Title
Blinded with Science: American Indians, the Office of Indian Affairs, and the Federal Campaign against Trachoma, 1924-1927

Journal
American Indian Culture and Research Journal , 23(3)

ISSN
0161-6463

Author
Benson, Todd

Publication Date
1999-06-01

DOI
10.17953

AMERICAN INDIAN CULTURE AND RESEARCH JOURNAL 23:3 (1999) 119–142

Blinded with Science: American Indians, the Office of Indian Affairs, and the Federal Campaign against Trachoma, 1924–1927

TODD BENSON

In December of 1924, Charles Burke, the commissioner of Indian Affairs, received a letter from H. J. Hagerman, a former governor of New Mexico Territory who had been appointed by the Office of Indian Affairs (OIA) as "Special Commissioner to the Navajo." Hagerman reported that he had received a troubling piece of correspondence from an OIA physician headquartered on the Navajo Reservation. This physician, Polk Richards, had found some disturbing after-effects among Navajo patients who had been treated by government doctors for trachoma, a painful, infectious eye disease that produced damaged vision or even blindness. Two of these patients could no longer close their eyelids completely, a condition known as lagopthalmos, and at least two others were suffering from entropion, in which the eyelashes had turned inward and were scratching the surface of the eyeball.[1]

All of these patients had been treated as part of a national campaign by the OIA to eradicate trachoma from Indian communities. Their condition, Hagerman told Burke, suggested that perhaps the OIA needed to rethink its strategy. The trachoma campaign was based on the use of a radical surgical technique known as tarsectomy, in which the surgeon attempted to treat the disease by simply cutting out the tarsus, the supportive tissue underneath the eyelids. Unless patients were selected very judiciously, Hagerman warned, and unless those who performed the operation were highly skilled surgeons, it was quite possible that the trachoma campaign would produce "very harmful results," potentially causing Indian patients to lose all confidence in OIA doctors.[2]

Todd Benson wrote his Ph.D dissertation on the history of federal Indian health care policy during the first half of the twentieth century. He is currently associate director of advising at the Stanford School of Medicine.

Burke replied with a letter designed to reassure the special commissioner. The OIA would, Burke said, make every effort to ensure that the operation was performed only in carefully selected cases, and only by carefully trained physicians. OIA doctors who showed no aptitude for the surgery would not be provided with money to buy the special instruments necessary to perform it. And while it was true that after-effects such as entropion and lagopthalmos would sometimes occur, such problems could be treated with additional surgery.[3]

Hagerman was not mollified. He pointed out, in reply, that there was a severe shortage of OIA physicians qualified to perform such a delicate procedure, and noted that if performed improperly a tarsectomy could "result disastrously to the patient."[4] This time Burke failed to reply. Rather than heed Hagerman's warnings, he issued an official circular which made it mandatory for *all* physicians to perform the surgery, or risk losing their jobs. Henceforth, he said, the OIA would "require all our physicians to learn to perform the approved operations for the cure of trachoma, or give place to those who will learn."[5]

With Burke's order, the campaign against trachoma, which had previously been confined solely to the Southwest, began to expand dramatically. But Hagerman's warnings would prove prophetic. It would not be until 1927 that OIA officials would come to accept any evidence that tarsectomy was dangerous. But by then the procedure had been performed on at least 3,000 American Indian men, women, and children, with disturbing results. How did this disaster come about? Why and how would OIA administrators be so willing to design their campaign around an untested radical form of surgery? And why would they ignore repeated warnings, such as those by Richards and Hagerman, that their campaign was harming Indian patients?

THE CAMPAIGN BEGINS

To answer these questions, we must first examine the origins of a national program of Western-style health care for American Indians. Between 1908 and 1912, scientific studies financed by the OIA confirmed what many in American Indian communities had known for some time: health and sanitary conditions on reservations and in government boarding schools were horrendous.[6] Two diseases in particular, trachoma and tuberculosis, had reached near-epidemic proportions. The studies revealed that nearly one in four American Indian men, women, and children—on some reservations the figure reached as high as one in two—suffered from trachoma.[7] And American Indians were nearly ten times more likely than the rest of the population to contract pulmonary tuberculosis, and four times as likely to die from the disease.[8]

Anecdotal evidence of such health problems had been available to government administrators for several years, but had been largely disregarded. Indeed, in the late nineteenth century OIA officials had ignored warnings of possible health risks and recruited many Indian students with active tuberculosis for enrollment in boarding schools.[9] Why, then, did policymakers sud-

denly display such concern for investigating Indian health? The answer was twofold. First, American Indians and whites were, in many areas, living closer to each other. In the years following passage of the Dawes Act, millions of acres of so-called "surplus" Indian land were sold off or leased to whites, and Congress passed legislation which opened much remaining tribal land completely to white settlement.[10] The increasingly close contact between the two groups meant that American Indians afflicted with infectious diseases represented a threat not just to members of their own community, but to neighboring whites as well. As Commissioner Francis Leupp put it in 1908, the OIA was "confronted by the urgent necessity of doing more than has ever been done before in the way of protecting the Indians against the ravages of the disease, not only for their own sakes, but because the infected Indian community becomes a peril to every white community near it."[11]

