus.

MATERIA MEDICA: HOMEOPATHIC

1. Differentiate Bryonia and Rhus Tox.
2. Give characteristic symptoms of chamomilla umb.
3. Differentiate Nux Vomica and Cantharis as affecting
the urinary organs.
4. Differentiate the cough of Belladonna, Lachesis,
Causticum, Rumex, Cepa, and Phosphorous.
5. Describe the stool of Phosphorous.
6. What is the physiological action of Glonoine?
7. Describe the stool of Aloes and its accompanents.
8. What is the physiological action of aconite?
9. Give characteristic symptoms of Thuja.
10. Describe fever, sweat, and stool of Veratrum Alb.

PRACTICE OF MEDICINE (Win Wylie, M.D., LL.B)

1. Give definition, etiology, symptoms, course and
treatment of scarlet fever.
2. What are the names of the two forms of passive
congestion?
3. With what conditions do we have passive congestion?
4. Give definition, etiology, morbid anatomy, symptoms,
course and treatment of lobar pneumonia.
5. Name the different forms of inflammation of the
kidney.
6. Define embolism and thrombosis.
7. Describe palpitation of the heart, give prognosis
and treatment.
8. How would you diagnose from the sputum the difference
between abscess of the lung and purulent bronchitis?
9. What stain is used in making microscopical examina-
tion for the bacillus of tuberculosis?
10. What murmur would you get with mitral insufficiency
of the heart?

ANATOMY

1. Name the bones of the skull and describe one (give
its articulation and points of interest).
2. Name the ligaments of the knee joint.
3. Name the muscles of the pharynx and describe one.
4. Name the muscles of the forearm and describe one.
5. Describe the common carotid artery and give its surgical relations.
6. Describe the peritoneum and give its various folds and their names.
7. Describe the lumbar plexus of nerves and give the origin and distribution of the same.
8. Name the muscles of the eye, give their action and nerve supply.
9. Describe the stomach and give its blood supply.
10. Give the two anatomical reasons why varicocele is more common on the left side.

**Surgery**

1. Describe the process of reducing a sub glenoid dislocation of the shoulder joint by manipulation and give the reasons therefor.
2. Give the different varieties of appendicitis and treatment of each.
3. Describe the operation of excision of the knee joint for tuberculosis.
4. Name the tendons and where they should be divided in the operation of talipes-equino varus.
5. Describe hydrocele and give treatments.
6. How does oblique inguinal hernia differ from a direct inguinal hernia?
7. Describe McBurney's operation for inguinal hernia.
8. Describe a ranula and give treatment therefor.
9. What is the difference between ulceration and gangrene?
10. What are the microscopical characteristics of carcinoma?

**Gynecology (D.M. Purman, M.D.)**

4. Give different diseases of the uterus and appendages in which Calvinism is useful, and why, and how applied.
5. Name those in which Faradic current is useful and why and how applied.
7. Give six eruptive diseases of the vulva.
10. Give six causes of sterility.

NERVOUS DISEASES

1. What is acute ascending paralysis; etiology, symptoms, variations, pathological anatomy, treatment?
2. What is spina bifida; etiology, forms, symptoms, treatment?
3. Describe paralysis of the musco-spiral nerve; etiology, symptoms, treatment.
4. Describe Erb's palsy.
5. Describe acoustic paralysis; etiology, treatment.
8. Describe progressive muscular atrophy; etiology, symptoms, pathology, treatment.

MATERIA MEDICA

1. Give symptoms of the effect of Iodoform when taken in large quantities.
2. What are the symptoms of Iodoform poisoning by absorption?
3. Give the principal uses of Eucalyptus.
4. Give the different alkaloids of Nux Vomica.
5. Treatment of strichnia poisoning.
6. Give the effects of Cannabis Indica, various preparations, dose and antidote.
7. What is the modus operandi of applied cold?
8. What is cocaine? Give its various uses, dose and antidote.
9. In what disease are cold applications most effective and why?
10. Why is calomel effective in typhoid fever?
APPENDIX II

BIOGRAPHICAL
APPENDIX II

BIOGRAPHICAL

ABBOTT, CHARLES THOMAS. Also known as "T.C.", Prescott circa 1892; practiced medicine there and in Ashfork, April, 1892. Had prior medical training in Australia. To Louisville, Kentucky, for medical school, 1893-94; diploma recorded in Yavapai County, 1894. Dr. and Mrs. Abbott departed for Australia in June, 1898, due to the serious illness of Mrs. Abbott's mother, the Countess von Feitsch.

ABBOTT, GEORGE E., AND SARA Y. Mother and son, came to Prescott in August, 1879; left four weeks later when father and husband, Dr. Nathan Abbott, died in Chicago.

ABBOTT, ROBERT OSEBONIE. Assistant Surgeon, U.S. Army, Fort Yuma, 1854-1855.

ABBOTT, HENRY J. Diploma from Nashville Medical College, granted 26 February, 1873, filed in Cochise County on 19 May, 1874.

AHERNATHY, JAMES NEATON. Contract surgeon, U.S.A. Graduate of Jefferson Medical College, 1867. Fort Bowie, 1872. Died in Oroville, California, 1881.


ADAMS, HENRY F. Professional card, Phoenix Gazette, 1892. Office in residence, Yuma Street, between Adams and Monroe.

ADAMS, JOHN ELMER. Graduate of Ohio Wesylan University, 1898. Registered July 6, 1903. Residence: Flagstaff.


APPLECRO, JAMES THOMAS CLIFFORD. Diploma from Cooper Medical College, granted in 1889, recorded in Mohave County, April 2, 1894. Residence: White Hills, Mohave County.

AINSWORTH, CHARLES F. Read medicine in 1874. Graduate of University of Wisconsin with a degree in law. To Arizona in 1888; did not practice medicine.

AINSWORTH, FRANK KENLY. Graduate of the University of New York, 1878. Prescott in 1880-1886, then to Los Angeles. First Surgeon General, Arizona Territory; first president of a territorial medical organization in 1884.

AINSWORTH, FREDERICK CRAYTON. (1852-1934). Graduate of University of New York, 1874. To Arizona as assistant surgeon in 1878 after tours of duty in the Department of the Columbia and in Alaska. Fort Grant and Fort Whipple duty to 1880. Became adjutant-general of the U.S. Army.

AITON, MARY HENRY. Graduate of Northwestern University (?). Registered December 17, 1904. Residence: Tucson.


ALDRIDGE, JEPHTHA WASHINGTON. Graduate of Cooper Medical College, 1884; diploma recorded in Maricopa County, 30 April, 1885. Residence: Tempe.

ALEXANDER, RALPH LEE. Graduate of University Medical College, Kansas City, Missouri, 1903. Registered June 1, 1903. Residence: Tempe. Eight months in Florence before going to Tempe.

ALEXANDER, ROVA. Diploma from University of California, 1888; recorded in Pima County, January 19, 1897.

ALLEN, A. B. Assisted Dr. T. H. Kinnard at the Silver King Mine in 1888. Health seeker; remained several months.


ALLEN, GEORGE PRESTON. Graduate of University of Michigan, 1877; diploma recorded in Pima County on 13 October, 1885. Residence: San Francisco, where he had a private dispensary. Visited Arizona cities 1883-1885.

ALLEN, H. R. Founder and president of the National Surgical Institute, Indianapolis, and connected with the Aztec Mining Company; visited Arizona towns 1877-1878.

ALSAP, JOHN TABER. (1832-1836). Graduate of a college of medicine in New York and then practiced medicine in California for ten years before arriving in Arizona in 1864; thereafter he practiced law. Sponsor of Maricopa County.


AKOY, JUAN GONZALES. Graduate of the University of Madrid, 1877; diploma recorded in Pima County on 3 May, 1881. No residence listed.

ANDERSON, CHARLES L. G. Contract and assistant surgeon, 1874-1887. Fort Whipple and Verde, numerous scouts in the field.


AP JOHN, HENRI. Graduate of Williamette University, Oregon, 1892. Came to Arizona as physician for the Indian school in Yuma in 1900. Registered May 23, 1903. Residence: Yuma. First health officer for Yuma County.


ARMSTRONG, WILLIAM P. Diploma from University of Louisville, 1857, recorded in Pima County on December 29, 1892. Partner with Dr. Fenner in Tucson; wife died in 1893 of tuberculosis and the doctor left for Wisconsin.

ARNABAR, CANDIDO. (1820-1877) Graduate of the University of Madrid (?); to Yuma in 1861 where he practiced until his death in 1877.

ASTOR, AUVERGNE L. Professional card in the Arizona Gazette, August 1, 1897; offices at 124 W. Washington, Phoenix; speciality: Women's diseases. Gave free lectures on women's rights.

ATCHISON, GEORGE. Diploma from University of Denver, 1893, recorded in Mohave County, 9 February 1894. Residence: White Hills.

ATKINSON, MONROE. Inveterate prospector throughout western territories, 1848 to 1893. Reported to be an ex-Army surgeon, native of Pennsylvania. Prospected in Montana (1851-1869); Arizona, 1878-1892; interim trips to California and Mexico. Last reported in the Old Soldiers' Home, Santa Monica, California, 1893.

BABCOCK, HELEN. Graduate of Cleveland Medical College, 1892; registered 16 July 1903; residence: Chloride, Mohave County. Came from Las Vegas.

BACON, JOHN E. (1869-1904) Graduate of the University of Pennsylvania Medical School in 1892; Contract surgeon, U.S. Army, 1898-1900; Fort Grant in 1898. Private practice in Tombstone 1900-1910; Miami, Arizona, 1910-1932.

BAILY, ELISHA INGRAHAM. Graduate of Jefferson Medical College, 1844. Surgeon in New Mexico Territory, 1847-1848; Medical Director of Arizona, 1871-1873.

BAILEY, J. C. Army surgeon at Fort Yuma, 1867-1868.

BAILEY, J. W. Graduate of Missouri Medical College, 1870. Registered May 27, 1903. Residence: Mesa. Came to Arizona in 1888.

BALDWIN, HENRY YARWOOD. Diploma from University of Victoria College, 1881, recorded in Yuma County on 5 July 1884. Prison doctor from 1885-86; practiced medicine and operated a drug store in Yuma from 1884-1886.

BALDWIN, W. E. Contract surgeon at Fort Yuma, September-December, 1875.


BARNEY, J. G. Doctor in Bisbee, 1881-1889; ran a saloon; received payment for medical services from Cochise County Board of Supervisors; no diploma recorded.

BARNETT, JOHN SHERIDAN. Graduate of Cooper Medical College, 1893. Registered May 23, 1903. Residence: Prescott. Practiced medicine there from 1897-1907; died December 9, 1907. Charter member of Yavapai County Medical Society.

BARROW, CHARLES C. Assistant surgeon, Fort Grant, Whipple, 1882-1886.

BARRY, WILLIAM T. Native of Chicago; physician in Florence and Arizola from 1892-1894. Member of Arizona Medical Association, 1893. Removed to Castroville, California, 1894.

BARTLESON, MARTIN A. Registered 1 June 1903. No medical school listed; died February 12, 1904. Practiced for some five years in Nogales before his death.

BATES, W. A. License issued from Texas, 1886, filed in Pima County, December 16, 1892. Residence: Oro Blanco; also Quijota and Logan in 1883.
BATTIN, WILLIAM HENRY. Graduate of Rush Medical School, 1874; diploma filed in Maricopa County, 1893. Registered 1 June 1903. Residence: Phoenix.


BAYLEY, WALTER A. Graduate of University of southern California, 1905. Registered 24 October 1906. Residence: Bisbee.

BAZELL, JAMES WILLARD. Graduate of University of Louisville, 1909. Registered April 26, 1910. Residence: Winslow (Holbrook, 1911-1923, then to Winslow).


BEARDSLEE, ARTHUR. Graduate of University of Southern California, 1907. Registered October 19, 1908. Residence: Jerome.

BEARDSLEE, N. Doctor Beardslee ran a store and hotel in Bradshaw in 1871.

BEAUCHAMP, HERBERT K. Graduate of Indiana University, 1904; registered 31 January 1906. Residence: Cave Creek.


BECKER, ALEXANDER R. Diploma from New York College of Medicine and Surgery, 1862. Recorded in Maricopa County on October 9, 1896. Residence: Phoenix.


BEDELL, L. L. Diploma from Missouri Medical College, 1895, recorded in Pima County on 8 January 1897. Residence: Tucson. To Prescott in 1896, from Denver. Gave lectures at Reid's Opera House with Dr. Annie Wilder.
BEERS, JOHN E. Contract surgeon, Fort Goodwin and in the field, June-October, 1864.

BELDEN, CHARLES D. Graduate of Homeopathic College, New York, 1868. Diploma recorded Maricopa County, November 6, 1889. Residence: Phoenix. Member of first medical examining board, 1897.

BELL, JOSEPH H. Diploma from Wisconsin Eclectic College, 1896, recorded in Pima County, February 17, 1897. Residence: Tucson. May be same as below.

BELL, J. S. Advertised as a specialist in Tucson, Nogales, Hermosillo, 1897. Used antiseptic air chamber for the treatment of tuberculosis; reported that he had a vegetable specific for the cure of hydrophobia which he had obtained from the Yaqui Indians in Sonora.


BENDELL, HERMAN. Graduate of Albany Medical College, 1862. Superintendent of Indian Affairs, Arizona, 1871-73. Appointed U.S. Consul to Elsinore, Denmark, 1873.

PERSON, ____. Practiced in Pima County in 1896. No diploma on file; to Mexico when charged with practicing without a diploma.


BESSAC, HENRY E. Graduate of University of Michigan, 1873. Diploma recorded in Mohave County 21 January 1893. Residence: White Hills.


BILL, JOSEPH HOWARD. Assistant surgeon, U.S. Army. Fort Defiance, 1859-60.


BLACKBURN, GIDEON. Diploma from Medical College of Ohio, Cincinnati, 1879, recorded in Yavapai County, May 5, 1890. Residence: Prescott. Departed September, 1890.

BLACKBURN, W. R. Associated with the Red Cloud Mine, 1890.

BLACKWOOD, THOMAS J. Diploma from Jefferson Medical College, 1866, recorded in Cochise County, July 17, 1882. Residence: Tombstone.

BLAKE, BENJAMIN F. M. Listed as physician in St. Johns on the 1880 census; advertised as a druggist and apothecary from 1880-1887; sold his drug store in 1887 to W. E. Platt who later became a physician.

BLEDSOE, NELSON CHARLES. Graduate of University of California, 1903. Registered July 4, 1904. Residence: Bisbee.


BOGUE, HENRY V. Graduate of Baltimore Medical College, 1909. Registered October 19, 1911.

BOIDO, LORENZO. Graduate of Cooper Medical College, 1893. Tucson physician, 1899-1912; removed to Phoenix.

BOIDO, ROSA GOODRICH. Graduate of Cooper Medical College. Tucson, 1899-1912. Removed to Phoenix. Wife of Lorenzo Bido above.

BOLD, FRANCIS J. Graduate of Northwestern University, 1902. Registered July 10, 1903. Residence: Globe.

BOND, ELMER C. Graduate of California Medical College, 1899. Registered October 8, 1903. Residence: Phoenix.
BOND, JAMES MORROW. Graduate of California Medical College, San Francisco, 1893. Registered April 19, 1907. Residence: Phoenix.

BONNEY, SAMUEL HARVEY. Diploma from St. Louis Medical College, 1884, recorded in Maricopa County, June 2, 1893. Residence: Phoenix.

BOONE, HENRY W. Contract surgeon at Fort Whipple, 1872-1873.

BOOTH, GEORGE HOPE. English Army physician, settled in Tempe in 1892. Office in Hakes House, Mesa, in 1893.

BORCHEIM, LOUIS EDWARD. Graduate of University of New York, 1880. Diploma recorded in Graham County, July 6, 1882. Residence: Clifton. Also served as justice of the peace, 1882-1883.

BOULDIN, THOMAS J. Graduate of Atlanta College of Physicians and Surgeons, Emory College, 1901. Registered October 18, 1909. Residence: Springerville.

BOWLEY, GEORGE BALFOUR. Graduate of Rush Medical College, 1888. Registered November 2, 1908. Residence: Copper Creek.

BOYD, CARL. Physician at San Carlos Indian Reservation in 1905.


BRADSHAW, ARTHUR FRANKLIN. Diploma from Jefferson Medical College, 1893, recorded in Yuma County 1894.

BRANCH, WILLIAM MILTON. Graduate of University of Nashville, 1909. Registered August 1, 1903. Residence: Superior.


BURNS, FRED C. Graduate of Sioux City Medical College, 1903. Registered July 16, 1906. Residence: Tempe.

BURCH, P. H. Professional card in the Arizona Gazette, July-September, 1893. Physician and Surgeon, offices in the Dorris, Room 1, Phoenix.

BURNS, ISAAC. Contract surgeon at Fort Huachuca in 1906.


BRIDGER, CONANT BODWIN. Contract surgeon, U.S.A. Fort Grant 1867-1871. Graduate of Toland Medical College, October 2, 1866.

BRIDGER, JAMES H. Graduate of University of Michigan, 1903. Registered April 29, 1911. Residence: Duncan.

BROCKHAY, GEORGE N. (1864-1939) Graduate of the University of Buffalo, 1890. Came to Arizona in 1894 from California. Prison physician at Florence in 1899; later went to Phoenix and became a partner of Dr. Win Wylie.

BRODERICK, D. E. Graduate of Rush Medical School in 1901. Registered June 1, 1903. Residence: Bisbee.

BROOKING, JOHN EDGAR. Graduate of Barnes Medical School, 1902. Registered October 9, 1903. Residence: Phoenix.

BROWN, CHARLES P. Graduate of Rush Medical School, 1902. Registered June 1, 1903. Residence: Pearce.
BROWN, DELMAR CASE. Graduate of Northwestern University, 1903. Registered April 15, 1909. Residence: Holbrook.

BROWN, E. Professional card in the Salt River Herald, March 1, 1878. Organic diseases a specialty; office with Major Cox, Phoenix. In Prescott shortly before coming to Phoenix.

BROWN, IRA EDGAR. Graduate of University of Southern California, 1904. Registered December 17, 1904. Residence: Troy.

BROWN, MILTON. Listed as physician in Tombstone on the 1880 census; age 30, born in Missouri.