Policymakers also argued that poor Indian health threatened what had been the fundamental aim of Indian policy for many years: assimilation. "[T]he physical welfare of the Indian is, and always must be," said Commissioner William Jones in 1904, "the fundamental consideration in the scheme to educate or civilize him. It is impossible to develop his mental and moral capabilities without healthy material to work on."[12] The results of the OIA-financed health surveys only confirmed Jones' views and led several prominent federal health officials to worry that inferior health conditions might threaten Indian peoples' capability to become economically self-sufficient. The high incidence of trachoma, Surgeon General Walter Wyman argued, threatened not only the "economic usefulness" of individual Indian people, but indeed the "economic efficiency" of the entire race. Other officials in the Public Health Service (PHS) agreed, noting that trachoma endangered Indian children's potential "power to earn a living," thus increasing the possibility that they would "become permanent charges on the State."[13]

Such views had an impact, for by the 1910s OIA officials had begun to argue that without funding to improve Indian health they could not fulfill their assimilationist objectives. As Commissioner Cato Sells put it, better health conditions were "a prime requisite in the process of civilizing the Indian and placing him upon a self-supporting basis." The OIA could not, he said, "educate [Indian] children unless they are kept alive. All our Indian schools, individual allotments, and accumulated incomes tend pathetically toward a wasted altruism if maintained and conserved for a withering, decadent people."[14]

Beginning in 1909, OIA officials used arguments about the connection between medical care and assimilation to win regular Congressional appropriations for a national Indian health program. By 1912, Congress was appropriating approximately $350,000 annually "to relieve distress among Indians and to provide for their care and for the prevention and treatment of tuberculosis, trachoma, smallpox, and other contagious diseases." Although these funds were used to implement a major expansion of the OIA's health efforts during the 1910s, the onset of the First World War led to a retrenchment of the Indian health program, as doctors and nurses in the Indian Service resigned their positions by the dozens to enter the military or to seek more

lucrative private employment, and as wartime inflation forced the OIA to reduce or in some cases even eliminate its purchases of medical equipment and supplies.[15]

The situation did not, given the postwar climate of fiscal conservatism which dominated the nation during the early 1920s, improve even after the war ended. Between 1919 and 1924 Congress failed to increase the OIA's health budget above prewar levels.[16] But as the decade progressed pressure began mounting, as part of a nationwide movement for Indian policy reform, for the government to do something more substantial to address Indian health concerns. Reformers such as John Collier began to argue that the level of health care provided to American Indians was abysmal. As proof of the OIA's indifference, they cited the mediocre quality of the medical care provided on many reservations. "[T]he critical thing," Collier told a congressional committee in 1923, "is the terrible deficiency of medical service." Doctors were both overworked and underpaid, and hospital facilities were totally inadequate. The OIA had failed, Collier concluded, to make the health conditions of American Indians known "either to Congress or the people."[17]

Such criticism helped convince Hubert Work, shortly after becoming secretary of Interior in 1923, to request an increase in the congressional appropriation for Indian health programs. But while Collier had focused primarily on the humanitarian impact of poor health care, Work had an ulterior motive. He believed, like previous administrators of federal Indian policy, that improved Indian health might help speed the process of assimilation. Physicians, in his view, not only were helping to spread "[c]ivilization" to so-called primitive peoples overseas, but were also "its pioneers among the American Indians." Commissioner Burke agreed. "Through emphasis on education and health," Burke added, "the Indian population will be speeded on its way to take its place among the industries of the country."[18]

Work's request specified that the increased funds would be used "for the purpose of enlarging the present facilities for the treatment of trachoma among Indians."[19] Although the secretary's motive in focusing on trachoma, rather than on tuberculosis or on general health needs, remains unclear, it is likely he was driven by two primary considerations. In 1891, the PHS had begun conducting medical examinations on all immigrants seeking entrance into the United States. Those found to have trachoma (or deemed to be insane or mentally retarded) were denied entry. Two decades later, the PHS had initiated a successful campaign designed to reduce the incidence of the disease among Appalachian whites. The implementation of these two programs left American Indians as the last major affected group in which the trachoma epidemic had not been addressed. Second, Work knew that he would need to demonstrate that any new appropriation had produced results. In contrast to a disease such as tuberculosis, which stubbornly resisted all attempts at a cure, trachoma appeared susceptible to control efforts, as the PHS program in Appalachia demonstrated.[20]

Congress responded to Work's request by increasing the OIA's health budget for 1924 by $500,000, and OIA officials began making plans for an anti-trachoma campaign in the Southwest, with a particular focus on the

Navajo Reservation.[21] They did not do so unknowingly, since there existed a significant body of knowledge about how the disease progressed. In trachoma's initial stages, tiny, reddish clumps of blood vessels form in the conjunctiva, the clear layer of tissue lining the inside of the eyelids and the surface of the white of the eye. As time progresses, granular follicles, filled with debris and discharge (and, we now know, with the chlamydia microorganism that causes the disease) also begin to develop in both the conjunctiva and on the tarsus, a cartilage-like plate of tissue which lies between the conjunctiva and the eye muscle and which gives the eye its shape. Although doctors did not understand the exact cause of the disease, they knew that people could spread it to others through their tears. A person can easily catch trachoma simply by wiping his or her face with a towel an infected person has just used.[22]

Trachoma could cause serious damage, as OIA physicians knew. Over time, the blood vessels which initially form on the conjunctiva may expand onto the surface of the eyeball, producing a dark spot which causes impaired sight or blindness. The granular follicles, meanwhile, rupture, causing scarring, which in turn leads to the contraction of the tarsal plate. A condition known as entropion may then ensue. In serious cases, this causes the eyelashes to rub against the cornea, again causing blurred vision or blindness.[23]

There were three possible approaches that the OIA could have followed, separately or in combination, in designing the trachoma campaign. The first was utilizing public health measures such as improving sanitation and providing education about how to halt the spread of the disease. The second possible method, which was widely employed by American ophthalmologists of the period, was to treat the disease with medications, which could range from silver nitrate and copper sulphate to alum and bichloride of mercury.[24] Both of these techniques were used by the Public Health Service in its Appalachian trachoma control program.[25]

But the OIA opted for a third method: surgery. Following the advice of John McMullen, a PHS specialist brought in to plan the trachoma campaign, administrators established several field hospitals at Navajo in the summer of 1924.[26] There, government physicians performed a procedure known as grattage on patients diagnosed with trachoma. Stated crudely, grattage was the scraping off of all conjunctival tissue which had become infected. To perform the operation, a practitioner would first anesthetize patients locally, and then use a forceps to evert—turn inside out—their eyelids. The physician would then vigorously scrape the infected tissue with a scalpel or surgical roller, breaking open the conjunctival follicles. The final step in the procedure consisted of rubbing off the diseased material with a brush or cloth, and postoperative care involved applying medicines to the treated area for several days.[27]

The campaign began on July 1, and the immediate response by members of the Navajo community was overwhelming. By August 6, five weeks after the campaign's start, more than 5,100 people had reported to the new field hospitals for trachoma screening. The doctors found 1,174 cases of the disease among these patients, 962 of which they treated surgically.[28] Yet in spite of this

early success, the physicians in charge of the campaign soon began experiencing difficulties. In funding the anti-trachoma program, OIA officials had followed McMullen's recommendation and budgeted for an average of six days of postoperative care per patient.[29] But the doctors soon found that post-surgical inflammation, which in their view necessitated a hospital stay of anywhere "from two to four weeks," was an inevitable consequence of the surgery. Patients discharged before the inflammation had subsided, they told Commissioner Burke, would not only continue to infect others, but might experience more damage from their inflamed eyes than "if no operation had been performed." "I would," one of them wrote, "consider myself derelict in duty and mal-practicing" to dismiss cases so soon after surgery.[30]

A RADICAL SOLUTION

Although Burke reluctantly granted the doctors' request to extend the six-day limit on postoperative care, the financial difficulties which the campaign was experiencing perhaps made it inevitable that OIA officials would seek a magic bullet to solve the problem of trachoma. The solution to their problems came in September of 1924, when Dr. L. Webster Fox of Philadelphia visited Montana's Glacier National Park on vacation. Fox, who held a professorship at the University of Pennsylvania, was one of the country's leading ophthalmologists and the author of a standard textbook in the field which had gone through four editions.[31]

On a similar vacation one year earlier, Fox had discovered that 30 percent of the population of the nearby Blackfeet Reservation suffered from trachoma, and he had used Blackfeet trachoma patients to demonstrate his treatment methods to reservation physicians. When Fox returned to the area in 1924, he agreed to repeat his demonstration. This time, though, his audience included Assistant Commissioner Edgar B. Meritt, who happened to be visiting the Blackfeet agency. Impressed, Meritt sent Commissioner Burke a glowing report of Fox's clinic, and on Burke's orders "a large number" of OIA doctors—including J. S. Perkins, the director of the trachoma campaign at Navajo—subsequently traveled to Blackfeet so they could observe the Pennsylvania ophthalmologist firsthand.[32]

Fox's technique included two separate procedures, the first of which was a more extreme version of the method used by the OIA physicians at Navajo, and which Fox labeled "radical" grattage. In this operation, surgeons used sharp three-bladed knives to scrape patients' inner eyelids "both longitudinally and laterally," which produced "rather free bleeding." They then dipped a stiff toothbrush in a bichloride of mercury solution and brushed "very vigorously" across the eyelids. After-care involved the application of medicinal dressings for four to six days. Fox recommended this operation for the earlier stages of the disease, but not before the follicles had formed and slight scarring had occurred.[33] For more advanced cases, he advocated a second, more radical, operation known as tarsectomy. To perform it, physicians simply everted a patients' upper eye and, using a scalpel, excised both the diseased tarsal plate and most of the underlying conjunctiva. To compensate for the removal

of this tissue and to provide support for the eyelid, they then used a small forceps to grasp the edge of the remaining conjunctiva near the top of the eyelid, pulled it down, and stitched it to the margin of the eyelid. Aftercare consisted of the application of anesthetics in a dressing for eight to ten days.[34]

The advantage of these two surgeries, Fox believed, was that they cured quickly and completely, eliminating the need for any extended form of treatment. With just a few cuts of the knife, the disease could be eliminated. Those who attended Fox's demonstration were suitably impressed. "Judging by the past," wrote Perkins, "a lot of the work we are doing now will have to be repeated because it does not cure, in a large number of cases." Fox's "great ability and wide experience," on the other hand, guaranteed that his methods would be more effective and more efficient. Walter Stevens, a high-level OIA medical supervisor, agreed. "With the elimination of aftertreatment," he wrote, "it can readily . . . be seen that our present methods of treatment will be greatly simplified."[35]

Stevens noted, though, that tarsectomy could produce a serious side effect. Stretching the remaining conjunctiva to the lid margin after the excision of the tarsus produced tension, which could cause the lid to turn inward on itself, leading, possibly, to blindness. This was the same condition found in many advanced cases of trachoma. To prevent this complication, Fox ended a tarsectomy operation by using an electric cautery to puncture a double row of tiny holes along the margin of the lid. "The theory," Stevens wrote, "is that the scar resulting will counter act [*sic*] the shortening of the conjunctiva."[36]