BROWN, PAUL R. Assistant surgeon, Fort Huachuca, 1884-1887.

BROWN, SAMUEL. Graduate of University of Tennessee, 1911. Registered October 19, 1911. Residence: Bisbee.


BROWNFIELD, ROBERT ROY. Graduate of Medico-Chiurgical, Kansas City, 1903. Salt Lake City, Sonora, Mexico; registered 24 January 1912. Residence: Clifton.

BRYANT, JOHN GRANT. Diploma from University of California, 1879. Recorded in Mohave County January 16, 1892. Residence: Kingman.


BUELL, WILLIAM SEBREN. Diploma from Philadelphia College of Medicine and Surgery, 1835, recorded in Navajo County, August 3, 1895. Specialty: Cure of Rupture. In Winslow and Prescott, 1895.

FULLIIT, JAMES P. Graduate of University of Louisville, 1889. Diploma recorded in Gila County March 27, 1893. To San Francisco in 1894.

FULLOCK, JOSEPH C. Elected to honorary membership in Arizona Medical Association, 1897, from Sacaton.

BURCH, LOUIS M. Diploma from Beaches Medical Institute, Indianapolis, 1886, recorded in Cochise County, October 24, 1896.

BURDICK, EDWIN L. Diploma from Kansas City Medical College, 1871, recorded in Mohave County, December 12, 1881. Residence: Mineral Park.

BURDICK, W. W. Diploma from University of Michigan, no date, recorded in Maricopa County, February 19, 1898. Registered 25 September 1903. Residence: Tombstone.

BURGESS, GRANT. Diploma from Medical College of Missouri, 1885, recorded in Maricopa County, February 23, 1897. Residence: Phoenix.

BURGESS, THOMAS H. Arrived in Phoenix in April, 1886. Came from Colorado; family arrived from Iowa, departed after one month.

BURR, ROLAND THRIFT. Graduate of Tulane Medical Department, 1869. Contract surgeon; Camp Rucker, Camp Supply, Ports Lowell and Huachuca, 1871-1893. To Pomona, California.

BURTCH, LEVI3 A. W. Reported to be a graduate of Rush Medical College, 1897. In practice in Clifton; no diploma on file or registration. Extensive property interests.

BUTRITON, E. W. Graduate of Rush Medical School in 1897. Registered April 22, 1904. Residence: Tucson.

BUTRITON, HENRY G. Contract surgeon, Camp Bowie, 1876. Assistant Surgeon, Camp Verde, 1876-79.

BUTLER, EDWARD ALLISON. Diploma from Boston University recorded in Yavapai County July 12, 1895. Prescott from 1875-1898; appointed to Medical Examining Board in March, 1898; departed for Los Angeles in September 1898.
BUTLER, PIERCE MASON. Graduate of Bellevue Medical College, 1893. Registered October 10, 1902. Residence: Safford. Practiced also in Mammoth, later removed to Winkleman. (1866-1933)

BYRNE, CHARLES C. Assistant surgeon, Fort McDowell, 1881.

CALDWELL, D. M. Big Bug Mining District, 1879.

CALLAHAN, WALTER K. Elected to membership in Arizona Medical Association in 1902, from Sacaton.

CALLENDER, JOHN ANTHONY. Contract surgeon, Fort Lowell, 1872-73. Graduate of Columbia University, 1868.

CAMERON, WATTS. License granted in Denver, recorded in Maricopa County July 6, 1895. Residence: Phoenix. Graduate of American Institute of Homeopathy.

CAMP, C. E. Came to Yuma in 1893 from San Pablo, California. Health seeker; left for Colorado in 1895.

CAMP, J. J. Phoenix physician for thirty years; Civil War veteran, died at age of 93; no date, no source for clipping.

CAMPBELL, JAMES O. Diploma from University of Denver, 1882, recorded in Navajo County October 26, 1896. Residence: Winslow. Came from Ohio.


CARD, Physician in Carlisle, New Mexico. Practiced in Clifton in 1895.

CARLETON, ERNEST GOODELL. Diploma from Columbia University, 1892, recorded in Cochise County 28 February 1895. In Bisbee 1892-1898.


CARPENTER, WILLIAM MERRITT. Contract surgeon, Fort Yuma, 1864–66; Arizona City, 1870.

CARRIER, M. A. Physician in Jerome and Verde River and adjacent communities for twenty-two years. Registered in 1903.

CARROLL, JOHN J. Contract surgeon Forts Bowie, McDowell, Huachuca, and Walnut Creek, 1876–1884. Graduate of National Medical College in 1877.

CARTER, CHARLES. Physician at Sacaton, 1883–84. Received money for care of indigent sick of Pinal County in 1884.

CARTER, EDWARD CHAMPE. Assistant surgeon, Fort Thomas, 1884–86.


CASSADAY, DAVID. Graduate of Gross Medical College, Denver, 1901. Registered October 3, 1904. Residence: Congress. Came from Utah.

CASSELS, E. L. Practiced medicine and ran a drug store in Safford, 1893. No diploma on record.


CAUTHORNE, FRANKLIN. Diploma from Jefferson Medical College, 1879, recorded in Pinal County, n.d. Member of Arizona Medical Association in 1900.


CEDERHOLM, CAROLINE (MRS.). Advertised as physician and nurse in Prescott, 1870.

CHAMBERLAIN, E. O. Went by the title of doctor, Tucson and Calabasas, 1885. Died in Cababi, Pima County, 1885.


CHAPIN, S. B. Advertised as M.D., Druggist, Main Street, Florence, July 4, 1877.

CHAPPLE, HENRY. Graduate of Trinity College, 1889. Health seeker from Montana in 1898. Died in Flagstaff in 1900.

CHASE, E. L. Physician at Santa Rosalie, Hot Springs, Chihuahua; to Clifton in 1885. Mining property in Pima County.

CHENOWETH, WILLIAM F. Diploma from University of Cincinnati, 1888, recorded in Pima County, January 4, 1890. Registered May 23, 1903. Nogales physician 1889-1915 and after.

CHILDS, FRED C. Diploma from University of California, 1895, recorded in Maricopa County on June 10, 1895. Residence: Phoenix.


CHILDS, THOMAS FRANCIS. Diploma from University of California, 1892, recorded in Maricopa County, June 3, 1895. Residence: Phoenix.

CHRISTIAN, ROBERT A. Surgeon, U.S. Vols; Fort Yuma, 1861-1862.
CHONG, ____. Listed as a Chinese doctor in Seymour, A.T., on the 1880 census. Age, 60.

CLARK, C. C. Contract surgeon at Fort Mohave in 1867.

CLARK, DELEBERT ALLEN. Diploma from State University, Iowa, 1894, recorded in Yavapai County December 3, 1894; Cochise County, November 2, 1896; Navajo County, n.d. Advertised as specialist in eye, ear, nose and throat.

CLARK, LOREN NEWTON. Contract surgeon, Camp McDowell, La Paz, Forts Whipple and Mohave, 1873-1886. Graduate of University of Buffalo in 1864.

CLARK, L. D. Also L.A., W.A. Clarke; practiced in Bisbee for several months, 1893-94; arrested for bigamy when first wife appeared; Oasis, January 25, 1894.

CLAYPOOL, SAMUEL BARCLAY. Graduate of University of Nashville, 1897. To Globe in 1897 where his father, William H., was in practice. Registered March 8, 1904.

CLAYPOOL, WILLIAM N. Diploma from University of Nashville, 1897, recorded in Gila County on January 14, 1897. Came from New Mexico.

CLUTTER, JOHN ELLIOTT. To Arizona from Colorado in 1894. Contract surgeon, Whipple and at Tucson. Dillon, Montana, 1882, where he died in 1886.

COFFIN, ____. U.S. quarantine officer at Sasebe in 1884.

Clymer, A. VANCE. Diploma from Willamette University, 1890, recorded in Maricopa County in February, 1897. Residence: Phoenix; in Sonora, Mexico, then to Yuma.


Cody, Eljah T. Diploma from Rush Medical College, 1899, recorded in Pima County October 26, 1899. Residence: Tucson. Jerome, 1898; Prescott, 1899, back to Jerome.


Cole, George E. Diploma from Cleveland Medical College, 1877, recorded in Maricopa County 3 July 1892. Residence: Gila Bend.

Cole, Nemias B. Graduate of Long Island Hospital College in 1863. To Phoenix in 1901. Registered May 4, 1903. Diploma recorded in Maricopa County on September 26, 1896, when living on a ranch in Maricopa County.

Coleman, James William. (1865-1908) Diploma from Jefferson Medical College, 1893, recorded in Yavapai County March 29, 1897. Jerome and later to Tucson.

Collins, Thomas Shields. Diploma from Louisville Hospital School of Medicine, 1886, recorded in Gila County March 17, 1891. Residence: Globe and Silver King. Registered May 27, 1903. Residence: Bisbee.

Conyers, E. L. Graduate of University of Louisville in 1849. Practiced in California for 15 years; to Arizona in 1876; opened an office in Phoenix on Washington Street, next to the Magnolia Hotel.

Conyers, Benjamin L. Diploma from Rush Medical College, 1884; recorded in Cochise County December 27, 1885. No residence listed.

Connor, David L. and W. J. Graduate of Osteopathic School in 1895 (American School at Kirkville, Missouri); to Phoenix on July 1, 1893; offices at 203 East Monroe Street; Licensed on June 3, 1903. Residence: Phoenix.

Connor, John R. Graduate of Southwestern Medical College, Louisville, 1903. To Seligman in 1905.

Cook, William Griswold. Diploma from Northwestern University, 1881, recorded in Maricopa County June 3, 1882. Vulture Mine in 1883; died of typhoid fever in November, 1884, in Prescott, age, 26 years.

Cook, William Harris. Diploma from Rush Medical School, 1875, recorded in Gila County on September 2, 1882. Practiced in Globe, then Flagstaff, and then left for Bakersfield, California in 1894.
COOL, GEORGE WASHINGTON. Diploma from University of California, 1835; recorded in Cochise County on May 17, 1897.


COOPER, BUTLER. Diploma from Iowa Eclectic College, 1883; recorded in Maricopa County, December 6, 1894. Residence: Maricopa County. Phoenix, 1894-97.

COOPER, J. G. Assistant surgeon at Fort Mohave in 1861.

CORNISH, PERY C. Diploma from Jefferson Medical College, 1835; recorded in Yavapai County on October 5, 1855. Physician in Flagstaff from 1885-1896.

CORNUE, PERRY E. Diploma from Homeopathic Medical College, Chicago, 1894; recorded in Maricopa County on November 15, 1894. Office with Dr. A. Tuttle, Phoenix.


COLESON, JOSEPH K. Assistant surgeon, Forts Yuma and Whipple, 1878-1882.

COUCH, ELLIOTT. Graduate of Columbian College, Washington, D.C., 1863. Assistant surgeon at Fort Whipple in 1864.

COVEY, EDWARD M. Assistant Surgeon, Camp at Apache Springs, 1860. Confederate forces in 1861.

CORY, H. M. Physician in Globe, 1898-99. No record of diploma or licensure.

COTTER, PETER GERALD. Graduate of Albany Medical College, 1887; diploma recorded in Yuma County November 30, 1892. Physician at Fort Yuma Indian School; prison physician 1895-96; came to Yuma originally in 1887.

COTTON, ISAAC. Listed as a physician in Sonoita on the 1880 census.
COTTON, V. B. Affidavit from Colorado State Board, 1891, recorded in Yavapai County on August 6, 1894. Colorado mining man and physician in Prescott, 1894-95. Died in Prescott on October 30, 1895, age, 43 years. Caring for diphtheria patients at the time.

COTRELL, ALBERT WALTER. Diploma from University of Buffalo, 1893, recorded in Maricopa County on November 2, 1894. Came to Phoenix with Dr. O. B. Adams in 1894. Registered June 1, 1903. Residence: Tucson.

COUDRET, T. Elected to membership in the Arizona Medical Association in 1901, from Tempe.

COXIE, ALEXANDER MCDONNELL. Diploma from McGill Medical College, 1887, recorded in Mohave County January 3, 1894. Registered May 23, 1903. Residence: Kingman.

COX, S. J. Advertised that he was opening a drug store in Florence, April 27, 1888.


CRAIG, ROBERT WALLACE. (1871-1933) Graduate of Rush Medical College, 1895. Came to Arizona in 1897 from Chicago; junior partner with Dr. John Murphy. Registered June 3, 1903. Residence: Phoenix.

CRAIG, SIDNEY MARTIN. Diploma from Harvard University, 1886, recorded in Apache County, n.d. Came to St. Johns in 1891; to practice on June 28, 1892. Physician in St. Johns and adjacent communities to 1898.

CRAWFORD, JOHN E. Graduate of Western Pennsylvania Medical College, 1905. Registered April 19, 1907. Residence: Phoenix.

CREPIN, HENRY EDWARD. (1862-1914) Diploma from College of P & S, Chicago, 1886, recorded in Pima County 16 March 1886. Also a graduate pharmacist, California College of Pharmacy, 1884. Practiced in Tucson, 1886-1889; 1897-1914.

CREST, ____. Physician on Pima Reservation in 1875.

CRILEY, JOHN M. Graduate of Hahnemann Medical College, 1869; graduate of Jefferson Medical School also. Came to Prescott in May, 1898; office at No. 139 Cortez Street. Registered May 27, 1903.

CROCKER, MALCOLM MONTGOMERY. Graduate of Rush Medical College, 1887. Registered November 18, 1904. Residence: Lordsburg, New Mexico. Fort Mohave in 1890; Gila Bend 1892-95, physician at Indian agencies; practiced also in Graham and Gila counties.

CRON, CYRIL MCLEAN. Graduate of Homeopathic School of Medicine, Iowa, 1908. Registered October 18, 1909. Residence: Phoenix.

CRONKITE, HENRY M. Assistant surgeon at Camp Verde, 1875-76.


CROSBY, WILLIAM D. Contract and assistant surgeon, Forts Whipple, Lowell, McDowell, and Huachuca, 1883-1887.

CROWELL, NATHANIEL SAVAGE. Assistant surgeon, Fort Yuma, 1860-61. Joined C.S.A.

CRUMPTON, HEZEKIAH J. Diploma from Rush Medical School, 1871, recorded in Pima County, 9 June 1885. Residence: Nogales. Born in North Carolina.

CUMMINGS, J. E. Diploma from Missouri Medical School, 1876, recorded in Maricopa County, May 4, 1887. Residence: Maricopa.


DALBY, WILLIAM THOMAS. Diploma from College of Medicine, Omaha, 1885, recorded in Apache County, April 6, 1885. Practiced medicine in St. Johns, 1885-89.
DALEY, BERNARD. Diploma from University of Louisville, 1887, recorded in Maricopa County on April 12, 1887. Residence: Phoenix.

DAILY, THOMAS P. Graduate of Northwestern University, 1903. Registered October 23, 1903. Residence: Phoenix.

DAMRON, LOGAN D. Diploma from Hospital College School of Medicine, Louisville, 1891, recorded in Maricopa County, 9 February 1892. Charter member of the Arizona Medical Association. Registered September 25, 1903.

DANIELS, J. S. Professional card, Arizona Silver Belt, February 28, 1891: Physician and obstetrician; late of Baltimore, Maryland, offices on Main Street, Moss Moors. In Tempe briefly; later in St. Johns in 1892 where he opened a saloon. No diploma on file.

DARLINGTON, THOMAS. Diploma from Columbia University, 1830, recorded in Cochise County, April 8, 1889. Listee physician, 1889-92; returned to New York.


DAVENPORT, L. ORTON. Graduate of Western Reserve, 1901. Registered July 20, 1911. Residence: Humboldt.

DAVEY, FRANK D. Diploma from College of P & J, Chicago, recorded in Maricopa County, January 9, 1895. Residence: Maricopa County. In Phoenix January 10, 1894.

DAVIES, WILLIAM JOHN. Diploma from Rush Medical School, 1889, recorded in Maricopa County, February 23, 1897. Residence: Phoenix.

DAVIDSON, . Oasis, October 29, 1896, Doctor Davidson purchased the drug store of Dr. A. H. Hoeffer.

DAVIDSON, H. S. In and around Tombstone and Crittenden, 1892.

DAVIS, CLINTON HORATIO. Graduate of Miami Medical College, 1877. Tucson from March to June, 1886, when he was killed in the Rincon Mountains by Apaches.

DAVIS, HUGH M. Contract surgeon, Forts Apache, McDowell, Whipple, 1871-73; Physician Colorado River Indian Reservation, 1873-74; Located in Pinal, 1880-83; left for San Francisco.
DAVIS, J. H. With 7th California Vols. (Inf.), 1864-65; died in Prescott December 29, 1866.


DAVIS, W. J. Medical training in Canada; eleven years as physician in charge of Arizona Copper Company hospital, Morenci. Arrived in Arizona circa 1889. Appointed to first medical examining board in 1897 as representative of the homeopathic school of medicine but the doctor did not serve.


DAVISON, J. ALVAN. Diploma from University of Maryland, 1874, recorded in Yavapai County on 22 November 1893; Prescott from 1893-94; Navajo County in 1899.

DEAN, JOHN SEDGICK. Diploma from University of Michigan, 1892, recorded in Mohave County, May 13, 1891. Residence: Kingman.

DECORSE, ALBERT E. Physician in Yuma from 1863-1891. Partner with Dr. Tassart; prison physician.

DEL AMO, JUAN. Physician in Tucson in 1881; office on Meyer Street.

DENNETT, JOHN E. Diploma from Harvard, 1894, recorded in Yavapai County August 31, 1896. General practitioner in Congress, 1894-1903; Silver Bell, 1910.

DENNIS, LOUIS A. Graduate of University of Pennsylvania, 1894. Registered October 9, 1903. Residence: Phoenix.

DENNY, FRANKLIN M. Diploma from Rush Medical College, 1866, recorded in Apache County November 23, 1883. Residence: St. Johns.

DEWITT, CALVIN. Assistant surgeon, Forts Whipple, McDowell, Yuma, 1871-72.

DIAZ y DIAZ, PAULO. Diploma from University of Havana, 1884, recorded in Maricopa County in March, 1892. Residence: Phoenix.

DICKEY, DUDLEY. Listed as a physician in Tombstone on the 1880 census.

DICKEY, JOHN V. Diploma from Homeopathic Medical College, St. Louis, 1881, recorded in Yavapai County, October 6, 1882. No residence listed.

DIELTRICH, HENRY. Registered July 10, 1903. Residence: Morenci. Medical school not listed.

DIETZ, WILLIAM B. Former contract surgeon; practiced in Clifton September-October, 1887, as relief for Dr. Lacy.

DIMMELL, MAURICE KEMAN. Diploma from Boston University, 1883, recorded in Maricopa County 1 June 1896. Residence: Phoenix.

DIVEN, ANDREY H. Affidavit from Oregon Board of Medical Examiners, 1895, recorded in Maricopa County February 28, 1896. Medical school not listed. Residence: Phoenix.


DIXON, ARCH, JR. Graduate of Bellevue Medical College, 1891. Registered 1 June 1903. No residence listed.

DOBSON, MRS. M. Professional card, Arizona Sentinel, September 23, 1878. Office on Main Street, opposite Martin's Drug Store. Card printed in paper one year, M.D. appended to her name; ladies' and childrens' disease a specialty.

DODDS, WILLIAM DOVEE. Also spelled Dods. Contract surgeon Camp Beale Springs, Camp Grant, 1870-72. Graduate of University of Nashville, 1866.

DODGE, JOHN L. Diploma from University of Louisville, 1887, recorded in Yavapai County July 8, 1895. Residence: Prescott. Registered 23 September 1903.

DOLLEY, FRANK CURTIS. Diploma from University of Vermont, 1896, recorded in Maricopa County February 11, 1897. Residence: Arizola. Registered May 27, 1903. Casa Grande.

DORON, PAUL RIMER. Graduate of Washington University, St. Louis, 1905. Registered July 25, 1905. Residence: Phoenix.

DORR, LEVI LEVIS. Contract surgeon, Camp Grant and Goodwin, 1867-71; on scouting expeditions. Graduate of Georgetown College and Bellevue Hospital in 1866; San Francisco in 1875.


DRAKE, JAMES A. Diploma from University Medical College, Kansas City, 1896, recorded Maricopa County June 17, 1896. Residence: Mesa. Registered May 27, 1903.


DUKE, GEORGE. Former hospital steward. Tucson druggist 1884-86. Called doctor.

DUNCAN, J. E. Came from Glasgow, Scotland; practiced in St. Johns from 1890-91. Returned to Scotland. Office in building formerly occupied by Dr. Dalby. Well liked physician.


DUNLAP, J. Settled in Tonton Gila County, on a ranch in 1890. Practiced medicine; ranched and raised potatoes which he sold in Globe. Last mentioned in 1894.

DUNLEVY, JAMES. Contract surgeon, Fort Yuma, 1869. Listed as physician in La Paz on the 1864 territorial census.

DUNN, EUGENE CLARENCE. Diploma from University of New York, 1881, recorded in Cochise County in 1881. Physician in Tombstone, 1881-1889.

DURANT, HENRY KINSLEY. Contract surgeon, 1871-72; Forts Goodwin, Lowell and Crittenden. Born in Bermuda and died there in 1877.

DUTCHER, JOSEPH WILLIAM. (1846-1898) Diploma from Albany Medical College, 1870, recorded in Yavapai County on 12 November, 1891. Came from San Diego. Practiced in Prescott until his death in 1893.


EAGAN, P. R. Assistant surgeon at Fort Bowie, 1884-1885.

EALY, ALBERT E. Graduate of University of Pennsylvania in 1870. Recorded diploma in Mohave County on June 27, 1893. To Kingman in 1891. Registered May 23, 1904.

EAVES, C. J. Physician in and around Crittenden in 1897.
EASTMAN, FRANK GARLAND. Diploma from Columbia University, 1890, recorded in Cochise County on 24 February 1893. Physician at Copper Queen until 1895; left for the East.

EATON, THOMAS J. Diploma from New York Medical College, 1859, recorded in Maricopa County 11 April 1892; Pima County on 13 May 1885. Toured Arizona from 1885-1892 as representative of a surgical infirmary, Indianapolis, Indiana.

EDDY, OTIS JUDD. Contract surgeon 1871-1877 at Forts Yuma, Lowell, Huachuca, and at Ehrenberg. Graduate of Long Island College Hospital in 1870.


ELDER, JOHN WILLIAM. Diploma from Western College of Pennsylvania, 1892, recorded in Yavapai County on July 22, 1896. Residence: Congress.


ELLIS, JAMES. Arrived in Tucson May 22, 1881, from Anaheim, California. Came with a four horse team and spring wagon which he offered for sale.

ELLIS, JAY BARTLETT. Graduate of Hahnemann College, Chicago, 1892. To Arizona in 1905; settled in Safford. Registered October 19, 1911. Residence: Cochise.

ELLIS, RICHARD WOOLSEY. Diploma from University of Michigan, 1871, recorded in Maricopa County June 2, 1894. Residence: Phoenix.

ELLIS, ROBERT A. Diploma from Louisville Academy of Medicine, 1882, recorded in Maricopa County 13 February 1893; Pima County 20 February 1893. Residence: Tucson.

ELLIS, WILLIAM CLYDE. (1875-1931) Graduate of Medical College of Ohio, Cincinnati, 1899; registered April 17, 1907. Residence: Phoenix. Built the Ellis building in Phoenix.
ELLIS, THOMAS E. Physician at Pima Agency, 1833-1834. Left for Santa Monica, California.


ESCH, OTTO. (Engelbert Rudolph Otto). Native of Prussia who came to Tombstone in 1880. Contracted pneumonia and died quite suddenly August 8, 1880.

ESCHMAN, . Managed a drug store owned by Dr. P. T. Osborne, Phoenix. Held mining interests and ran a museum, 1890-97.

EVANS, DAVID JONES. Contract surgeon, Camp McDowell, Date Creek, 1871-72. Graduate of the University of Pennsylvania, 1851. Died in San Bernardino, California, 1893.

EVANS, EDWIN ELGIN. Graduate of University of Missouri, 1891. Missouri license recorded in Maricopa County 23 February 1903; passed Arizona Board M.D. 18 June, 1899.

EVANS, JOHN M. Diploma from Starling Medical College, 1864, recorded in Maricopa County May 29, 1893. Real estate and mining interests.


FARIS, WILLIAM J. Diploma from Keokuk, Iowa, 1879, recorded in Maricopa County on 10 December 1888. Residence: Mesa City.

FARNSWORTH, AMOS A. Contract surgeon, Camp Date Creek, 1870-71. Died in 1874, San Francisco.

FARRINGTON, J. B. Professional card, Phoenix Gazette, June 4, 1891. Stated that he was a graduate of Rush Medical College and Bowdoin College and a former contract surgeon in the Army. Address listed as Phoenix, A.T.
FELTMAN, C. A. Physician at the San Carlos Indian Agency in 1886; from Salem, Illinois.

FENNER, HIRAM V. (1859-1929) Graduate of Medical College of Ohio, Cincinnati, 1881. Came to Bisbee in 1882; Tucson physician, 1883-1922.

FERGUSSON, RAY. Graduate of Kansas City Medical College, 1899. Registered May 3, 1903. Residence: Nogales. In Yuma County in 1911.


FIELD, GEORGE E. Yuma physician 1890-1895; former Army surgeon. Left for Buena, California in June, 1895.

FINLEY, R. C. Contract surgeon, Fort McDowell, 1887.

FISHER, W. R. Assistant surgeon, Fort Bowie, 1885.

FITZSIMMONS, SAMUEL V. Graduate of Omaha Medical College, 1901. Registered June 1, 1903. Charter member Yavapai County Medical Society. Died in 1907.

FLEXING, JOHN B. Diploma from Kansas City Medical College, 1885, recorded in Yuma County, March 1, 1894; Maricopa County, March 20, 1894; Pima County, March 7, 1894; Yavapai County April 9, 1894; Cochise County, May 11, 1895.


FORBES, J. L. Druggist in Tubac, 1870; Tucson, 1871; Phoenix, 1872. Partner with Dr. O. J. Thibode in Phoenix, 1872-1874—latter date the last time money was received for care of county indigent.
FORCE, LEVI. Assistant surgeon, Forts Grant and Lowell, 1831.

FORD, J. N. Came to Phoenix from Kansas City in 1895; always referred to as "Doctor." Real estate man and mining operator. No diploma on record.

FORSDEN, WILLIAM E. License granted in Colorado recorded in Coconino County on October 7, 1896. Graduate of Cincinnati Eclectic College in 1888.

FOSS, JOHN W. Graduate of Harvard Medical College in 1892; came to Phoenix shortly thereafter. Registered May 27, 1903.

FOX, BUTLER G. (1853-1926) Diploma from University of Louisville, 1892. Arrived in Globe after graduation from Iowa State Agricultural College in 1878; then went to medical school and returned to Globe to practice. Globe physician 1892-1926. Registered May 23, 1903.

FRANCIS, RICHARD M. Graduate of Missouri Medical College, 1889. License from St. Louis Board of Health, recorded in Coconino County November 9, 1891. Residence: Flagstaff. Williams, 1894-1897.


FREEMAN, SAMUEL A. Contract surgeon, Camp Bowie, 1873-77; Mohave City in 1877.

FREGOSO, JOSE MARIA. Graduate of Guadalajara Medical College, n.d. Diploma recorded in Pima County on March 2, 1897.

FRENCH, E. Officer of Signal Corps, 1866. Fort Grant and Thomas; referred to as doctor.


FRICK, DONALD J. Graduate of the University of California, 1899. Registered May 27, 1903. Residence: Metcalf. Arrived there in 1900.
FRIEDMAN,  Phoenix physician, 1897-98. Gave oxytuberculin treatment, offices in the Irvine Block. Left for Honolulu on March 14, 1898.

FRITZ, JOHN C. Diploma from University of California 1895, recorded in Maricopa County on November 2, 1895. Residence: Phoenix.

FRORY, BURDette SHERG. Graduate of University of Michigan, 1902. Registered 1 August 1909. Address: Seligman. Arrived there in 1908.

GAFF, JOHN VASLEER. Diploma from Ensworth Medical College, St. Joseph, Missouri, 1889, recorded in Cochise County 19 July 1895. Residence: Benson. Tucson from 1896-1898; California, Alaska, Mexico, Texas, and elsewhere; Tucson in 1912.

GALERAITH, V. J. Graduate of Cincinnati College of Medicine, 1880. Registered October 3, 1906. Residence: Bisbee.

GALE, H. E. Diploma from University of Maryland, 1875, recorded in Mohave County 2 July 1895. Residence: Kingman. Physician at San Carlos in 1888.


GARNER, B. H. Practiced with Dr. McSwegan in Tombstone, 1891.


GARRY, JON2 EUGENE. (Also spelled Garreg, Garrey, Garry). Diploma from Rush Medical College, 1878, recorded in Maricopa County, October 19, 1895. Residence: Phoenix.

GARVIN, JAMES. Came to Prescott in 1864 from Colorado. Served three months as contract surgeon, Fort Lowell, departed the Territory in 1865.

GENTRY, JAMES C. Diploma from Missouri Medical College, 1894, recorded in Maricopa County, April 27, 1895. Residence: Phoenix.

GERARD, EDWARD N., JR. Diploma from University of Kansas, 1895, recorded in Maricopa County November 13, 1895. Residence: Phoenix. Son of Edward N. Gerard, Sr.
GERARD, EDWARD N., JR. Diploma from University of Iowa, 1861; recorded in Maricopa County November 13, 1895. Residence: Phoenix. Died in 1904.

GEROLD, M. L. (Also spelled Gerould). In Arivaca in 1879; Tombstone in 1886.

GILBERSON, NELSON S. Diploma from Jefferson Medical College, 1875; recorded in Cochise County August 6, 1881. Residence: Tombstone. To Portland, Oregon, 1883.

GILBERT, MICHAEL M. Diploma from University of Pennsylvania, 1850; recorded in Maricopa County October 21, 1889. Residence: Phoenix. Mesa City in 1892. Charter Member of the Arizona Medical Association.

GILDERSELEEVE, FRANKLIN VAN BUREN. Contract surgeon 1868-1871. Accompanied troops to Fort Yuma in 1871; returned to San Francisco. Graduate of New York University in 1866. May be the same as above.


GILLIAM, ARTHUR C. Graduate of Rush Medical School, 1900. Registered February 12, 1904. Residence: Clifton.


GILLINGHAM, C. F. Tombstone physician in 1891 with offices in Worfritz and Triblet Building. Partner with Dr. Gildersleeve. Came from Virginia City, Nevada.

GIORDANO, JOSEPH B. Assistant surgeon; Camp Apache, Lowell, 1873-75; 1860-70.

GIVEN, ALICE MARSHALL. Diploma from University of Southern California, 1890, recorded in Maricopa County, March 23, 1893.


GOODFELLOW, GEORGE EMERY. (1855-1910) Graduate of University of Wooster, 1876. Contract surgeon Fort Chippewa, 1879; Fort Lowell, 1880. Tombstone physician 1880-91; Tucson, 1891-96. First Quarantine Officer of the Territory, 1893.


GOODWIN, DAVID MARCUS. Diploma from Dartmouth, 1856, recorded in Maricopa County on December 18, 1896. Residence: Phoenix.

GOODWIN, FRANCIS HENRY. (1853-1892) Reported to be a graduate of Yale with medical education at Heidelberg. Surgeon in Confederate Army. To Arizona in 1867 from California; settled in Tucson. Ranch owner and physician.

GORDON, HOWARD J. Diploma from Kansas City Medical College, 1878, recorded in Cochise County November 22, 1895. Tombstone 1895-96; Benson, 1897; Tombstone 1898; then removed to California.

GOODIF, T. J. (Also spelled Gotliff) Physician in Duncan 1885-1897; received money for care of indigent sick in Graham County, 1885.

GOULD, ALEXANDER J. (1866-1908) Graduate of Tulane, 1879. Came to Tucson in 1896 from Mexico; practiced 1896-1903. Registered April 7, 1904.

GOULD, CHARLES M. Graduate of Northwestern University, 1882. Came to Tucson in 1903 for health of family; erected cottages one block east of the University; partner with Dr. W. V. Whitmore. Registered May 23, 1903. Died in 1921.
GRACE, THOMAS W. Graduate of Kentucky School of Medicine, 1891. Registered June 1, 1903. Residence: Acme.

GRACE, LOUISE L. WOODIN. Diploma from University of Syracuse, 1875, recorded in Mohave County November 1395. Residence: Kingman. Maricopa County August 7, 1896; Residence: Phoenix.


GRAHAM, J. A. Physician in Duncan, 1893-1901; Member Arizona Medical Association in 1901.

GRAHAM, WILLIAM GEORGE. Diploma from Rush Medical College, 1896, recorded in Maricopa County, September 17, 1894. Died in Phoenix in 1895 of consumption.

GREEN, CHARLES H. Diploma from Baltimore School of Medicine, 1886, recorded in Pima County February 8, 1897. Located in Tucson, Pearce, and Safford. Died at his home in Asheville, S.C. in 1900.


GREEN, WILLIAM ARNOLD. (1869-1924) Graduate of University Medical College, New York, 1895; registered March 3, 1904, from Douglas, physician for Calumet and Arizona Hospital. Came to Arizona in 1897; resigned position at Bisbee in 1898; went to California.

GREENLEAF, GEORGE P. Came to Phoenix in 1895; then to Yuma and Fort Yuma Indian School 1895-1900. Died in Yuma December 1, 1900.

GREER, JOSEPH H. Recorded diploma from Chicago Eclectic College, 1875, in Cochise County on 2 June 1391. Practiced in Tombstone, 1881-1882.

GREER, JOHN L. Diploma from Physio-Medical College, Ohio, 1855, recorded in Maricopa County 29 April 1881. Arrived in Salt River Valley on 6 April 1873, from Stony Point, Jackson County, Missouri. Physician and rancher in and around Tempe until his death in 1893.
GREGORY, CALVIN LEVI. Diploma from Cincinnati Medical College, 1874, recorded in Yuma County on 21 February, n.d. Yuma physician 1893-94.


GREGORY, PAUL. Diploma from Philadelphia University, 1874, recorded in Pima County February 10, 1890. Hermosillo, Sonora, 1883-88; Nogales, 1889-99.


GRIFFITH, CHARLES L. Professional card in Arizona Citizen, March 23, 1898. Offices in Lower Block, Tucson.

GROBBECK, J. T. Mormon Bishop and physician in Contention in 1882, Bafford in 1884, Solomonville to 1895.

GROENLEY, A. K. Physician from Webster Grove, Missouri, thirteen years practice, came to Tucson in 1879 to look after his mining interests.

GUERRA, JESUS. Diploma from the College of Medicine, Nuevo Leon, 1891, recorded in Pima County on 7 November, 1897. Residence: Tucson.

GUERRERO, RAMON. Professional Card, Arizona Citizen, 1879-1890. Office, Camp Street, Tucson.

GUIOT, PIERRE WASHINGTON. Diploma from St. Louis College of P & J, 1883, recorded in Yavapai County, January 21, 1874; Pima County on May 3, 1884. Residence: Tucson.

GUATERRAZ, PEDRO ROMAN. Diploma from Homoeopathic Institute, Mexico, 1870, recorded in Yuma County 15 April 1893; Pima County on May 3, 1895.

GUSTETTER, ALBERT LOUIS. Graduate of Medical College of Ohio, 1900. Registered May 23, 1903. Residence: Nogales.


GWYTHER, GEORGE. Contract surgeon, 1871-72; Camp Date Creek, Scout to the Black Canyon. Died in California in 1876.

HAGAN, JOHN LUKE. Graduate of Northwestern University, 1904. Registered July 25, 1905. Residence: Bisbee. Copper Queen Hospital, 1905-08; Bisbee Hospital, 1908-1910.

HAGEN, CARL. Former hospital steward at San Carlos; graduated from Louisville Medical School in 1891. Located in New Mexico.

HALL, ELMO ALLEN. Graduate of Denver College of Medicine, 1901. Registered February 2, 1906. Residence: Mayer.

HALL, GILES S. Tombstone physician in 1898; departed for California, June 23, 1898.

HALL, JOHN. Assistant surgeon, Camp Grant, 1870-71.

HALL, JOHN. Long time resident of Sonora in 1873; frequent visits to Tucson-Phoenix.