Stevens himself was skeptical about this procedure. "This is probably the result in many cases," he said, "but I am of the opinion that secondary operations to correct the entropion will be necessary in a number of cases." He also noted that a tarsectomy might not always cure the disease. "We have the possibility, that the granules may again form . . . in which instances a secondary operation will be necessary," he said. It was unclear, however, what those operations would be: one could neither apply medication to the underside of the tarsus nor scrape the granules off once it had been surgically removed.[37]

It was clear, though, that either a recurrence of trachoma or the development of entropion would require further medical treatment, contradicting Fox's claim about the benefits of a tarsectomy. But Stevens ignored this potential problem, as well as the potential damage that failed tarsectomies could cause. "Presuming we get only 50 percent successful operations," he wrote, "our results will be far more reaching than we could hope to obtain through the prolonged aftertreatment method." The procedure itself was relatively simple to learn, Stevens said, and required neither "any more time nor a more developed technique" than the mild form of grattage then in use. He recommended that all OIA traveling ophthalmologists learn tarsectomy, as well as radical grattage, and that both procedures be given a one-year trial.[38]

OIA administrators enthusiastically endorsed Stevens' recommendations, ignoring even his suggestion for a trial period. On September 12, Commissioner Burke ordered Stevens to travel to the Southwest and begin teaching the Fox operations to agency doctors. Shortly thereafter, Meritt instructed him to devote "the major part of his time to the trachoma cam-

paign" and, with Perkins' assistance, to organize a clinic where other OIA doctors could learn to perform tarsectomies. This clinic, which was held on the Navajo Reservation, began on November 3, 1924. The physicians who attended, some of whom had never before performed surgery, received an abrupt introduction to Fox's methods. After first watching an instructor operate on one eye of a trachoma patient, the new ophthalmological trainees were then given responsibility for the other eye. The teaching physicians would hand over the operating tables to the students, who would then perform the surgery with their instructors' assistance.[39]

At about the same time, Burke was telling a congressional committee that the OIA was striving "to make every physician in the Indian Service a trachoma expert." The OIA had employed a number of ophthalmologists as regional trachoma specialists even before the trachoma campaign had begun, and the intent now was to have them learn the Fox operations themselves so that they could demonstrate them to physicians in their own districts. By January, the program of radical surgery in the Southwest was operating "full blast," and one of the OIA's trachoma specialists had been directed to begin a similar campaign in the Dakotas.[40] Fox himself, meanwhile, had agreed to give another such clinic at Albuquerque. Commissioners Burke and Meritt ordered both Perkins and Robert Newberne, the OIA's chief medical director, to participate in Fox's demonstration, and Newberne authorized OIA traveling ophthalmologists from as far away as South Dakota and Michigan to attend.[41]

Fox's second clinic was held in January of 1925 and had what can only be described as a tremendous impact on those who attended. Perkins, for example, was lavish in his praise. "THIS CONCLUDES ONE OF THE GREATEST TRACHOMA CLINICS EVER HELD," he telegraphed Washington shortly after Fox had finished, "IMPOSSIBLE TO ESTIMATE THE AMOUNT OF GOOD DONE." Those attending, he added, had been fortunate to learn from "a master."[42] By then all of the OIA's traveling trachoma specialists and medical supervisors (with, according to Commissioner Burke, "the possible exception of one") had received instruction in Fox's radical approach. During the next five months the OIA held two other formal clinics in the Fox technique, at Phoenix and at Riverside, California, and by September more than fifty OIA physicians had "become skilled operators in trachoma." By then the OIA had also initiated new campaigns against the disease in Wisconsin, Oklahoma, and on the Crow agency in Montana. As a report by the Board of Indian Commissioners put it, "[on] almost all the reservations and in all the schools the agency and school physicians were examining, treating, and operating for trachoma."[43]

It was at this point that the first signs of trouble began to appear. Indeed, even before Hagerman had forwarded Polk Richards' troublesome findings to Burke, W. C. Barton, an OIA physician who had attended Fox's initial clinic at Blackfeet, wrote the Commissioner to express his reservations. Although Barton had left the Montana clinic a proponent of the Fox techniques, he sent a letter to the commissioner in which he cautioned that a tarsectomy was "an operation requiring considerable surgical skill." Moreover, patients who

underwent the procedure required approximately two weeks of postoperative care. "For this reason," Barton concluded, "only a comparatively few patients can be handled at one time, and a larger number of helpers and workers is required."[44]

But Barton's concerns, like Richards' and Hagerman's, were ignored in favor of Burke's veiled threat of termination for any physician who did not learn tarsectomy. As the campaign progressed into late 1925 and 1926, these heavy-handed tactics began to achieve results, as OIA physicians cut out an ever-growing number of Indian tarsal plates. Indian Office administrators, meanwhile, publicly expressed optimism about the results that their radical experiment would yield. Marshall C. Guthrie, who became the OIA's chief medical director in 1926, told a congressional subcommittee that the campaign "should" produce a decrease in the incidence of Indian trachoma. Assistant Commissioner Meritt, testifying at another subcommittee hearing, noted that while trachoma would likely remain a problem for "some time into the future," "considerable progress" had been made since the Fox techniques had been adopted. And the campaign's chief budget officer wrote a glowing report of the tarsectomy program, which was published in the *Santa Fe New Mexican* and five other Southwestern newspapers. Dr. Fox's clinics had, the report stated, allowed "a large number" of OIA physicians to receive "special training which added greatly to their fitness for handling trachoma and treating it by the most improved methods." Thousands of Indians had already been treated by government doctors, and in the coming year "many times as much [would] be accomplished."[45]