HALL, WILLIAM R. Major surgeon at Fort Whipple, 1894-97.

HALLETT, MARTHA. (Married Woffenden in Tucson). Professional card November 30, 1877, Arizona Citizen, stated that she was a graduate of Cleveland Hospital College. No diploma recorded.

HALSEY, BEE BARTOW. Diploma from University of Maryland, 1885, recorded in Yavapai County, January 28, 1887. Prescott 1887-1890; California to 1891; returned to Phoenix 1891-94. Registered April 26, 1910. Residence: Gila County.

HAMBLIN, IRA B. Diploma from Medical College of Ohio, 1884, recorded in Maricopa County May 11, 1896. Superintendent of the Insane Asylum 1893-96; 1897-98.

HAMILTON, ISAAC BENSON. Recorded diploma from University of Pennsylvania, 1883, in Cochise County, November 5, 1891. Charter member of the Arizona Medical Association; Congress, 1894; California, 1896; registered November 19, 1907. Residence: Tucson.

HANDY, JOHN CHARLES. (1844-1891) Graduate of Cooper Medical College, 1863. Diploma recorded in Pima County, granted from Toland Medical School, 1865, filed on 4 June 1861. Contract surgeon Fort Grant and Camp Thomas and Goodwin, 1869-70. Came to Tucson in 1871, foremost physician and surgeon until his death in September, 1891.

HARDIE, CHARLES JOHN. Diploma from College of P & S, Chicago, 1893, recorded in Yavapai County January 14, 1896. No residence listed.

HARDRICH, HERMAN. Diploma from the University of New York, 1876, recorded in Yavapai County, January 5, 1887; Mohave County 8 December 1890; also in Apache County, n.d. Division surgeon for the A&P Railroad.

HARGROVE, ROBERT HARRIS. Diploma from University of Nashville, 1881, recorded in Maricopa County 20 January 1883. Residence: Phoenix. Physician also at Vulture Mine.


HARRISON, J. B. (or J. J.). Physician at Sacaton in 1870; also contract surgeon, Fort McDowell.

HARRISON, JOHN T. Listed as physician in Casa Blanca on 1870 census.

HARRISON, WILLIAM D. Diploma from University of Maryland, 1840, recorded in Pima County, January 28, 1885.

HART, FENN J. Diploma from New York Eclectic College, 1883, recorded in Pima County 13 September 1884. Physician at San Xavier 1883-84; Tucson and Tempe to 1887; Jerome, Ray and Bisbee, and Mexico. Registered July 16, 1903. Residence: Bisbee.


HARVEY, GEORGE W. Diploma from Medical College of California, 1894, recorded in Coconino County December 1894. Flagstaff physician 1894-95; departed for Utah.

HARVEY, WILLIAM. Graduate of Rush Medical College, 1870; physician at Florence 1877-89. Died in Tucson in his 46th year on January 9, 1889.


HATCH, W. G. Assistant surgeon, Fort Mohave, 1861.


HAVARD, VALERY. Contract and assistant surgeon, Camps Grant, Hualpai, 1871-73. Colonel Havard was an observer in the Russo-Japanese War, 1904.

HAWLEY, AMASA S. Graduate of Chicago Homeopathic Medical College, 1896. To Phoenix in 1899. Registered May 27, 1903.

HAWLEY, CHARLES F. (1870-1926) Graduate of Chicago Homeopathic Medical College in 1897. To Phoenix in 1897; Mesa in 1898; Bisbee in 1905. Registered 1 June 1903.

HAYES, R. T. Doctor in Harshaw 1880-83. Came from Los Angeles; died in Harshaw 1883.

HAYNES, FRANCIS L. Surgeon from Philadelphia and Los Angeles; visited Dr. G. E. Goodfellow in Tombstone several times; operated with Goodfellow in Tucson frequently after 1892. Graduate of the University of Pennsylvania in 1869. Died in 1898.

HEFFERNAN, WILLIAM THOMAS. Diploma from University of Cincinnati, 1889, recorded in Yuma County November 7, 1892. Physician for Indian School at Fort Yuma, 1891-1900. Resigned to give full time to Imperial Irrigation Company.

HEIGGES, LAWRENCE E. Graduate of Northwestern University, 1904. Registered February 16, 1905. Residence: Pearce.

HEINEMAN, SIEGMUND C. Pharmacist in Globe, 1880-92; Tempe in 1893. Referred to as doctor; ran a drug store in Globe, invested in mining and real estate.

HELM, SCOTT. (1861-1897) Diploma from Rush Medical School, 1883, recorded in Maricopa County on August 6, 1888. Reported to have attended Princeton College also, and graduated from Lake Forest Academy. PG work at Heidelberg. Came originally for health reasons; opened an office in Phoenix in August, 1888, and noted thereafter for his professional ability as physician and surgeon until his death in 1897.


HERMEDA, J. A. Diploma from University of New York, 1886, recorded in Maricopa County on 4 April 1900. No residence listed.

HERNANDEZ, MANUEL H. Diploma from medical school in the City of Mexico, 1890, recorded in Pima County June 15, 1896. Tucson 1896-97.

HERNDON, JAMES C. Assistant surgeon Fort Yuma and Mohave, 1857-1861. Joined C.S.A.

HERNDON, JOSEPH I. Diploma from Williamette University, 1874, recorded in Maricopa County 18 January 1886. Residence: Phoenix.

HERRICK, W. Physician at the Colorado River Indian Agency, 1889-1890.

HEWITT, HENRY STEWART. Assistant surgeon, Fort Yuma, 1849-50. To California after serving at Vera Cruz. Resigned in 1851; surgeon U.S. Volunteers in 1861.

HIBBARD, WILLIAM WARNER. Diploma from Harvard, 1869, recorded in Maricopa County 20 October 1892. Registered May 23, 1903. Residence: Phoenix.

HICKIES, C. R. President of Ithaca Mining Co., Phoenix and vicinity, 1882-83.


HILDEBRAND, JENNIE. Diploma from Women's Medical College, Pennsylvania, 1870, recorded in Pima County 14 January 1882. Residence: Tucson.

HILL, JOHN BOADLEY. Graduate of Keokuk, Iowa and Jefferson Medical College, 1887. Registered July 9, 1907. Residence: Huron.


HILLER, F. Professional card in the Weekly Nugget, June 8-July, 1881. Formerly of Virginia City, now of Tombstone.

HINKLE, H. E. Diploma from University of New York, 1886, recorded in Yavapai County, February 7, 1893. Arizona 1888-1893, representing National Surgical Institute, S.F.


HOFFMAN, WALTER J. Graduate of Jefferson Medical College, 1866. Accompanied Major Wheeling exploring party into Arizona and Nevada in 1871.

HOLBROOK, CHARLES E. Diploma from University of the Pacific, 1862, recorded in Pima County on 14 September, 1881. Brother-in-law and partner of Dr. J. C. Handy, 1886-1883, Tucson.
HOLCOMBE, BENJAMIN FENTON. Diploma from St. Louis Medical College, 1880, recorded in Pima County 4 February 1884; Cochise County, 19 February 1884. Physician at Vulture Mine, 1887; Willcox, 1888; Tempe, 1890; Tombstone, 1894.

HOLLENBU3H, CALVIN. Assistant surgeon at Fort Yuma, 1857-1860.

HOLLOKBU3H, JOSEPH RALSTON. Diploma from St. Louis University, 1880, recorded in Pima County 15 August 1888. Tucson physician 1888-1890.

HOLM, EDGAR. Graduate of Northwestern University, 1903. Registered 25 September 1903. Residence: Thatcher.

HOLT, W. A. Graduate of University of Michigan, 1892. Came to Globe in 1897; physician for United Globe Mines, 1898.

HONG CONG. Graduate of Po Chai Medical College, Canton, China. Diploma recorded in Maricopa County 25 June 1883; Yavapai County 23 September 1890.

HONG KONG or HONG COONG. Graduate of Ti-3-Yun Medical and Surgical College of Canton, China, 1866. Diploma recorded in Pima County December 4, 1881.

HORN, HENRY. Graduate of Rush Medical School, 1898. Registered June 1, 1903. Residence: Clifton.

HOTCHKISS, ____. Homeopathic physician, practiced with Dr. A. Tuttle in Phoenix, 1898.


Hudson, Nimerad. Diploma from University of Louisville, 1886, recorded in Yavapai County April 11, 1893. Charge of Keeley Institute at Prescott, 1893.
HUFF, W. H. Professional card, Arizona Silver Belt, September 1890-February 1891; offices in Mrs. J. Moore's building in Globe.


HUGHART, HARRY HOUSTON. (1876-1903) Graduate of University College of Medicine, Richmond, 1897. Registered December 30, 1903. Residence: Tombstone.

HUGHES, CLARENCE B. Graduate of a medical college in Cincinnati. In Tubac and Tucson, 1859-1862.

HUGHES, COIT INGE. Graduate of University of Louisville, 1903. Registered August 1, 1901. Residence: Crown King.


HUNT, CHARLES HANNIBAL. Graduate of Cooper Medical College, 1903. Registered July 7, 1903. Residence: Bisbee. Physician in Mexico and Texas; returned to Bisbee in 1910.

HUNTOONE, HARRY A. Graduate of Medical College of Southern California, 1909. Registered March 20, 1909. Residence: Gleason.

HURLEY, J. M. Physician from Carthage, Missouri, later San Bernardino, California; invested in land around Arizola, Kenilworth, 1886-1895.

HUSE, GEORGE WOOD. Diploma from Harvard, 1883, recorded in Cochise County 14 June 1890. Tombstone physician 1890-1893.

HYDE, EDWIN O. Graduate of American Health College, Cincinnati, 1880. License from Oregon Board of Medical Examiners, 1895, recorded Maricopa County 4 November 1896.
HYDE, J. L. Physician and druggist in Mineral Park, 1881-86. No diploma recorded.


HYDE, W. A. Diploma from New York College of P & S, Homeopathic School, 1855, recorded in Maricopa County 4 December 1888. Residence: Phoenix. President of Arizona Homeopathic Medical Association in 1892.

IBANEZ, DON ANTONIO GOMEZ. Diploma granted from Dominican Republic, n.d., recorded in Maricopa County 10 October 1889. Residence: Phoenix.


INCLAN, FRANCISCO. Diploma from Guadalajara Medical College, 1857, recorded in Dona Ana County, N.M. in 1886; Affidavit recorded in Maricopa County, 1889; Yuma County, 1890; Apache County, 1904. Registered January 16, 1905. Residence: St. Johns.

INGALLS, ELIZA ANN SHAW. Diploma from University of Michigan, 1875, recorded in Yavapai County, March 9, 1882; Maricopa County, March 8, 1884. Practiced in Phoenix 1884-1894.

INGALLS, HENRY A. Graduate of University of Texas, 1892. Registered May 18, 1905. Residence: Cherry.

INGERSSOLL, ALSON E. Diploma from Hahnemann, Chicago, 1871, recorded in Cochise County November 29, 1881. Tombstone physician, 1881-82.

INNES, HENRY JAMES DEMPSTER. Diploma from Royal College of Surgeons, England, 1880, recorded in Pima County February 19, 1890. No residence listed.

IRWIN, BERNARD JOHN DOWLING (1830-1917) Contract surgeon and assistant surgeon, Fort Defiance and Buchanan, 1856-1961; Congressional Medal of Honor for leading relief expedition at Apache Pass; Major Surgeon, Medical Director Arizona Territory, 1884-85. Graduate of New York Medical College in 1852.
JACQUEBBE, G. P. Contract surgeon at Fort Yuma in 1866.

JANSCO, J. M. Professional card in *Arizona Citizen*, 1876-1877, office on Meyer Street, Tucson. Reported to be a graduate of New Orleans School of Medicine.

JANSS, PETER. Diploma from Bellevue Hospital School of Medicine, 1885, recorded in Maricopa County, November 21, 1896; Yavapai County, November 27, 1896; Pima County, 31 December 1896. Residence: Los Angeles.


JOHNSON, ROBLEY DUNGLISON. Diploma from Cooper Medical College, 1882, recorded in Maricopa County 11 June 1883; residence: Vulture. Resigned September 11, 1883.

JOHNSON, R. W. Assistant surgeon at Whipple Barracks, 1889-91.

JOHNSTON, GEORGE P. Diploma from Iowa State University, 1874, recorded in Gila County March 18, 1884. Globe physician, 1884-85; died in 1885 in New Orleans.

JOHNSTON, M. D. Graduate of Kansas City Medical College, 1902. Registered December 11, 1903. Residence: Bisbee.

JOHNSTON, WILLIAM MURRAY. Diploma from University of Michigan, 1887, recorded in Coconino County April 22, 1891. Williams physician 1891-95.

JONES, A. CUVIER. Tucson physician, 1897-98; advertised much; no diploma recorded; reported to have come from Colorado where hw was a member of that state's Homeopathic Medical Society.

JONES, CHARLES HENRY. Diploma from University of Minnesota, 1890, recorded in Maricopa County 28 July 1892. Residence: Tempe. Physician and surgeon, Tempe, 1892-1907.
JONES, CHARLES H. S. Diploma from Western Pennsylvania Medical College, 1889, recorded in Cochise County 22 September 1892. Tombstone and Benson, 1892-94.

JONES, J. F. Graduate of Omaha Medical College, 1901. Registered May 27, 1903; Residence: Phoenix and Wickenburg.

JONES, WILSON W. (1829-1896) Came to Arizona in 1864; reported to be a graduate of the University of Virginia. Did not practice medicine actively; owned a ranch and prospected; ran a freighting line between Prescott and Ehrenberg, 1867; died on his ranch near Tempe in 1896.

JOSEPH, LIONEL BENEDICT. Diploma from Columbia University, 1875, recorded in Graham County August 25, 1881. Residence: Clifton, resided in Yuma and Tucson prior to that date. Died in Santa Fe, N.M. in 1884.

KANE, H. or S. K. Physician from Oakland, California, invested in mining property around Tucson, 1881-82. Mentioned as a doctor in Tucson, 1881.


KASZER, JACOB. Diploma from College of P & S, Chicago, 1886, recorded in Pima County 14 June 1887. Practiced in Tucson to 1888 when he went to Altar, Sonora.

KAUFMAN, ______. Resigned as physician at San Carlos on 1 July 1893.

KAULBACH, ______. Physician in Nogales in 1888.

KAULL, L. P. Graduate of Kansas City Medical College, 1896. Registered July 10, 1903. Residence: Jerome. Member of Yavapai County Medical Society, 1904-1908.

KAYNER, D. P. (1826-1890) Yuma in 1890 from Chicago; Prescott in 1895. Diploma from Vermont College of Medicine, 1849, was recorded in Yavapai County January 30, 1895. Died in fire at Johnson House, February 28, 1898.

KEEPER, GEORGE H. Graduate of Detroit Medical College, 1877. Diploma recorded in Maricopa County September 26, 1892. Charter member of Arizona Medical Association from Phoenix.
KEITH, ___ . Physician and surgeon at Keams Canyon, December 6, 1837.

KEITH, DUKE. Graduate of College of Medicine, Southern California, 1904. Registered July 16, 1906. Residence: Wickenburg.

KEITH, JOHN BERTHELAN. Diploma from New York University, 1894, recorded in Maricopa County February 3, 1896; Yavapai County, October 13, 1896. Phoenix and Prescott.

KENDALL, GEORGE DEMETRIUS. Physician and druggist in Prescott, 1888-1890. Came with company of California Volunteers as Captain, 1864-65; returned to become first citizen of Prescott; no diploma on file or record of medical school.

KENNEDY, JAMES S. Contract surgeon at Camp Verde and Whipple Barracks, 1880.


KENNON, LEWIS, also L.W.C. Contract surgeon at Fort Buchanan, 1858. Served with Major J. H. Carleton in New Mexico; later contracts in N.M. to 1880.


KETCHERSIDE, ENOCH B. Diploma from University of Tennessee, 1884, recorded in Yavapai County May 7, 1895. Residence: Jerome. Registered May 23, 1903. Residence: Yuma.

KETCHERSIDE, JAMES A. Diploma from University of Tennessee, 1893, recorded in Yavapai County October 21, 1895. Yuma physician 1902-1908; superintendent of territorial insane asylum, 1908-1911. Son of Dr. Enoch B. Ketcherside.

KEY, JOHN JOSEPH. Diploma from Bellevue Medical College, 1885, recorded in Maricopa County, 23 July 1892. Residence: Phoenix.
KIDD, W. B. Graduate of Bellevue Hospital Medical College, 1898. Registered 25 April 1898. Residence: Morenci.

KING, D. MACDOUGAL. Graduate of University of Toronto, 1903. Registered February 16, 1905. Residence: Bisbee.

KING, G. Located at the Hot Springs near Willcox in 1876; mysterious sort of person who lived in seclusion until he was murdered in 1884.


KINGSLEY, ALFRED C. Graduate of University of Buffalo, 1901. Registered April 29, 1905. Residence: Nogales.

KINGSLEY, WILLIAM A. Graduate of Laval University, Quebec, 1906. Registered May 15, 1911. Residence: Tucson.

KINNARD, THOMAS H. Physician for the Silver King and Pinal area, 1883-1888.

KIRKWOOD, J. W. Diploma from University of California, 1876, recorded in Maricopa County on December 19, 1894. Professional card in the Arizona Silver Belt, January-May, 1897. Offices in Hitchcock's Drug Store, Globe.

KITAZAWA, KAKUJIRO. Diploma from Kava Hospital College, Nagano, Japan, 1897, recorded in Maricopa County March 24, 1897. Residence: Maricopa County.


KNECHT, ______. Physician in Graham County, 1893.
KNIGHT, ROBERT BRITTAIRN. Diploma from University of Denver, 1892, recorded in Mohave County 9 May 1894. Residence: White Hills, Kingman in 1899.

KNOTTS, ROY RAYMOND. Graduate of Willamette Medical College, 1908. Registered February 8, 1908. Residence: Yuma. Yuma physician from 1908 to present.


KOHN, MYHON E. Diploma from Cooper Medical College, 1894, recorded in Maricopa County October 26, 1896. Wickenburg, Prescott and Phoenix.


KROTSZYMER, MARTINO. Professional card in the Arizona Silver Belt, April 7, 1888. Reported to be a graduate of the University of Berlin; no diploma recorded. Practiced in Solomonville and Clifton, 1888.

KUNKLER, JOHN E. Graduate of the University of the Pacific, 1853. Came to Arizona with the California Volunteers, Tubac and Reventon, 1864. Returned to practice in San Francisco.

KUNZ, RICHARD E. (1838-1919) Graduate of Eclectic Medical College, New York, 1868. Diploma recorded in Maricopa County February 25, 1897. Came from Denver to Phoenix in 1897; entomologist.


LABARRE, JOHN. Contract surgeon, Camp Date Creek, Hualapai, 1871-73. Graduate of Miami Medical College, 1868. Died at Crockett Station, California, 1895.

LAMBERSON, J. A. License granted from Oregon Board of Medical Examiners recorded in Maricopa County March 20, 1897. No residence; no medical school listed.
LANG, WILLIAM. Diploma from McGill University, 1861, recorded in Maricopa County April 9, 1897. Residence: Phoenix.

LANGMORE, CHARLES HENRY. Diploma from Missouri Eclectic College, 1883, recorded in Maricopa County 23 February 1884. Residence: Mesa City.

LAPPEUS, A. J. -ANDRE JACKSON. Diploma from College of the Northwest, St. Joseph, Missouri, 1887, recorded in Yavapai County June 20, 1892; Mohave County on February 15, 1893. Residence: Kingman.

LARGENT, JOSEPH W. Diploma from University of Louisville, 1888, recorded in Gila County 21 August 1888. Globe physician, 1888-1892.

LARKIN, FRANCIS M. (1855-1879) Listed as physician in Prescott on the 1864 census.

LARUE, FRANKLIN. Graduate of Jefferson Medical College, 1885. To Arizona 1909; did not register.

LATHROP, HENRY B. Office on Maiden Lane, Tucson, 1880. Left for Mexico.

LAWRENCE, JAMES B. Also spelled Laurence. Contract surgeon, 1874-76; physician in Mineral Park, 1877-1879. Died in Kansas in 1890.

LAUDERDALE, JOHN V. Assistant surgeon, Fort Yuma, 1871-75.


LEE, BENJAMIN B. Diploma from University of South Carolina, 1880, recorded in Maricopa County on 18 April, 1888; Pima County on 21 April, 1888; Cochise County, April 30, 1888.
LEIB, CHARLES. (1826-1865) Contract surgeon, 1863-1864, Fort Whipple

LEISTER, FRANKLIN L. Graduate of American Medical College, St. Louis, 1897. Registered April 19, 1907. Residence: Duncan.

LENNOX, JOHN W. Graduate of Toronto Medical School, 1895. Registered May 23, 1903. Residence: Helvetia Mine, Pima County.

LEONARD, JEROME MCKAIG. Graduate of Hahneman Medical College, Chicago, 1906. Registered February 1, 1910. Residence: Gleason


LESENE, JOSEPH. Physician and surgeon in Mineral Park, 1873-75.


LEWIS, WILLIAM E. Diploma from Jefferson Medical College, 1878, recorded in Maricopa County on January 26, 1896. Residence: Tempe. Physician there 1895-96; returned to Kansas.

LIGHTBURN, RICHARD ELMHURST. Contract surgeon, 1874-1883; Forts Yuma, Lowell, McDoval, Huachuca, Camp Verde. Diploma from St. Louis Medical College, 1872, recorded in Maricopa County April 14, 1884. Residence: Phoenix. Registered May 23, 1903.

LIGHTFOOT, FRANK. Diploma from Rush Medical College, 1876, recorded in Yavapai County 12 September 1883. Physician for Ayer Lumber Company, Flagstaff, 1884-85. Left for Kansas in October, 1885.

LINCOLN, OSCAR. Prescott druggist and apothecary; advertised as physician but no diploma recorded. Board of Directors for territorial insane asylum. Prescott, 1876-1892; died in Augusta, Maine in 1894.
LINDEN, CLARENCE. Physician in Clifton and Solomonville, 1885-1893; also in New Mexico. Died in Clifton in 1893.

LINDLEY, W. E. (1861-1899) Graduate of University of Southern California and Cooper Medical College in 1884; professor of anatomy at University of California (Southern) for two years; surgeon for Arizona Copper and Smelting Company, Safford; surgeon during Spanish-American War; died in Safford in 1899.


LIPPINCOTT, HENRY. Assistant surgeon, Camp Lowell and Fort Whipple, 1873-75.

LITCH, WILBUR. Contract surgeon, Camp Grant and Fort Yuma, 1870.

LITCHFIELD, JUDSON. Diploma from University of California, 1893, recorded in Mohave County August 6, 1897. Residence: Kingman.


LLOYD, FREDERICK. Contract surgeon at Forts Apache and Lowell, 1882.

LONGSHORE, ANNA M. Diploma from Women's College of Pennsylvania, 1851, recorded in Pima County on June 8, 1891.


LORING, LEONARD Y. Assistant surgeon, Fort Yuma, Camp McDowell and Apache, 1872-76.

LOSEY, MAHON R. Diploma from Cincinnati Eclectic College, 1884, recorded in Coconino County August 29, 1892. From the firm of Porterfield and Losey, San Francisco; in Arizona towns 1890-1894.

LOVE, J. D. Graduate of Arkansas University, 1894. Registered May 27, 1903. Residence: Thatcher.

LOWE, A. B. Contract surgeon at Camp Crittenden and Date Creek, 1872-73.

LOWE, FREDERICK WILHELM. Graduate of University of California, 1892. Registered April 19, 1907. Came from California; no Arizona residence listed.

LOWMAN, Diploma from a medical school in Canton, China, 1887, recorded in Pima County on July 2, 1892.

LOWRY, JOHN H. Graduate of Rush Medical School, 1877. Registered April 29, 1905. Residence: Yavapai County.

LUKE, LOW. Graduate of Oumen Medical College, Canton, China, 1882. Diploma recorded in Maricopa County 23 May 1892. Residence: Phoenix.


LYFORD, J. DEXTER. Diploma from Toland Medical College, 1872, recorded in Pima County 15 June, 1881. Tucson physician 1880-1883.


MCCLELLAN, H. K. Diploma from University of Wooster, 1885, recorded in Coconino County May 18, 1896. Residence: Flagstaff.

MCCLURE, VINCENT CARPENTER. Diploma from Geneva Medical College, 1846, recorded in Maricopa County October 12, 1885. Residence: Phoenix. Came from Chicago in 1885; practiced in Phoenix during the winters of 1885-1893. Held many ranching and other investments in and around Phoenix.

MCCORKLE, M. G. Graduate of University of Tennessee, 1895. Registered 23 May 1903. Residence: Benson.

MCCORMICK, A. Y. Diploma from Mefferson Medical School, 1866, recorded in Maricopa County on October 9, 1896. Residence: Phoenix.


MCCUNE, T. K. Came from Carthage, Missouri, in late 1891 to Phoenix to practice but failing health caused him to start for his home in May, 1893. He died enroute to Missouri.

MCDONNELL, CHARLES ANGUS. Diploma from Rush Medical College, 1875, recorded in Gila County September 16, 1881. Globe physician 1880-1882.

MCDONNELL, J. R., or J. K. Graduate of Dartmouth Medical College, 1897. Registered June 1, 1903. Residence: Crown King. Death reported in 1911.

MCDOUGAL, EZRAM. Diploma from University of New York, 1873, recorded in Maricopa County October 10, 1887. Partner with Doctor Wharton in Phoenix in 1887.


MCGLASSON, THOMAS D. Diploma from Louisville Medical College, 1884, recorded in Maricopa County 20 February 1887. Residence: Phoenix. Physician there 1887-90. Returned to Ashland, Kentucky.
MCGLENN, WILLIAM P. Diploma from Hospital College of Medicine, Louisville, 1878, recorded in Navajo County, October 14, 1895. Residence: Winslow.

MCGOWAN, E. E. Diploma from Missouri Medical College, St. Louis, 1884, recorded in Maricopa County December 3, 1892. No residence listed.

MCGUIRE, WILLIAM LEWIS. Diploma from St. Joseph's Medical College, Missouri, 1885, recorded in Apache County November 16, 1885. Residence: Winslow. In Tucson briefly in 1887; in Casa Grande later that same year.

MCINTYRE, NEIL (1841-1913) Diploma from Toronto University, 1866, recorded in Maricopa County April 26, 1888. Invested in land in Mohawk Valley, 1887; to Phoenix that same year. Charter member of Arizona Medical Association.

MCKEE, JAMES COOPER. Assistant surgeon, Camp Verde, Fort Whipple, 1875-1880. Medical Director of Arizona 1877. Graduate of the University of Pennsylvania.

MCKEEL, J. H. Los Angeles physician came to Tucson with the Toltec Syndicate, 1878-79; Tombstone in 1880. Died in Tennessee in 1883.

MCKINNEY, F. H. Miner and rancher in Santa Cruz and in Sonora; owned a valuable quartz mine in Arizpe, Sonora, 1876-77.


MACMILLAN, GEORGE MORRISON. Diploma from Medical College of Ohio, 1880, recorded in Maricopa County March 28, 1883. Residence: Phoenix.

MCMILLER, GEORGE. Assistant surgeon, Camp Lowell and Grant, 1873-75.


MCNAUGHT, HOWARD Y. Diploma from University of Trinity, 1897. Registered December 11, 1903. Residence: Seligman.
MCNULTY, JAMES M. Surgeon with California Volunteers, 1862-64; Surgeon, U.S. Army, 1865; to San Francisco in 1865. Graduate of Geneva Medical College, 1846.

MCPHAIL, BENJAMIN GRISBY. Contract surgeon, Camp Grant, Apach, Yuma, Verde, and Whipple, 1872-1879. Died at Fort Gibson in 1880.

MCPHEETERS, EARL ROBY. Graduate of Kentucky School of Medicine, 1905. Registered September 15, 1905. Residence: McCabe.

MCPHERSON, DORSEY M. Contract surgeon Camps Apache, Thomas, and Yuma, 6th Infantry and 6th U.S. Cavalry, 1866-1880.


MCSWEGAN, DANIEL. Graduate of University of Southern California in 1878; Cooper Medical College in 1884. Tombstone physician 1880-86. Registered 16 December 1905. Residence: Phoenix.

MCWHIRT, WILLIS E. Graduate of Louisville Medical School, 1907. Registered April 23, 1909. Residence: Globe.


MACLEAN, JOHN DUNCAN. Graduate of McGill Medical College, 1900. Registered April 28, 1906. Residence: Patagonia.

MADDOX, T. J. Contract surgeon killed in the Apache campaign, 1885.

MACK, ROSCOE DUDLEY. Advertised as physician in Solomonville, 1887. No diploma recorded. Accepted position as school teacher, 1888; prospected 1887-88.


MAGEE, IRVIN L. Graduate of Medical College of Ohio, 1883. Registered April 15, 1909. Residence: Phoenix.
MAGRUDER, DAVID L. Surgeon, U.S. Army, Medical Director, Arizona, 1873-77.

MAHONEY, OSCAR LIVINGSTON. Diploma from Medical College of Ohio, 1867, recorded in Maricopa County June 12, 1883. First superintendent of the territorial insane asylum, 1887; physician in charge of Maricopa County Hospital for ten years.

MAHONEY, VIRGINIA RUSSON. Diploma from Northwestern University, 1883, recorded in Maricopa County 12 November 1883. Wife of Oscar L.; registered in 1903. Residence: Phoenix.


MALCOM, ALEXANDER. Contract surgeon, Camp Hualpai, 1870-71.

MANN, EDWARD. Assistant surgeon, San Carlos, 1890-91.

MANNING, GEORGE FELIX. Graduate of University of Alabama, 1874. Registered 1 June 1903. Residence: Flagstaff. Came to Arizona in 1880.


MARSH, D. C. Collector of customs, El Paso to the Colorado River, 1870-73.

MARTIN, ANCIL. (1861-1926) Diploma from Rush Medical College, 1885, recorded in Maricopa County 14 April 1892. Phoenix physician 1892-1926; specialist in eye, ear, nose and throat. Charter member of the Arizona Medical Association.

MARTIN, GEORGE. Pharmacist in Yuma, 1872-84; Tucson in 1884. Referred to as a doctor.

MARTIN, N. F. Contract surgeon, Fort Mohave and Camp Toll Gate, 1867-69.

MASON, CHARLES F. Assistant surgeon, Forts McDowell and Huachuca, 1887.

MASON, G. M. Diploma from University of Wooster, 1881, recorded in Yavapai County on 8 August 1883. Residence: Williams. Died in Williams in 1886.

MASON, G. M. Professional card in Arizona Silver Belt, September 28, to October, 1878. Came from Silver City to Globe in 1878.

MATAS, NARCISO HEREU. (1837-1904) Diploma from University of Barcelona, 1866, in Pima County May 31, 1881; New Orleans School of Medicine, 1859; Academic Medico Quirurgica, Gerona, 1876, recorded in Pima County 1 December 1885. Registered May 23, 1903. Tucson physician 1881 until his death in 1904.

MATTHEWS, H. M. Also spelled Matthews by newspapers and on official records. Contract surgeon, Camp Grant, Hualpai, San Carlos, and Fort Whipple, 1873-75. Yuma in 1878 and other Arizona communities prior; settled in Tombstone in 1879, the first physician there. Graduate of University of Louisville, 1848. Practiced in Tombstone until his death in 1886.

MATTHEWS, WASHINGTON. Surgeon U.S. Army. Graduate of University of Iowa, 1864; served in the southwest with Generals Crook and Burke.
MAUS, MERVIN L. Major surgeon at Whipple, 1891-92; later served in the Philippines; brother of Lt. P. L. Maus who served in the Territory with General Crook.


MEADER, ISABEL M. Diploma from Women's Medical College, Chicago, 1887, recorded in Yavapai County May 9, 1899. Residence: Williams.

MEARNS, EDGAR ALEXANDER. Surgeon, U.S. Army; Camp Verde, 1886; boundary survey, 1894.

MECHEM, ABEL FRANCIS. Assistant surgeon, Fort Yuma, 1860-61.

MELICK, PRINCE ALBERT. Diploma from Beaumont Medical College, 1892, recorded in Coconino County, October 17, 1895. Residence: Williams. Registered May 23, 1903. Williams physician 1895-1934.

MERRIETO, ALFRED J. Graduate of University of Southern California, 1897. Registered July 16, 1906. Residence: Jerome.


METZGER, JEREMIAH. Graduate of Rush Medical College, 1901. Registered 19 October, 1911. Residence: Tucson.

MICHAIL, ROBERT R. (May be Michail) Diploma from College of P & S, Chicago, 1888, recorded in Maricopa County March 2, 1896. Residence: Phoenix.

MIDDLETON, PASSMORE. Assistant surgeon, Fort Lowell and Whipple, 1868-71.

MILHAU, JOHN JEFFERSON. Assistant surgeon, Fort Yuma, 1853-54; Mohave, 1859-60. Graduate of Columbia College, New York.

MILLAR, WILLIAM S. Diploma from University of Louisiana, 1863, recorded in Cochise County 1 June 1881. Tucson in 1883; returned to Tombstone in 1884.
MILLER, C. W. Diploma from Missouri Medical College, 1877, recorded in Cochise County, n.d. and no residence listed.

MILLER, G. G. Ex-Army surgeon died in Wickenburg in 1869.


MILLER, J. Assistant surgeon, Forts Whipple and Grant, 1868-73.

MILLER, JOHN JOHNSTON. Diploma from University of Michigan, 1880, recorded in Graham County May 17, 1883. Residence: Clifton.

MILLER, JOSEPH W. Diploma from Jefferson Medical College, 1867, recorded in Maricopa County 8 December 1890. Residence: Phoenix.

MILLER, JOSHUA A. (1846-1901) Diploma from University of Michigan, 1872, recorded in Yavapai County on 6 July 1889. Prescott physician to 1891; superintendent of territorial insane asylum 1891-93; 1898-99; chartermember and first president of Arizona Medical Association, 1892; president of the Arizona Antiquarian Association, 1896-97; mine owner and physician in Prescott; collector of archaeological artifacts in Hopi country; formerly head of orthopedic surgery, University of Kansas.


MINTIE, ALEXANDER E. Diploma from University of Pennsylvania, 1869, recorded in various counties in Arizona, 1886-92. Advertised the Great English Remedy; Dr. Mintie's Dandelion Pills, etc., territorial newspapers.

MITCHELL, GEORGE H. Diploma from University of Pennsylvania, 1871, recorded in Maricopa County 18 November 1886. Phoenix physician, 1886-87. Died in Los Angeles in 1888.
MIX, ALFRED A. Yuma physician 1871-72; departed for Guaymas while serving as public administrator, October, 1872.

MOCK, DAVID. Diploma from University of Missouri, 1876, recorded in Maricopa County 30 April 1888. Residence: Tempe. Charter member of Arizona Medical Association; owned ranch in Tempe.


MOELLER, ANDREW L. Physician from Pennsylvania; to Arizona in 1867. Did not practice medicine, amassed a fortune in real estate; died in Prescott, 1885.

MOLLER, L. M. Diploma of William L. Hagelsmoeller, New York Eclectic College, 1881, recorded in Yuma County 26 August 1893. Yuma physician 1893-99. Also practiced in Hermosillo, Sonora; extended visits to Texas and California.

MONICAL, GRANTS. Graduate of Medical College of Ohio, 1883. Registered October 31, 1907. Residence: Phoenix.

MONTARO, ANTOINE. Listed on 1870 census as doctor, born in New Mexico, residing in Yuma.

MONTENEGRO, VEREMUNDO. Diploma from medical school in Venezuela, 1884, recorded in Pima County on August 13, 1896. Residence: Nogales.

MONTEZUMA, CARLOS. (1867-1923) Reported to be a San Carlos Apache, taken prisoner by Pima Indians or Mexican marauders in 1870; bought by Carlos Gentillo in that year; Gentillo, a photographer from Chicago, took him to Illinois where he was raised and educated by Baptist ministers and YMCA; completed a course in Pharmacy at the University of Illinois in 1885; a course of medicine in 1889; served a short while as demonstrator in the anatomy laboratory; physician at two Indian Agencies; tried private practice in partnership with other physicians in Chicago; accompanied prominent Chicagoans to Arizona; died in a wickiup on Port McDowell Reservation in 1923.