But even as administrators were heralding what they saw as the OIA's achievements, and even as growing numbers of American Indians were undergoing the surgical removal of their tarsal plates, events were transpiring that would force the end of the trachoma campaign. In October 1924, the American Medical Association, at the request of Interior Secretary Work, had appointed a committee of leading ophthalmologists to advise the OIA and the secretary on trachoma control activities. Within five months, the three members of the committee had submitted a report to the commissioner which stressed the need for public health education as a means of controlling the disease, and which emphasized that both grattage and tarsectomy were "severe" forms of treatment to be used only in carefully selected cases.[46]

Assistant Commissioner Meritt penned what appears to have been a disingenuous official response to this recommendation. The OIA was, he told the members of the advisory committee, relying on milder forms of surgery (including a mild form of grattage) as its principle weapons in the trachoma campaign.[47] But Meritt knew this to be false—his reply came several months after he himself had been present at Fox's initial clinic at Blackfeet. His attempt to mislead members of the advisory committee suggests that he (and presumably other top OIA officials as well) knew that tarsectomy was a controversial procedure. Had Meritt told the truth, the AMA consultants would perhaps have recommended abandoning the tarsectomy campaign immediately. But because he did not, it was not until eighteen months later, when the advisory committee members began a firsthand investigation of the OIA's tra-

choma program, that the truth began to emerge. In November 1926, a member of the committee wrote an apparently innocent letter to Polk Richards, the physician whose reports had led Hagerman to warn Commissioner Burke two years earlier, requesting Richards' opinion on how best to treat trachoma. Richards, in reply, discussed a number of possible remedies for the disease, including the use of surgical techniques. He was, he said, cautious about the use of radical surgery because of the consequences it sometimes produced. A tarsectomy could not only produce physical damage, but often failed to provide a cure. The surgeon simply did not always manage to remove all of the diseased tissue. Richards noted that he was treating two patients "tarsectomized two years ago" who suffered from severe cases of the disease.[48]

Richards expanded upon these observations early in 1927 in a letter he sent to a professional ophthalmological journal. In recent cases of trachoma, he said, "medical treatment only should be employed," and for chronic cases he recommended a mild form of grattage, used in combination with applications of medicine. The use of radical grattage, he added, had caused "much unnecessary damage," including extensive scarring to the conjunctiva and a condition called symblepharon, in which the eyelid became stuck to the eyeball. Tarsectomy also had caused significant damage. "We have had and seen others have," Richards said, "some bad results following these operations, varying degrees of lagophthalmos being the most common." Nor did tarsectomy provide an effective cure "unless the disease is confined mostly to the tissue excised, and we do not see many cases where it is limited to the upper conjunctiva, tarsi, and retrotarsal folds." "Acute flareups in the so-called cured cases," Richards concluded, "are common." He himself was treating three tarsectomized patients who had had a reoccurrence of trachoma.[49]

By then, members of the advisory committee had finished firsthand visits to the field. The committee published the results of these investigations in the *Journal of the American Medical Association* on April 9, 1927. It concluded that OIA boarding schools, because they admitted both healthy and infected students, were a major source of trachoma infection and recommended the establishment of segregated schools that would exclusively enroll trachomatous pupils. The committee also recommended health education and the use of trained field workers to conduct home visits as the best way to control the disease. "We doubt the efficacy" of a tarsectomy campaign, the committee members noted, "for trachoma is a disease that demands continuous after treatment and cannot be cured by one radical treatment, operative or otherwise." In a second article published one month later, one committee member noted that he and a colleague had observed cases where the tarsectomy operation had produced horrible disfigurement and had heard of another where it had caused blindness.[50]

But in spite of the committee's recommendations, and in spite of Richards' descriptions of tarsectomy's destructive consequences, Medical Director Guthrie waited more than three months before taking any action to limit use of the procedure. Even then his predominant concern, rather than simply protecting Indian eyesight, seems to have been assuaging potentially hurt professional feelings among OIA physicians. Before issuing an official

pronouncement on trachoma treatment, Guthrie sent a draft of a proposed circular to each of the OIA's district medical directors. Because the Office had given its field physicians "teachings which apparently were more in favor of radical procedures than otherwise," he wrote, any order from him would have "to be expressed cautiously and diplomatically." Consequently, the proposed circular did not ban the tarsectomy operation, but merely instructed physicians to be more careful about employing it. Guthrie requested that the medical directors comment on the draft, and, after receiving favorable replies, issued it in final form on July 22. Like its predecessor, the chief medical director's official directive urged caution, but did not forbid OIA doctors from performing the operation.[51] It was not until September that Guthrie decided to ban the procedure outright, although even then he allowed physicians to perform it when they obtained written authorization from Washington.[52] OIA physicians, as a result of this proviso, requested, and received, permission to perform an occasional tarsectomy until as late as 1931.[53]

ASSESSING THE DAMAGE

The trachoma campaign had ended an utter failure. But just how widespread was the damage? How common were tarsectomies? Official OIA statistics indicate that between fiscal years 1925 and 1927 a total of 22,626 eye surgeries were performed (see Table 1). But these included grattage operations, other milder forms of trachoma surgery, and surgical procedures for other eye conditions. To determine what proportion of this total was represented by tarsectomy, we must turn to the monthly statistical reports filed by the OIA's traveling trachoma specialists, which included specific breakdowns by type of procedure. These reports reveal that tarsectomies constituted 26.25 percent of all trachoma operations (see Table 2).[54] Applying this percentage to the total of 22,626 operations produces a total of 5,978 tarsectomies performed.[55]