MOORE, ISAAC S., or N. Diploma from St. Louis Medical College, 1870, recorded in Cochise County on March 7, 1888. Residence: Bisbee.
MORAN, GEORGE HENRY. Contract surgeon, Forts Yuma and Grant, 1878-81.


MORRIS, E. R. Physician who received money for attendance on indigent sick in Graham County, 1884-87.


MOSER, RAYMOND A. Graduate of Jefferson Medical College, 1903. Registered April 29, 1905. Residence: Gleason.

MOSLEY, E. B. Assistant surgeon at Fort Whipple, 1887. Land investor in Phoenix, 1888.

MULLAN, JAMES A. Professional card in Arizona Citizen, October 28, 1871. Ex-Army surgeon. Contract surgeon at San Carlos and Camp Grant, 1872. Departed for his old home in Maryland, November 30, 1872.

MUELLER, OTTO P. Graduate of Barnes Medical College, 1904. Registered April 28, 1906. Residence not listed.

MUNK, JOSEPH AMASA. Owned a ranch with his brother Judge E. R. Munk. Graduate of Eclectic School of Medicine. Did not practice in Arizona.

MURIETTA, ALFRED J. Physician for United Verde Hospital, Jerome, 1906. Member of the California Medical Association.

MURPHY, W. J. Physician from New York who located in Phoenix, February-June, 1898; to Prescott and then to Kingman. No diploma recorded.

MURRAY, WILLIAM R. Listed as physician in 3rd judicial district, 1864 census. Formerly in Gila City, 1860. Killed in Prescott in 1867.
MURRELL, T. E. Eye, ear, nose, and throat specialist in Tucson, offices with Dr. Mark Rodgers, December 1897-April 1898. From New Mexico.


NEISSL, W. Also spelled Neisal, Neissle. Operated a drug store in Globe, 1898-99; referred to as doctor; listed as such in Polk's Medical Directory, 1900.

NELSON, FRANCIS JOSEPH. Diploma from Southern Medical College, Atlanta, 1884, recorded in Pima County 2 June 1884. Residence: Tucson. Office with G. W. Nelson.

NELSON, GEORGE WASHINGTON. Diploma from Lennoxville Episcopal College, Canada, 1879, recorded in Pima County 26 June 1884. Offices with P. J. Nelson, Tucson.

NELSON, JULIUS B. Graduate of Medical Department of St. Louis University, 1904. Registered January 30, 1907. Residence: Mesa.


NEWLANDS, WILLIAM L. Contract surgeon, Camp Apache and Fort Yuma, 1874-75.

NICHOLS, HARLAN ADDISON. Graduate of Cincinnati Medical College, 1896. Registered April 11, 1906. Arizona in 1900, Fort Thomas, Cochise and Pinal County.

NICHOLSON, JOHN LAMBERT. Graduate of Tulane, 1898; Harvard, 1900. Registered March 3, 1903. Residence: Cochise County.

NICHOLSON, MALCOLM J. Graduate of New York City University, 1888. Registered May 23, 1903. Residence: Willcox in 1894, came there as division surgeon for Southern Pacific Railroad.

NOON, ADOLPHUS H. Diploma from College of P & S, San Francisco, 1877, recorded in Pima County, 3 November 1881. Residence: Oro Blanco. Arizona in 1879; Oro Blanco physician and rancher to 1898; Nogales physician until his death, 1931.

NOON, NICHOLAS. Diploma from Kansas City Medical College, 1893, recorded in Maricopa County April 1, 1893. Residence: Phoenix. Registered June 1, 1903. Residence: Nogales.

NORMAN, CHARLES M. Contract surgeon, Fort Grant, 1881.


NORWOLD, C. Contract surgeon at San Carlos, 1881.

NUTTING, LUCIUS. (1832-1903) Graduate of Rush Medical School, 1849. Arizona in 1870; then to Montana.

NYBERG, CHARLES ROBERT. Graduate of Northwestern University, 1911. Registered August 22, 1911. Residence: Tucson.


O'BRIEN, MICHAEL. Contract surgeon, Forts Yuma, McDowell, Grant, Lowell, 1872-73.

O'CONNOR, C. A. Graduate of Cooper Medical School, 1900. Registered July 16, 1903. Residence: Phoenix.

OELZEN, FRED E. Also listed as Van Oelzen. To Prescott from Napa, California, 1875. Departed Prescott April 1876.

OLCOTT, ARTHUR WELLSLEY. (1865-1921) Graduate of St. Louis Medical College, 1887. Registered May 27, 1903. Residence: Tucson. To Arizona in 1896; partner with Dr. Fenner.

OLMSTEAD, WILLIAM A. Diploma from Howard University, 1863, recorded in Yavapai County July 22, 1887. Physician in Flagstaff, 1887-1889.


ORD, JAMES LYCURGUS. Contract surgeon, Forts Mohave, Grant, Bowie and Thomas, 1884-91.

O’REILLY, ROBERT MAITLAND. Assistant surgeon Camp Date Creek, Fort Whipple and McDowell, 1868-69. Surgeon General of the Army, 1902. Graduate of the University of Pennsylvania, 1865.

OHR, SAMUEL L. Contract surgeon, Camp Bowie, 1872-73. To Pinal from San Francisco in 1881 for private practice, remaining a short time only.

OSBORNE, RICHARD THOMAS. Diploma from New York Medico-Chirurgical, 1878, recorded in Maricopa County May 14, 1883. Physician at Vulture Mine, 1882; Phoenix 1883-90.

OTTO, HENRY J. Office with Dr. J. T. Green in Tucson, 1892. Member of Arizona Medical Association in 1902. No diploma or registration on record.

OVERFIELD, ADAM. Diploma from University of Michigan, 1870, recorded in Pima County December 18, 1893. Residence: Tucson.

PAINTER, WILLIAM J. Contract surgeon, Fort Yuma, 1877-78.

PALMER, CHARLES BENJAMIN. Graduate of Johns Hopkins, 1907. In Sonora, Mexico, before registering on January 24, 1912. Residence: Naco, A.T.

PALMER, E. PAYNE. (1876-1960) Graduate of Washington University, St. Louis, 1895. To Arizona in 1900; registered 27 May 1903. Phoenix surgeon 1900-1960.


PANGBURN, S. D. Physician at San Carlos, 1880-90.

PARKER, ASHLEY STEVENS. Graduate of Tulane, 1893. Registered October 20, 1910. Residence: Kingman.


PARKER, ROBERT. Assistant surgeon, California Volunteers, Fort Yuma, 1863.

PARESSELLS, CHARLES W. Physician at Leupp Indian Agency, 1906.

PARSONS, STOYELL CADY. Diploma from New York Medical College, 1878, recorded in Pima County November 25, 1896. Residence: Tucson.


PATSY, LEVI H. Deputy assessor, poll, and property tax collector, Wickenburg and Weaver, 1866. Contract surgeon Forts Grant, Mohave; Camps Wallen, Cameron, and El Dorado, 1868-75.

PATZKI, JULIUS. Assistant surgeon, Fort Huachuca, 1889-91. Graduate of Jefferson Medical College, 1867.

PAXTON, W. H. Care of indigent sick in Graham County, 1885, paid for medical attendance.

PEARSON, CHARLES E. Graduate of Kentucky School of Medicine, 1898. Registered December 1, 1904. Residence: McCabe.

PEARSON, JOHN MAXWELL. Graduate of Georgetown University Medical School, 1907. Registered January 11, 1909. Residence: Glendale.
PEARSON, JOHN ROGER. Graduate of Indiana University, 1904. Registered April 19, 1907. Residence: McCabe.

PEASE, HENRY HALE. Diploma from Syracuse University, 1886, recorded in Pima County May 8, 1897. Partner with Dr. G. E. Goodfellow in 1893. Arrived in Tucson, 1889.


PERKINS, JAMES S. Physician for Indians at Talklai, Gila Co., 1906.


PETERSON, BERTRAM. Diploma from St. Louis College of Medicine, 1875, recorded in Cochise County August 19, 1885. Tombstone physician, 1881-1886.

PERRIN, EDWARD. Also spelled Perrine. Cattle rancher with his brother-in-law, Dr. George Thornton, 1880-81. Many visits from San Francisco to Arizona, 1879-98.

PETERS, S. J. Had a ranch on Wild Rye, Tonto, 1887-89.

PETTY, C. V. Assistant surgeon with 64th Cavalry, 1881.


PHELPS, HARLOW J. (1874-1903) Graduate of Marion Sims Medical School, 1899. Came to Phoenix in 1902; died in Phoenix in 1903.

PHILIP, WILLIAM STEWART. Diploma from McGill University, 1879, recorded in Maricopa County 20 November 1893. Residence: Phoenix.
PHILLIPS, JOHN H. Listed as physician in Arizona City on the 1870 census. Member of the 6th Territorial Legislature, 1871, from Eureka. Formerly from New Jersey.

PICKENS, NANCY E. MILLER. Diploma from New York Hygeio-Therapeutlc College, 1864, recorded in Maricopa County 13 May, 1881. Phoenix physician 1880-83.

PIERSON, J. HENRI. Native of Connecticut, physician at Vulture Mine in 1870; manager of Grant's Stage Line after his marriage to Louisa A. Grant in 1871. Came to Arizona from California, 17 September, 1870.

PIERCE, R. V. Of Pierce's Golden Medical Discovery, inspected mines near Tucson, 1890.

PILLING, HENRY HAIG. (1848-1914) Diploma from Hahneman Medical College, Chicago, 1870, recorded in Pima County on 8 November 1886. Tucson physician, 1886-1914.

PINDELL, JOSEPH T. Contract surgeon, Camp Verde, Fort Whipple, 1869-1872.

PLATH, OTTO EARNEST. Diploma from Miami Medical College, 1896, recorded in Maricopa County 24 October 1896. Registered May 27, 1903. Residence: Phoenix.

PLATT, WILLIAM ERASTUS. (1859-1941) Diploma from University of Louisville, 1894, recorded in Apache County March 29, 1894. Came to St. Johns in 1888, managed drug store and served as postmaster until 1893 when he attended medical school; returned to practice in St. Johns. To Safford in 1899.

POINDEXTER, R. E. Physician for Colorado River Agency, 1886-1889; to Flagstaff in 1890 and then departed for St. Louis.

POOL, JOSIAH. Sugar cane raiser, Santa Cruz Valley, 1882; rancher on San Pedro, 1884-94; in Mammoth and Schultz, 1894-93. Practiced medicine in addition to ranching; no diploma recorded.

POPE, BENJAMIN FRANKLIN. Assistant surgeon, Fort Whipple, Camp Hualpai, 1870-90; medical director in Philippine Islands where he died in 1902.

PORTER, ALEX S. Assistant surgeon, Fort Whipple and Huachuca, 1897-98.
PORTER, CHARLES HENRY. Diploma from University of Pennsylvania, 1876, recorded in Cochise County 15 August 1883. Physician in Willcox, 1887; Safford, 1897; in Hermosillo, Sonora, 1898.

PORTER, HENRY R. Contract surgeon, Camp Grant, 1873-76. Graduate of Georgetown University in 1872.

POURQUIE, LOUIS VILLIAS. Diploma from University of Tennessee, 1887, recorded in Maricopa County 28 December 1887. No residence listed.


PRATT, PERRY K. Diploma from St. Louis Medical College, 1893, recorded in Maricopa County January 13, 1894. Residence: Phoenix.

PRENTISS, JOHN. Assistant surgeon, California Volunteers, and medical purveyor, 1862-64.

PRESTON, JAMES C. Diploma from University of Tennessee, 1885, recorded in Cochise County May 19, 1885. Residence: Bisbee. Benson in 1888.

PREWITT, FRANCIS. Diploma from Gross Medical School, 1888, recorded in Maricopa County April 15, 1893. Charge of Keeley Institute in Phoenix.

PREWITT, GEORGE E. Diploma from St. Louis College of P & S, 1889, recorded in Maricopa County 28 December, 1892. Residence: Phoenix.

PRICE, MARSHALL F. Diploma from Northwestern University, 1875, recorded in Yuma county 24 February 1883. Contract surgeon, Fort Yuma and McDowell, 1882. Yuma physician 1883-85; served also as physician at territorial prison.

PRICE, WALTER LEE. Diploma from Missouri Medical College, 1890, recorded in Maricopa County January 30, 1896. Residence: Phoenix.

PRIETO, JOAQUIN DIAZ. Graduate of Academy of Medicine, City of Mexico, 1896. Passed Arizona Board of Medical Examiners, 3 April 1901. Maricopa County.
PRING, ELIJAH JAMES. Diploma from Western Lying-In Hospital, Dublin; certificate of membership in Royal College of Surgeons, 1850, recorded in Gila County on August 29, 1881; Graham County on May 23, 1882. Globe physician in 1880; Clifton 1882; contract surgeon, New Mexico, 1886-89.

PROSSER, JAMES DEMPSEY. Diploma from Indiana College of P. & S, 1876, recorded in Maricopa County 28 September 1895. Residence: Phoenix.


PUGH, GEORGE E. Graduate of Cincinnati Medical College, n.d.; to Phoenix from Los Angeles in 1888; died in Phoenix in 1889.

PUHEK, GEORGE J. Professional card in Phoenix Herald, February 20, 1880, physician from San Francisco; Tip Top mining district, then Tucson; departed territory 1880.


PURCELL, WALTER BRITTS. (1868-1910) Diploma from Gross Medical College, 1890, recorded in Pima County 31 March 1896. Registered May 23, 1903. Tucson physician.

PURDY, HARRY WILLIAM. Diploma from Bellevue, 1882, recorded in Pima County 12 April 1887. Silver King, Nogales, 1884-91. Mexico, 1891-92; returned to Nogales.

PURMAN, DARIUS M. Diploma from College of P & S, Indiana, 1886, recorded in Maricopa County February 1, 1894. Residence: Phoenix. First president of Medical Examining Board, 1897. Died in Phoenix in 1904.

QUINLAN, WILLIAM JAMES. Diploma from University of Buffalo, 1876, recorded in Pima County 7 November, 1881. Residence: Tucson.

QUINTON, W. W. Physician at San Carlos in 1898.

RAINES, C. B. Diploma from Louisville Medical College, 1871, recorded in Maricopa County 7 June 1887. Came from Texas; physician in Phoenix 1886-88.

RAWLINGS, CARROLL MONROE. (1862-1894) Diploma from Georgetown Medical School, 1884, recorded in Maricopa County January 8, 1891. Residence: Phoenix. Charter member of Arizona Medical Association.

RAYMOND, R. O. Graduate of Washington University, St. Louis, 1899. Registered 23 September, 1904. Residence: Williams.

REAGLES, JAMES. Contract surgeon, Beale Springs, McDowell and Fort Huachuca, 1874-77.


REECE, HARRY ALANSON. Graduate of Marion Sims College of Medicine, 1896. Registered January 16, 1908. Residence: Douglas.

REED, CALVIN. Attended the sick in St. Davids around 1887; Mormon leader.

REED, EDWARD NORTH. Graduate of Rush Medical School, 1904. Registered August 14, 1911. Residence: Clifton.


REED, ISAAC. Graduate of Missouri Homeopathic College, St. Louis, 1893. Diploma recorded in Maricopa County December 28, 1893. Residence: Phoenix.

REED, WILLIAM. (1851-1902) Assistant surgeon, Fort Lowell and Apache, 1876-80. Graduate of University of Virginia, 1869. Appointed assistant surgeon June 26 1875.

REESE, E. S. Received money from Mohave County for medical attendance, county sick, coroner, examining insane, etc., April, 1873 to April, 1876.

REEVES, LABAN P. Diploma from Medical College of Ohio, 1879, recorded in Maricopa County on December 9, 1889. Residence: Phoenix. Pima County December 16, 1889. Residence: Tucson.

REMES, CLEMENTEN. Diploma from Louisiana Medical College, 1845; recorded in Pima County November 7, 1892. Tucson from 1892-93.
RENO, GRIFFIN. Professional card in Tombstone Nugget, August to October, 1881. Office in Gird's Block, opposite the post-office.

REYNOLDS, GEORGE. License granted from California, 1884, recorded in Yavapai County 18 October 1895. Prescott and Ashfork, 1895-96; left for California.

RICE, ___. Division surgeon, Atlantic and Pacific Railroad, Winslow, in 1888.

RICE, PRESCOTT L. Contract surgeon, Fort Bowie, 1889-90. Graduate of St. Louis Medical School, 1864.

RICHARDSON, N. P. Tucson physician in 1869; Doctor and Mrs. Richardson ran a hotel from January to May, 1869. Departed for California.

RHYMES, WILLIAM J. Graduate of Tulane University, 1899. Registered October 3, 1904. Residence: Phoenix.

RICH, CHARLES D. Diploma from Homeopathic Medical College, Chicago, 1887, recorded in Maricopa County September 10, 1895. Residence: Phoenix.

RICHARDS, LLOYD H. Graduate of College of P & S, St. Louis, 1901. Registered December 18, 1903. Residence: Phoenix.

RICHARDSON, GEORGE BRIGGS. Graduate of Hospital Medical College, Louisville, 1890. Registered July 10, 1903. Residence: San Simon. Arrived there in 1901.

RICHARDSON, GEORGE H. Diploma from Chicago Homeopathic College, 1879, recorded in Yuma County December 9, 1892.

RICHARDSON, THOMAS B. Graduate of College of P & S, St. Louis, n.d. Registered August 1, 1904. Residence: Duncan.

RIEWEL, HENRY VALENTINE. Graduate of Western Reserve, 1902. Registered July 30, 1911. Residence: Phoenix.

RISER, CHRISTIAN H. Graduate of St. Louis Medical College, 1909. To Leupp Indian Agency, 1910.

ROBBINS, WILLIAM CALVIN. Graduated from Missouri Homeopathic Medical College, 1897. Came to Phoenix where he practiced with Dr. A. Tuttle, 1897-98.
ROBERTS, ALONZO S. Graduate of Medical College of Indiana, 1900. Registered January 20, 1908. Residence: St. Johns.

ROBERTS, CHARLES FREDERICK. Diploma from Columbia College, New York, 1883, recorded in Coconino County January 15, 1894. Williams physician, 1893-95.

ROBERTS, JACOB STANTON. Diploma from Harvard College, 1893, recorded in Coconino County March 11, 1895. Residence: Williams.


ROBINSON, ROBERT KILLIN. Diploma from College of P & S, New York, 1860, recorded in Yavapai County January 29, 1883. Prescott physician 1880-90.

ROBINSON, T. PAYNE. Diploma from Keokuk, Iowa, College of M & S, 1879, recorded in Apache County, n.d. St. Johns and Holbrook, 1886-88; departed for New Mexico.

ROBINSON, WILBUR SWIFT. Diploma from Indiana College of Medicine, 1893, recorded in Coconino County May 11, 1896. Residence: Flagstaff.

ROBLES del CAMPO, AUGUSTIN. Graduate of National Medical College, Mexico, 1887. Registered April 11, 1906. Residence: Tucson.

ROCKWELL, HENRY BISHOP. Diploma from University of Pennsylvania, 1881, recorded in Yavapai County July 25, 1895. Residence: Prescott; Maricopa County September 11, 1895.

RODGERS, OR ROGERS, ___. Referred to always as "doctor," or "Doc." Physician in Tucson, 1872, then departed for Mexico, returning to Tucson in 1890. No diploma recorded.


RODRIGUEZ, APOLOINO. Diploma from Mexico, 1890, recorded in Pima County, January 19, 1897. Residence: Tucson.

ROLLMAN, O. G. License granted by Texas, 1889, recorded in Maricopa County May 4, 1889. Residence: Tempe.
ROLPH, R. T. Graduate of University of Buffalo, 1873. Registered May 23, 1903. Residence: Hot Springs and Poland. Came to Arizona in 1900.

ROMATKA, F. A. Listed as doctor in La Paz in 1864. Contract surgeon Fort Yuma in 1865.

ROOT, ROMEO RICHMOND. Graduate of University of Illinois, 1892. Registered May 23, 1903. Residence: Pima, Graham County.


ROSENBERRY, ALVAN J. Graduate of University of Michigan, 1908. Registered February 8, 1909. Residence: Jerome.

ROSENTHAL, DAVID JULIAN. Diploma from University of New York, 1894; recorded in Maricopa County, February 3, 1897. Residence: Phoenix.

ROSS, T. KING. Quarantine officer, Nogales, 1885-87.

ROSSON, ROLAND T. Assistant surgeon, 1875-79, Fort Yuma and Grant. Diploma from University of Virginia, 1873, recorded in Maricopa County 22 April 1881. Phoenix physician 1879-97; died in Los Angeles, 1898.


ROWE, EARL V. Diploma from St. Louis College of P & S, 1893, recorded in Cochise County 11 June 1896. Registered 12 February 1904. Residence: Gila Bend.

ROWELL, HIRAM JENNINGS. Graduate of Medico-Chirurgical, Kansas City, 1900. Registered July 10, 1903. Residence: Mesa.

RUBEL, GEORGE CLARK. Graduate of Sioux City College of Medicine, 1897. Registered April 17, 1908. Residence: Tempe.

RUCKER, WILLIAM L. Diploma from Keokuk College of Medicine, 1876, recorded in Maricopa County 19 January 1893. Residence: Phoenix.

RUDD, WILLIAM M. (1827-1915) Came to Springerville in 1876. Became county judge of Apache County. Registered May 23, 1903, at age of 76; residence: Springerville. Did not graduate from medical school, but practiced medicine in Arizona as he had in Arkansas ten years prior.

RUDOLPH, JOHN FRANCIS. Graduate of Western Reserve, 1903. Registered 15 April 1909. Residence: Courtland.

RUNDE, JOHN HENRY. Graduate of Barnes, St. Louis, 1904. Registered 28 April 1906. Residence: Yuma.


RUSSELL, WILLIAM ALEXANDER. Diploma from Jefferson Medical College, 1847, recorded in Maricopa County on 29 July 1881. Residence: Phoenix.

RUST, WILLIAM E. Contract surgeon, Forts Yuma and Apache, February-August, 1873.

RYAN, JOHN GASTON. Graduate of Rush Medical School, 1910. Registered 29 April 1911. Residence: Clifton.

RYAN, JOHN LAWRENCE. Graduate of Baltimore College of P & S, 1892. Registered January 31, 1906. No residence listed.

RYLAND, KIRTLEY. Assistant surgeon, Fort Breckinridge, 1859-61. Born in Missouri and appointed from there. Died September 1861.

SAMANIEGO, MARIANO. (1844-1907) Professional card in Arizona Citizen, December 29, 1878. Attended college in St. Louis; no diploma recorded. Ran freighting business in Tucson-Nogales; San Carlos and Camp Thomas.


SANDERS, HENRY. Contract surgeon, Camp Verde, San Carlos, 1875.

SANDERSON, GEORGE W. Assistant surgeon, 1846-47. Accompanied the Mormon Battalion. Appointed from Missouri; resigned 31 August 1847.

SANDERSON, I. J. Diploma from University of Pavia, 1877, recorded in Maricopa County January 8, 1889. Residence: Tempe.


SARGENT, WILLIAM H. Graduate of Bennett Eclectic College, 1905. Registered August 26, 1908. Residence: Phoenix.

SAWYER, ALFRED DOW. Diploma from University of New York, 1880, recorded in Yavapai County October 30 1884. No residence listed.


SAWYER, EDMUND OGDEN. Diploma from Starling Medical College, 1880, recorded in Maricopa County March 27, 1895. Residence: Phoenix. Mining investor.

SAWYER, FRANK W. Graduate of New York University, 1893. Registered June 1, 1903. Residence: Prescott. Later moved to Castle Creek Hot Springs.
SCARBOROUGH, J. C. (1874-1901) Arizona in 1885; graduate of University of Michigan in 1898; Phoenix in 1898; Prescott in 1899. Died in 1901.


SCHOENLE, ROBERT W. Graduate of University of Louisville, 1890. Registered May 23, 1903. Residence: Prescott.


SCHUE, L. D. Contract surgeon, died at Camp Thomas of typhoid fever in 1882.


SCROGGS, GEORGE A. Diploma from Jefferson Medical College, 1879, recorded in Maricopa County, December 8, 1893. Residence: Tempe. Arrived from Beaver, Pennsylvania, in September, 1892. Physician at Sacaton Indian Agency, 1895.


SEAWELL, THOMAS M. Diploma from University of California, 1876, recorded in Cochise County June 6, 1881. Tucson physician 1879; Tombstone 1880-

SEELEY, THADEUS P. Contract surgeon, Fort Whipple, 1864. Accompanied officials of territorial government to Arizona. Graduate of University of Michigan, 1856.
SEMIG, BERNARD GUSTAV. Contract surgeon, Fort Crittenden, McDowell, Mohave, 1871-76.

SERVIN, GUILLERMO. Graduate of Cuadalajara Medical Department, 1885. Registered November 19, 1904. Tucson, 1904-1909.


SEWALL, CHARLES ALBERT. Contract surgeon, Fort Mohave, 1888-91. Diploma from University of Pennsylvania, 1872, recorded in Yavapai County 13, February 1893.


SEXSMITH, W. S. Opened an office in Yuma, November 23, 1895. No diploma recorded. Sexsmith Brothers owned a ranch and operated a dairy near Yuma.

SHADRACH, WILLIAM G. Graduate of University of Virginia, 1892. Registered June 1, 1903. Residence: Walker. Arrived there in 1902.

SHANGLE, J. W. Partner with Dr. A. N. Simpson, Carlisle, N.M.; practiced in Clifton, 1888.

SHANK, WILLIAM L. Physician at Phoenix Indian School, 1906.

SHARKEY, C. P. Contract surgeon, Camp Grant, 1869.


SHAW, M. E. Assistant surgeon. Killed enroute to Fort Mohave in 1867.

SHEETS, OLIVER H. P. (1821-1881) Affidavit recorded in Maricopa County to the effect that he was a graduate of Willoughby College, 1843; lost diploma in 1850 when crossing Sandy and Green rivers. Florence, 1878; Phoenix, 1878-81.

SHERMAN, WALTER. Diploma from Indiana Medical College, 1879, recorded in Apache County June 11, 1885; Mohave County 2 November 1887. Springerville, Winslow, Kingman; moved to California in 1889.
SHIBLEY, J. L. Diploma from McGill University, 1875, recorded in Yuma County, 30 December 1885. Yuma physician 1885-87; departed for California.

SHINE, FRANCIS EPPES. Graduate of University of Virginia, 1895. Registered September 25, 1903. Residence: Bisbee.


SKINNER, JOHN O. Surgeon Fort Whipple, Lowell, 1880-81; Medical Director, 1881-83.

SILBERSTINE, JULIUS. Physician at Sacaton Agency, 1900.

SILL, HENRY C. Diploma from University of Pennsylvania, 1881, recorded in Graham County October 12, 1881. No residence listed. In Prescott briefly in 1894.

SILLS, DANIEL. Diploma from University of Maryland, 1885, recorded in Gila County, April 13, 1891. Residence: Globe. Apache County, March 15, 1892. No residence.


SIMON, FRANK CASMIR. Graduate of Missouri Medical College, 1899. Registered 28 April 1906. No residence listed.

SIMPSON, A. N. Physician in Lordsburg, N.M., 1885-88. Treated patients in Clifton. Physician for Arizona and New Mexico railroad.

SIMPSON, JAMES. Graduate of Washington University, 1903. Registered April 29, 1911. Residence: Tucson.


SIPE, W. P. Graduate of Louisville Hospital College of Medicine, 1898. Registered June 1, 1902. Residence: Flagstaff.

SLADE, S. M. Physician from Illinois; one of the organizers of Arizona Canal, 1887.

SLAYTON, F. H. Graduate of Rush Medical School, 1901. Registered May 23, 1903. Residence: Clifton.

SLIGH, JAMES M. Graduate of Detroit Medical College, 1880. Registered October 18, 1909. Residence: Phoenix.


SLUSHER, R. S. Graduate of Barnes, 1900. Registered May 27, 1903. Residence: Wickenburg. Came to Arizona in 1901.

SMADBECK, LOUIS. Physician from New York; in Clifton, 1877. Mining investor.

SMART, CHARLES. (1841-1905) Surgeon at Camp McDowell, Fort Lowell, 1866-70.


SMITH, ANDREW KINGSBURY. (1826-1899) Surgeon and medical director, 1880-82. Graduate of Jefferson Medical College, 1849.

SMITH, CHARLES G. Physician for Colorado River Agency in 1881.

SMITH, DEWITT CLINTON. Diploma from Rush Medical School, 1878, recorded in Pima County June 26, 1895. Residence: Nogales.

SMITH, FRANCIS EUGENE. Reported as physician for the Copper Queen on 1 December 1892. Graduate of New York University, native of North Carolina.

SMITH, J. T. Physician from Cleveland, Ohio. Tucson for 14 months, 1883-84.
SMITH, JAMES WOOTEN. Graduate of Medical College of Virginia, 1901. Registered July 9, 1907. Residence: Roosevelt.


SMITH, J. J. Physician in Palomas, Yuma County, 1898. Registered September 25, 1903. No medical school listed.

SMITH, TURNER BURTON. Graduate of Rush Medical School, 1904. Registered January 30, 1907. Residence: Clifton.


SMITH, WILLIAM S. Graduate of University of Southern California, 1902. Registered May 23, 1903. Residence: Prescott.


SMITHLINE, J. A. Physician at Tip Top Mine, 1886.

SNOW, THOMAS H. Contract surgeon, Camp Willow Grove, 1868.

SNYDER, ELIZABETH. Diploma from Women's Medical College of Pennsylvania, 1885, recorded in Coconino County, July 12, 1895. Registered October 31, 1904. Kingman.

SOULE, MILAN. Contract surgeon, Fort Whipple, Camp Thomas and Apache, 1870-73. Graduate of University of Vermont, 1869; San Francisco physician, 1877.

SOULE, W. C. Listed on 1870 census as a physician in Wickenburg. Professional card in Arizona Miner, October 15, 1870, physician in Prescott.


SPENCER, MICHAEL. (1826-1896) Diploma from Western Reserve, 1851, recorded in Pima County 14 October 1884. Tucson physician 1886-96. Practiced in California and engaged in mercantile pursuits for twenty years prior to Arizona residency. Died in his buggy while returning from a call.

SPONAGLE, F. M. Physician at Silver King, 1877; Maricopa County disapproved of his bill for professional services, May 19, 1877.

SPONAGLE, J. DORSEY. Diploma from U.S. Eclectic Medical College, New York, 1872, recorded in Cochise County February 29, 1884. Professional card in Clifton Clarion, January to May, 1885, lists his address as Wilcox, A.T.


SPRINGER, W. O. F. Contract surgeon, Fort McDowell, 1873.


STANLEY, EDWARD A. Red Cloud Mining Company agent, near Yuma, 1880-83.


STALLO, T. C. Called doctor; listed his occupation as doctor on 1880 census. Real estate owner, mine investor, agent for different business companies. No diploma on record. Globe, 1878-1900.


STARK, JOHN. Contract surgeon, Fort Mohave, 1863.


STEPHENS, GEORGE WHITFIELD. Graduate of Tulane, 1907. Registered August 17, 1911. Residence: Phoenix.


STERN, LOUIS. Diploma from Medical School in Bavaria, 1878, recorded in Maricopa County 23 May 1885. Phoenix physician, 1885-1890.


STEWART, GEORGE TAYLOR. Diploma from Hahneman, Philadelphia, 1882, recorded in Pima County 6 January 1886. No residence listed.

STICKNEY, HARRY C. Graduate of Eclectic College of Medicine, Pennsylvania, n.d. Passed Arizona Board of Medical Examiners 2 October 1900. No residence listed.

STODDART, ARCHIBALD C. Diploma from Bennett Eclectic College, Chicago, 1869, recorded in Pima County 14 February 1887. Residence: San Francisco, California.


STRATTON, JOHN NEWTON. Graduate of Southwestern University Medical College, Dallas, Texas, 1907. Registered July 9, 1907. Residence: Safford.

STRONG, WILLIAM E. Assistant surgeon, Fort Mohave, 1863.

STROUD, HARRISON EDWARD. Diploma from University of Colorado Medical Department, 1885, recorded in Maricopa County January 21, 1894. Phoenix physician and surgeon, 1893-1905; interim visits to Europe, PG study Rush Medical College. Registered May 23, 1903. Residence: Phoenix.


STURGEON, DAVID E. Assistant surgeon, 1863; Fort West and scouting expeditions, 1864.

SULEEBA, THOMAS F. Graduate of Rush Medical School; came to Florence to assist Dr. W. Barry in 1893.


SULLIVAN, WALTER HARVEY. Diploma from Cooper Medical College, 1883, recorded in Cochise County, May 20, 1891. Tombstone physician, 1891-93.


SUMMERS, CHARLES. Listed as a physician in East Phoenix in Hinton's Handbook, 1877.

SUMNER, ELLA PEARSON. Diploma from Omaha Nebraska College of M & S, 1895, recorded in Maricopa County October 13, 1896. President Florence Crittendon Home, Phoenix.

SUTHERLAND, JAMES R. Listed as a physician at Fort Defiance on the 1880 census.
SWEET, FREDERICK ARNOLD. (1862-1903) Diploma from University of New York, 1889, recorded in Cochise County July 18, 1890. Chief surgeon, Copper Queen, Bisbee. Died in Bisbee in 1903.


SWETNAM, JAMES M. In Arizona in 1866; left to attend Medical School, University of Michigan, graduating in 1870. Practiced in Kentucky, Ohio, Missouri, Nebraska, and returned to Phoenix in 1894. Registered May 23, 1903.


TAGGART, JAMES H. (1837-1893) Diploma from Rush Medical School, 1866, recorded in Yuma County March 18, 1883. Came to Yuma around 1874; practiced with Dr. A. E. De Corse; served as physician to territorial prison.

TALLON, J. E. Contract surgeon, Camp Verde, 1871.

TAPPAN, BENJAMIN. (1840-1866) Assistant surgeon, Fort Yuma, 1865. Killed enroute to Fort Grant, 1866.

TARBELL, BRANT C. Graduate of Kansas City Medical College, 1901. Registered May 23, 1903. Residence: Naco.

TAUNDROW, WILLIAM. Listed as physician in Tombstone on the 1880 census.

TAYLOR, J. J. Graduate of American Medical College, St. Louis, 1893. Registered April 17, 1908. Residence: Phoenix.

TAYLOR, RALPH LEMEN. Diploma from University of Denver, 1893, recorded in Mohave County 7 December 1895. Residence: Cedar Grove. Registered January 20, 1911. Army service, 1898-1902; Denver, 1902-1910.


TEBBETS, JOHN H. Graduate of University of Southern California, 1908. Registered July 20, 1908. Residence: Metcalf.
TEDFORD, SARA J. Reported to be a woman doctor who came to Wilcox on the first train. (Lockwood: Arizona Characters). No additional information found.

TEMPLE, FRANKLIN STUART. Diploma from Albany Medical College, 1892, recorded in Maricopa County December 22, 1894. Residence: Maricopa County.

TEWKSBURY, A. F. New York physician, established a tent sanitorium in Phoenix, 1900.

THACHER, EDWARD C. Diploma from University of Pennsylvania, 1866, recorded in Gila County November 14, 1881. Physician in Globe, 1878-1884.

THAYER, JAMES M. Tucson physician in 1893; Gila Bend, 1893-94. No diploma recorded.

THAYER, LAWRENCE HAWTHORNE. Graduate of Dennison University, Rush Medical School in 1900. Buckeye, 1900-1901; Phoenix in 1911. Registered June 1, 1903.

THIELE, E. Arrived in Prescott, 1876, great display of surgical instruments; (Arizona Miner, October 20, 1876); departed for Greenwood, October 12, 1877.

THIGPEN, ROBERT H. Graduate of University of Georgia, 1904. Mexico four years, then came to Jerome, 1906.

THOMAS, Professional card in Arizona Sentinel, June 2, 1877. Dr. Thomas, Physician, Surgeon, & Accoucheur. Residence: Maiden Lane, opposite Lorettes.


THOMAS, ROY ECCLES. Graduate of Rush Medical College, 1907. Registered April 19, 1907. Residence: Phoenix.

THOMASON, H. D. Surgeon at Fort Whipple, 1904-1906; graduate of University of Pennsylvania in 1882.