TABLE 1
Number of Trachoma Operations Performed by OIA Physicians, Fiscal Years 1925–1927

Year	Operations Performed
1925	8455
1926	5318
1927	over 9000
Total	over 22,773

Sources: *Interior Department Appropriation Bill, 1927, 398; Problem of Indian Administration, 208; Interior Department Appropriation Bill, 1929, 575.*

TABLE 2
Tarsectomies Performed by OIA Special Physicians, 1926–September, 1927

Physician	1926 Operations Performed	1926 Tarsectomies Performed	1926 Percent Tarsectomies	January–September, 1927 Operations Performed	January–September, 1927 Tarsectomies Performed	January–September, 1927 Percent Tarsectomies	Total Operations Performed	Total Tarsectomies Performed	Total Percent Tarsectomies
J. L. Collard	220	12	5.5%	97	8	8.2%	317	20	6.3%
L. L. Culp	134	6	4.5%	206	166	80.6%	340	172	50.6%
J. L. Goodwin	3	0	0.0%	12	0	0.0%	15	0	0.0%
H. V. Hailman	121	12	9.9%	99	0	0.0%	220	12	5.5%
J. S. Perkins	292	182	62.3%	193	103	53.4%	485	285	58.8%
R. H. Ross	-	-	-	79	0	0.0%	79	0	0.0%
C. E. Yates	513	77	15.0%	343	41	12.0%	856	118	13.8%
Totals:	1283	289	22.5%	1029	318	30.9%	2312	607	26.3%

Source: *Reports of Special Physicians, Records of the Health Division, RG 75, NA*

It is possible, of course, that other OIA doctors were less aggressive in their use of tarsectomy than were the traveling ophthalmologists. But even if one assumes, conservatively, that they performed tarsectomies only half as frequently as did the ophthalmological specialists (that is, in 13.13 percent of the cases) we are still left with a total of 2,989 tarsectomies performed. There is abundant evidence, furthermore, which suggests that tarsectomized patients frequently experienced severe complications, which could include an untreatable recurrence of trachoma, lagophthalmos, entropion, scarring, or blindness. The chair of the AMA's Advisory Committee on Trachoma reported observing "numerous" cases in which patients who had been tarsectomized suffered untreatable and disfiguring reoccurrences of trachoma. The operation had been performed, he added, "even in very recent cases of the disease and in young children before any other treatment had been used. Some overzealous enthusiasts even went so far as to advocate the operation as a preventive of the disease."[56]

As early as August 1926, H. V. Hailman, one of the OIA's traveling trachoma specialists, reported that he was having difficulty persuading Hopi patients to accept medical care. An OIA doctor had already performed tarsectomies on many Hopis, with devastating consequences, and tribal members showed no desire to repeat their mistake and entrust their eyes to the care of another government doctor. Hailman found it necessary to treat several patients for the side effects of tarsectomy, a task to which he attached great importance. "Every effort," he said, "should be made to save from blindness an eye that has been operated upon . . . every eye that goes blind following an operation, makes for more contention and op[p]osition among the Indians to whom the facts are known. For this reason I am giving more of my personal time to a number of Indians who have had their tarsal cartilege [*sic*] removed in order to save them, if possible, from blindness."[57]

Tarsectomized patients at Laguna and Acoma Pueblos also experienced severe complications. In April 1927, Dr. Ralph Ross, who had been one of the three ophthalmologists who began the trachoma campaign in the Southwest, visited both pueblos and made a startling discovery. Among the 133 people who had received tarsectomies, Ross found eighty-seven cases in which the physician performing the operation had left trachomatous granules remaining in the folds of the eyelid, a condition which made further treatment "very difficult." And in thirty-five more cases the tarsectomized patients showed "no indication" of ever having had trachoma at all. "It seems unfortunate," Ross said, "that tarsectomies should have been performed in such a promiscuous, wholesale and reckless manner. The result on the patient has been prejudicial to having anything more done to their eyes. Nearly all the cases . . . in which trachoma granulations still remain, have told me their eyes are in worse condition since the operation; although told beforehand that the tarsectomy would cure their condition." He concluded that the physicians who had performed the operations had not been competent enough either to diagnose the disease correctly or to perform the procedure properly.[58]

The implication was, of course, that more highly skilled doctors could have done a better job. The OIA responded to Ross' report by requesting the names

of the supposedly incompetent physicians, which he quickly furnished. The Office then directed the medical director for the Southwestern District, H. J. Warner, to investigate Dr. Ross' charges. Warner examined the same patients as had Ross, although he noted that it was "hardly necessary" for him to do so, as he had "looked over many such cases during the last year in every section of the Southwest." He concluded that Ross' assessment of the tarsectomy campaign's horrible consequences was correct. In Warner's view, however, it was unfair for Ross to assign blame to the local physicians, who were simply following official policy by performing tarsectomies. "All the Indian Service physicians, including Dr. Ross, were taught to do tarsectomies," Warner noted. "They were instructed at the time that tarsectomy was a cure for trachoma. All of them did tarsectomies in wholesale numbers on all classes of trachoma." One should not, therefore, cast "any reflection" on the doctors who treated the Lagunas and the Acomas. "Their technique was good," Warner said, "and in accordance with the teachings of their preceptor. Both physicians have learned by experience and are now following conservative methods of treatment. You can go into any district of the Southwest where specialists have worked and see the same deplorable results from wholesale tarsectomies."[59]