THOMPSON, A. N. Pinal physician, March to July, 1881. Came from Cheyenne and Silver Reef; reported to have graduated from Georgetown Medical College, 1876. No diploma recorded.
THOMPSON, FREDERICK C. Diploma from University of Michigan, 1887, recorded in Coconino County, December 9, 1896. Residence: Williams.

THORNTON, GEORGE F. (1839-1893) San Francisco physician; owned ranch lands in Arizona with his brother-in-law, Dr. Edward Perrin. Reported as Confederate Army Surgeon from Alabama who came to California in 1874. Many trips to and from Arizona, 1873-93.

THIBODO, AUGUSTUS J. Graduate of Trinity University Canada, 1854. Prescott physician 1876-1881; removed to Nevada. Brother of Dr. O. J. Thibodo.

THIBODO, OLIVER JOHN. Wickenburg physician, 1870. Diploma from Regina College, Canada, 1870, recorded in Maricopa County, 3 May 1883. Phoenix physician 1870-89. Died in Los Angeles in 1910.


TITUS, CHARLES. Reported to be a doctor who ranched near Fort Buchanan in 1857; came with his brother to southern Arizona from Kansas, Col. H. Titus. Died in 1864 after Col. Titus returned East and when Apaches attacked.

TITUS, ISAAC. Diploma from Occidental College, Ohio, 1872, recorded in Maricopa County 28 June 1888. California physician, superintendent of insane asylum in 1888-1890. Died in Phoenix April 22, 1892.


TONEY, LUTHER CLARK. Diploma from Missouri Medical College, 1882, recorded in Maricopa County 13 August 1890. Prior service as contract surgeon, Fort Lowell, 1885; physician at Indian agency; superintendent of insane asylum, 1890-91; practiced in Phoenix, Mesa, Bisbee, several mining districts, and in California. Registered May 27, 1903, from Phoenix.
TONNER, J. A. Indian agent, Colorado River Agency, 1872; Special agent, 1874; to San Francisco in 1877.

TOWER, ORA I. Graduate of University of California Medical Department, 1910. Registered December 18, 1911. Residence: Yuma.

TOWNSEND, SAMUEL D. Graduate of Tulane Medical School, 1908. Registered August 1, 1908. Residence: Bisbee.

TRAINER, EUSTACE. Contract surgeon, Camp Grant and Fort Yuma, 1881-82.

TROUTMAN, GEORGE DAVIS. (1869-1929) Graduate of Pulte Medical College, Cincinnati, 1891. Registered December 1, 1908. Residence: Tucson.

TRIPP, R. B. Physician and rancher, Little Grant, Fort Thomas, 1881-1890.


TURNER, JARED M. Diploma from Castleton Medical College, Vermont, 1846, recorded in Pima County 1 May 1881. Tucson physician, 1880-82.

TURNER, LOUIS. Diploma from American College of Medicine, 1874, recorded to Yavapai County, March 17, 1896. Residence: Prescott.

TURNER, PEYTON. Diploma from Louisville Academy of Medicine, 1879, recorded in Maricopa County, 5 October 1887. Residence: Phoenix.


TUTHILL, J. J. Physician from Chicago at E. S. Dodge's Oracle Health resort, 1897-98. Died in Chicago, 1898.
TUTTLE, ADELIMER M. (1849-1898) Diploma from Hahneman, Chicago, 1874, recorded in Maricopa County 28 May 1892. Phoenix physician 1892-98.


UNDERWOOD, T. Listed as a physician in Clifton on the 1880 census.

UNDERWOOD, TIMOTHY E. Diploma from University of Pennsylvania, 1881, recorded in Pima County 24 May, 1881. Residence: Nogales.

UTZ, SHERMAN S. Graduate of Kentucky School of Medicine, 1893. Registered July 10, 1903. Residence: Douglas.

VAIL, W. F. Arizona Citizen, December 28, 1877; Pioneer Drug Store, Globe City, A.T. W. F. Vail, M.D. Globe physician and druggist, 1877-82; killed by stage robbers in August, 1882.

VAN HASSLOCHER, EUGENE. Physician in Florence, 1877-80. Came from San Francisco.

VAN KIRK, CHARLES C. Physician at Fort Apache Indian Agency, 1906.


VASTINE, CHARLES. Diploma from Missouri Medical College, 1859, recorded in Pima County, March 18, 1893. Residence: Tucson.

VAN ZANDT, J. W. Physician with Atlantic and Pacific Railroad construction company, 1881.

VERMILLION, WILLIAM H. Diploma from Cincinnati Eclectic Medical Institute, 1877, recorded in Yavapai County, 22 April 1882. Residence: Tip Top.
VICKERS, GEORGE W. Diploma from Starling Medical College, Columbus, 1882, recorded in Yavapai County 27 April 1888. Prescott physician, 1888-89; Congress, 1889-94; Prescott 1894-97. Territorial auditor in 1897. Later moved to Phoenix.

VYE, JAMES PUTNAM. Graduate of College of P & S, Los Angeles, 1909. Registered 26 April, 1910. Residence: Copper Creek.

WADHAMS, FREDERICK E. Chicago physician, located in Tucson June-September, 1898.

WAKEFIELD, EUGENE ST. S. Listed as physician on 1864 census in Prescott. Resident of the Territory 7 years. Killed by Apaches in 1870 near Tucson.

WALDRON, JESSE M. Diploma from College of P & S, Chicago, 1885, recorded in Maricopa County on 6 December 1885. Residence: Phoenix.

WALES, JOHN L. Graduate of Drake University, 1905. Registered April 11, 1906. Residence: Globe.

WALKER, J. D. Came with the 5th California Inf.; discharged from service in 1864. Reported to have studied medicine at one time; lived with Pima Indians and referred to as "doctor."

WALKER, JACK L. Diploma from Medical College of Alabama, 1882, recorded in Maricopa County, May 9, 1893. Residence: Phoenix, where he died in 1894.

WALKER, ROBERT L. Diploma from Western Pennsylvania Medical College, 1892, recorded in Maricopa County February 12, 1897. Residence: Phoenix.


WALLACE, HENRY. Graduate of Long Island College, 1890. Registered April 7, 1902. Residence: Tombstone.

WALLS, JOHN ROGER. Graduate of University of Toronto, 1891. Came to Prescott from Denver around 1897. Registered June 1, 1903. Prescott physician to 1915.
WALMSLEY, PALEN CLARK. Diploma from University of Toronto, 1882, recorded in Pima County 29 April 1887. Residence: Nogales.

WALTER, HENRY FRANKLIN. Diploma from Cooper Medical College, 1895, recorded in Cochise County August 7, 1896. Residence: Willcox.

WALTERS, J. W. Tucson physician, 1879-81; professional card in Arizona Star, July 10, 1879; offices in Welsch Block, above the post office. Also sold shower baths—Wasson’s Bath Closet. Came from Carson City, California. Name also spelled, "Waters." Left for New York in 1881.


WARNER, HENRY J. Graduate of University of Texas, 1899. Registered May 23, 1903. Residence: Thatcher.

WARREN, P. E. Listed as a physician in Pinal County, 1885.


WATKINS, ISAAC HENRY. Diploma from Vanderbilt, 1890, recorded in Cochise County 20 January 1897. Residence: Benson.

WATKINS, THOMAS. Graduate of Medical College of Virginia, 1904. Registered June 20, 1908. Residence: Bisbee.

WATKIN, CHARLES P. VANNESS. Diploma from Eclectic Medical College of Pennsylvania, 1869, recorded in Pima County on 18 March 1882. Tucson physician, 1879-83; came to Prescott from Fresno, California, 1893-94.

WATSON, EDWARD. Assistant surgeon, California Volunteers, Fort Bowie, 1863. Killed by Apaches enroute to Fort Craig, August 3, 1863.

WATSON, SAMUEL HUMES. (1877-1948) Graduate of Rush Medical School, 1899. Came to Tucson in 1911; registered April 25, 1912.

WAY, JACOB. Diploma from Jefferson Medical College, 1866, recorded in Maricopa County 7 December, 1886. Residence: Tempe. Died in Tempe in 1887.

WEBB, C. C. Listed as a physician in Parker, A.T., 1886, Polk & Co., Medical Register.

WEBB, P. G. Contract surgeon, Fort Whipple and Camp Date Creek, 1869.


WEEKS, OSCAR DALTON. Diploma from the American Health College, Cincinnati, 1890, recorded in Cochise, Yavapai, Coconino, Navajo, Maricopa, and Gila counties from 1890-97. Practiced the Vitaphathic System.

WEIRICK, SAMUEL THOMAS. Assistant surgeon, Forts Mohave, Huachuca, McDowell, Apache, 1887-92. Graduate of University of Maryland, 1865.

WELLES, FREDERICK HENRY. Diploma from New York College of Medicine and Surgery, 1883, recorded in Maricopa County February 2, 1895. Residence: Tempe. To Nogales in August, 1895.

WEST, MARGARET. Listed as doctoress on the 1880 census, residing in Snowflake.

WEST, WASHINGTON. Contract surgeon, Camp Colorado, 1870.

WERTZ, LOUIS B. Diploma from University of Denver, 1889, recorded in Maricopa County, 25 April 1889. Residence: Phoenix.

WHARTON, JUNIUS E. Arrived in Phoenix in August, 1877, from Denver. Reported to be a graduate of Starling Medical College, Columbus, Ohio, and a practicing physician of some twenty-five years in 1879. Charter member of Arizona Medical Association; ranch owner and prominent in Phoenix affairs. No diploma recorded.


WHITE, AUGUST. Also spelled Witte. Professional card, November 16, 1878, as Dr. Witte, in Tucson; listed as White in previous announcements. Last card in 1879.

WHITE, JOHN R. Graduate of St. Louis Medical College, 1875. Registered May 23, 1903. Residence: Mohave County.


WHITFORD, CHARLES S. Diploma from Bennett Eclectic College, 1882, recorded in Cochise County 13 February 1888. Tombstone physician, January-July, 1888.

WHITING, AUGUST. Listed as a physician in Holbrook, 1883, in Polk's Medical Register.

WHITMARSH, THOMAS R. Graduate of Michigan College of Medicine, 1897. Registered April 18, 1908. Residence: Camp Verde.

WHITMORE, WILLIAM V. (1862-1940) Diploma from University of Southern California, 1890, recorded in Pima County 22 September 1893. Also graduate of Bates College, 1885; one year at Columbia, College of P & S. Tucson physician and citizen over 35 years.
WHITNEY, EDWIN P. Surgeon, U.S. Volunteers, Camp Goodwin, 1864.

WHITTEMORE, S. Mohave County in 1865; Contract surgeon, Fort Yuma, 1869.

WIDNEY, JOSEPH POMEROY. Contract surgeon, Fort Bowie, Camp Date Creek, 1867-68; graduate of Toland Medical College, 1866.

WIGHTMAN, LYMAN E. (1869-1933) Graduate of Northwestern University, 1894. Registered May 23, 1903. Address: Gila Valley, Graham County. Pima in 1894; Solomonville, 1895.

WIGGLESWORTH, ALBERT M. Physician at Fort Defiance Indian Agency, 1906.

WILBUR, ETHELBERT WILLIS. Graduate of University of Pennsylvania in 1870; practiced in Iowa for 22 years; came to Mesa in 1892, rancher and banker. Did not practice medicine in Arizona.

WILBUR, REUBEN AUGUSTUS. (1840-1882) Graduate of Harvard Medical School, 1863; came to Arizona in 1865 from Taunton, Massachusetts. Tucson physician, rancher, agent for San Xavier Agency, and mine owner. Died in Massachusetts in 1882 while on a visit there.

WILDER, ANNIE. Diploma from Kansas City Hospital College, 1888, recorded in Pima County, March 15, 1896. Residence: Tucson. Lecturer and mind reader.

WILEY, CARLISLE BENJAMIN. Graduate of Medical Department, University of Southern California, 1904. Registered February 15, 1905. Residence: Payson.


WILLIAMS, CLARENCE J. Diploma from Eclectic College, Cincinnati, 1888, recorded in Maricopa County, 28 October 1893. Residence: Mesa.

WILLIAMS, MOSES H. Diploma from Victoria University, 1867, Canada, recorded in Maricopa County, October 11, 1894. Residence: Phoenix.

WILLIAMS, C. F. Physician from McMillen, died in Florence in 1879.

WILLIAMS, H. F. Arizona Citizen, July 31, 1886: Dr. H. F. Williams conducts a first class drug store in Fairbanks. Has a prescription clerk. Fairbanks, 1886-91.

WILLIAMS, JOSEPHUS. Agent at Camp Verde Reservation, 1871-73.

WILLING, GEORGE M. Philadelphia physician prospecting in Prescott and vicinity, 1864; headed a prospecting party in 1867; died March 13, 1867, Prescott.

WILLIS, GEORGE CHARLES. Diploma from New York University, 1879, recorded in Cochise County July 19, 1882. Tombstone physician, 1882-90. County physician and in charge of Tombstone hospital when he was killed 30 December 1890.

WILLS, E. C. Graduate of Medical College of Virginia, 1906. Registered 20 June, 1908. Residence: Maricopa County.

WILSON, ALFRED D. Assistant surgeon, Fort Yuma, 1875. Died November 30, 1875 at Fort McDowell.

WILSON, ELSWORTH. Graduate of Medical Department, University of Iowa in 1897. Registered August 5, 1906. Residence: Douglas.


WILSON, JOHN T. Diploma from Howard University, 1881, recorded in Pima County on May 1, 1885. Residence: Tucson.

WILSON, JOHN V. Recorded a license granted from Louisiana, 1888, after having practiced medicine in La Faulcne Parish since 1847, in Pima County on July 21, 1892. Had mining interests in Colorado and later in Sonora. Registered May 23, 1903. Tucson, 1892-1903.
WILSON, RICHARD DRANE. Graduate of Tulane, 1898. Registered October 12, 1903. To Phoenix in 1899.

WILSON, ROB ROY. Graduate of University of Southern California, 1904. Registered February 16, 1905. Residence: Payson.

WINGARD, E. V. Allowed money for medical attendance, indigent sick, Pinal County, 1885.

WINTERS, FRUMENTI. Diploma from Detroit Medical College, 1882, recorded in Pima County, 11 January 1892. Residence: Tucson.

WINTERS, MARY NORTON. Diploma from University of Michigan, 1889, recorded in Pima County, 11 January 1892. Residence: Tucson.

WIRTZ, HORACE RAQUET. (1823-1874) Medical director 1870-71; surgeon and first medical director Arizona. Served as surgeon, Camp Hualpai, 1872. Died in 1874.

WISER, FRANK CLAYTON. Graduate of Rush Medical College, 1891. Registered March 5, 1908. Residence: Phoenix.

WISH, CARROLL L. Granted a license in Arkansas in 1888; Safford physician in 1896. Registered May 27, 1903. Residence: Safford. Did not have a medical diploma; licensed because of continuous practice since 1888.


WOOD, EUGENE. Contract surgeon, 8th California Cavalry, 1867.

WOOD, LEONARD. (1860-1927) Assistant surgeon, Fort Huachuca, 1885.


WOODARD, WILLIAM G. Diploma from Vanderbilt University, 1888, recorded in Cochise County, 24 December, 1896.
WOODRUFF, WILLIAM LAWRENCE. Diploma from Hahneman, Philadelphia, 1882, recorded in Maricopa County on 2 April 1892. Registered May 23, 1903. Residence: Troy.

WOODS, CHARLES WINTER. Diploma from New York Eclectic College, 1882, recorded in Yavapai County on September 5, 1892. Big Ben Mine, 1891; Jerome, 1893. Member of 1897 Medical Examining Board. Registered October 1, 1904. Residence: Jerome.

WOODWORTH, ROLLIN EMBURY. Diploma from New York University, 1889, recorded in Cochise County on 23 February 1892. Residence: Bisbee.

WOOLFORD, JOSEPH 3. Diploma from Jefferson Medical College, 1873, recorded in Navajo County September 9, 1895. Registered May 4, 1903. Residence: St. Johns. Was at Snowflake for eight years.

WOOSTER, DAVID. Surgeon, California Volunteers, Tucson and Fort Yuma, 1863. Graduate of Western Reserve, 1849.

WORTHINGTON, JAMES C. Assistant surgeon, Fort Whipple and Grant, 1876-80.

WRIGHT, AUSTIN CHARLES. (1860-1937) Diploma from University of Michigan, 1881, recorded in Cochise County November 25, 1891. Morenci, 1888-90; Bisbee, 1890-93; Tucson, 1893; Benson, 1894-95; Minas Prieta, Sonora, 1895-98; Mammoth, 1898-99; Nogales and Douglas.


WRIGHT, LINDLEY C. Diploma from Vanderbilt, 1894, recorded in Maricopa County on June 4, 1896. Residence: Phoenix. Glendale in 1897.

WUNSH, GUILELMMUM W. Diploma from Miami Medical College, 1875, recorded in Pima County on November 7, 1883. Residence: Tucson.

WURTZ, ___. Physician at Tip Top; departed there for California in 1880.
WYATT, BERNARD LANGDON. Graduate of New York University, 1905. Registered October 19, 1911. No residence listed.


YATES, CHARLES. Called doctor, had contract for care of indigent sick in Prescott, 1878.

YATES, HENRY NEWTON. Diploma from Cincinnati Eclectic College, 1891, recorded in Maricopa County 29 April 1896. Residence: Phoenix.

YGLESIAS, MARTINA C. Diploma from Keokuk, Iowa, 1878, recorded in Apache County 10 June 1893. No residence listed.


YUILL, R. B. Physician in Wickenburg, died there in 1871.


ZIMMERMAN, ISAAC MOSZKOWITZ. Graduate of Imperial University of Russia, 1895. Registered May 23, 1903. Residence: Tucson.
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Roster of Troops and Camps, 1890. Col. B.H. Grierson, Commanding.

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ORAL TESTIMONY

Dr. John E. Bacon, Pomona, California, March 14, 1963.
Dr. Mead Clyne, Tucson, Arizona, October 1, 1963.
Mrs. Edith O. Kitt, Tucson, Arizona, 1963-64.
Dr. Roy R. Knotts, Yuma, Arizona, October 4, 1964.
Mr. Robert Riel, Globe, Arizona, 1 August 1963.
Dr. Van A. Smelker, Tucson, Arizona, October 14, 1963.