Far from ending the trachoma epidemic, OIA doctors had caused even more suffering for American Indian patients. The reasons for their reliance on such an extreme, untested procedure are quite complex. Part of the motivation was a wrongheaded, albeit genuine, belief that tarsectomy was an effective, even humane, form of treatment. The year after the campaign began, members of the Board of Indian Commissioners declared emphatically that it warranted "the strong hope that in a comparatively few years our Indian people will be clear eyed and reservations will be rid of the disease which has made blind men and women common objects in Indian communities." Perkins believed that one hundred ophthalmologists using the Fox technique could eradicate trachoma among Southwestern Indians in only one month.[60] And one OIA physician at least twice held clinics where he operated on whites as well as Indians suffering from the disease.[61]

Still, the good intentions of some campaign officials do not by themselves explain why tarsectomy was selected as the preferred method of treatment. Fox and OIA medical administrators knew that medical therapies and public health programs could also be used to treat the disease. Moreover, professional ophthalmological opinion on tarsectomy's merits was sharply divided, as evidenced by the harsh dissents which accompanied the publication of protarsectomy articles written either by Fox or by one of the handful of other proponents of the procedure.[62] Nowhere can one find an example of another instance of widespread use of the procedure, even by the Public Health Service in its Appalachian trachoma control program.[63] Why, then, did the OIA come to rely so heavily on a radical, untested program of surgery?

The answer lay in the racial and cultural beliefs of the campaign's originators. Throughout the 1920s, federal policymakers and their allies consistently defended attacks on Indian health programs by invoking the refrain of racial and cultural difference. According to the chief of the OIA's construction division, Indian hospitals did not need to be built to the same standard

as comparable white facilities. There were, he said, "many differences contrasting the Indian from the white race," which made the provision of top-quality facilities less important for Indian patients. Medical Director Newberne expanded on this point in 1924. While the level of care provided in OIA hospitals was not, he noted, equal to that available "in the hospitals of large cities, in some respects it suit[ed] the Indians better." Superior medical facilities would be wasted on American Indian patients, who in Newberne's view were inclined to disobey their physicians' orders. "We are dealing," he said, "with a primitive people."[64]

The idea that radical surgery was the only suitable method for treating American Indian trachoma patients flowed naturally from such racially based justifications for differential treatment. In the minds of OIA officials, alleged racial deficiencies would render all alternative approaches to treating trachoma ineffective. Thus John McMullen, the PHS trachoma specialist who had designed the initial stages of the campaign, rejected public health measures as unsuitable for Indian patients. To prepare his recommendations for the campaign, McMullen had taken temporary leave from his regular position as director of PHS trachoma programs in the Appalachian region. An important part of the PHS effort, which served mostly lower-income whites, was a public health education campaign. Under McMullen's direction, teams of nurses traveled from place to place, lecturing on the etiology of the disease and holding clinics on techniques of trachoma prevention.[65] But McMullen specifically rejected the use of such measures among the Indians. The Navajos, he argued, lived in hogans where they had "appalling" sanitary habits, and such alleged problems would present what he claimed was an insurmountable barrier to any program of health education.[66]

McMullen also rejected the use of medical treatments, arguing that what he labeled the Navajo peoples' "backward" taboo against revealing family names would complicate the practice of keeping medical records.[67] Fox, similarly, claimed that reliance on medicines would be ineffective, citing what he believed to be the particular virulence of trachoma among the Indian population. American Indians did not, he argued, possess "the natural immunity to [trachoma] of the North American negro." And while whites experienced trachoma in varying degrees of severity, each case in Indians seemed "to be worse than the preceding one," which made medical remedies "a waste of time." Even had medicines been capable of producing results, there remained what Fox saw as the intractabilities of Indian behavior. American Indian patients could not, he argued, be "considered as in the class that will stand for protracted treatment of any kind." Tribal members would not return for applications of medicine "more than a very few times," and refused to apply the medicine themselves inside their own homes. "The Indian," he noted, "is a born skeptic anyhow, and must be handled by those familiar with his temperamental vagaries."[68]

Fox also noted that he had treated trachoma sufferers even among "the highest type" of Indians, students at the Carlisle Indian School, a place where "the very best hygienic conditions" prevailed. That the disease could flourish in such a scrupulously clean environment, and among such relatively assimi-

lated tribal members, demonstrated, for Fox, the futility of using public health measures to control the disease. "It is extremely difficult," he wrote, "to teach these ignorant Indian women that the bottom hem of their skirts is not the proper thing with which to wipe their noses and their babies' eyes. The urging of health journals, such as *Hygeia*, on them would be ridiculous, and even the talks to the youngsters accomplish very little."[69]

Fox's opinion about American Indian personality traits was shared by many medical observers. The average Indian person's history, according to one of the OIA's traveling ophthalmologists, was "that of taking things as they come, and leaving the morrow for its own problems. . . . To prevail upon him as we say, 'to take his medicine in broken doses,' or to be persistent in continuing any treatment or preventive measures over an approp[r]iate period of time has been a hard matter, because it did not coincide with his earlier conception of propriety."[70] Others went even further, comparing Indian men and women to children who responded at best only marginally to health education efforts. "It is exceedingly difficult," said one of the OIA's traveling trachoma specialists three years before the campaign began, "to induce the Indians to adopt hygienic measures for their own protection. They are very much like children, and one is obliged to keep at them continually, teaching them the dangers of neglecting these matters." "The Navajo," added another, "is a wonderful child of intellect and his ignorance of diseases and his superstitions make him pathetic."[71]

That those responsible for federal Indian programs held racist attitudes will, of course, evoke no surprise from those familiar with the history of federal Indian policy. What may be more startling, though, is that in this case such attitudes shaped the creation of a health campaign organized by health professionals, who were supposedly dedicated to principles of humanitarianism and scientific objectivity. Yet, as Vine Deloria has noted, scientific interpretations of Indian cultures have had the impact of "precluding Indians from having an acceptable status as human beings, and reducing them in the eyes of educated people to a pre-human level of ignorance."[72] The trachoma campaign was clearly a case in point. The physicians responsible for the campaign had used their racial beliefs to justify the use of a dangerous, invasive surgical procedure.

For these doctors, Western medical science held the power to overcome alleged racial failings and to propel American Indians towards "civilization." So strong was their faith in the power of so-called scientific medicine that even witnessing firsthand the horrible consequences of the tarsectomy campaign did not alter their worldview. Instead, they assigned the blame for tarsectomy's failure on their Indian clients. H. V. Hailman, for example, devised a simple explanation to explain why complications from tarsectomy were so common among Hopi trachoma sufferers. These patients, he argued, bore sole responsibility for what had happened to them because they had, "for many and varied reasons, real or imagined," discontinued their postoperative care. Another OIA ophthalmologist, John Hewitt, made the same argument about Ute patients on the Uintah and Ouray reservation. The reason these patients required up to five months of hospitalization to correct postoperative eye

damage was, he said, because they had refused to accept "regular aftertreatments" following a tarsectomy.[73]

H. J. Warner, who had investigated the consequences of the tarsectomy operation at Laguna and Acoma, likewise continued to portray Indian behavior as the biggest obstacle to OIA trachoma-control efforts. Working with what he called "the primitive Indian population" presented OIA physicians, Warner said, with a range of problems. "Personal cleanliness and sanitary conditions" were, he said, "at their worst" in Indian communities. Further, "the Indians' adherence to the medicine man and his [*sic*] suspicion of the white man's innovations in matters of medical treatment" necessitated that the physician first "gain the confidence of the Indian" before attempting to provide medical assistance. Even then success was not assured. Indian patients generally would not, Warner argued, continue to seek treatment for trachoma once their immediate symptoms had been relieved, and consequently "[f]ield work by ophthalmologists among adult Indians of the nomadic type," was "unsatisfactory and usually a waste of time."[74]

The racial beliefs which had been used originally to justify the tarsectomy campaign now provided Warner and other OIA physicians, when confronted with evidence of the campaign's failure, with an airtight alibi. Indian peoples' supposed backwardness, which had been the reason given for using tarsectomy in the first place, now could be used to absolve OIA physicians from any blame for what they had done. At least three thousand people had had their eyesight destroyed or damaged. Yet it was not the physicians or the OIA that were at fault, but the behavior of the very patients who had been harmed. This was cultural arrogance of breathtaking proportions. From the very beginning, government physicians had demonstrated an absolute faith that medical science could compensate for alleged Indian racial inferiority and provide a cure for trachoma. Then, when the campaign failed, those same supposed racial defects served as a convenient scapegoat. It was an ingenious formulation.

NOTES

1. H. J. Hagerman to Commissioner of Indian Affairs (hereafter CIA) Charles Burke, Dec. 15, 1924, 25663 (Pt. 1)-24-700-Navajo, Central Classified Files, Record Group 75, National Archives, Washington, DC (hereafter CCF, RG 75, NA); Polk Richards to H. J. Hagerman, Nov. 22, 1924, ibid. The nomenclature of Bureau of Indian Affairs did not come into official use until 1947. See Francis Paul Prucha, *The Great Father: The United States Government and the American Indians* (Lincoln: University of Nebraska Press, 1984), II: 1227–29.

2. Ibid.

3. Burke to Hagerman, Dec. 22, 1924, ibid.

4. Hagerman to Burke, Jan. 21, 1925, 93221-24-734-General Service (hereafter GS), CCF, RG 75, NA.

5. Circular no. 2122, June 22, 1925, Roll 13, Series 6, Microfilm publication no. 1121 (hereafter Mfilm 1121), NA. No reply to Hagerman's letter could be located.

6. Ales Hrdlicka, *Tuberculosis among Certain Indian Tribes of the United States*, Bureau of American Ethnology Bulletin no. 42 (Washington: Government Printing Office,

1909); *Contagious and Infectious Diseases Among the Indians*, 62nd Cong., 3rd sess., 1913, S. Doc. 138, Serial 6365; *Trachoma in Certain Indian Schools*, 60th Cong., 2nd sess., S. Rep. 1025, Serial 5380. For general discussion of health conditions on reservations and in boarding schools in the late-nineteenth and early-twentieth centuries see Virginia E. Allen, "'When We Settle Down, We Grow Pale and Die': Health in Western Indian Territory," *Journal of the Oklahoma Medical Association* 70 (1977): 229–30; Virginia R. Allen, "The White Man's Road: The Physical and Psychological Impact of Relocation on the Southern Plains Indians," *Bulletin of the History of Medicine* 49 (1975): 156–60; Gregory R. Campbell, "Changing Patterns of Health and Effective Fertility among the Northern Cheyenne of Montana, 1886–1903," *American Indian Quarterly* 15 (1991): 339–58; idem, "The Epidemiological Consequences of Forced Removal: The Northern Cheyenne in Indian Territory," *Plains Anthropologist* 34 (1989): 85–97; Bernice N. Crockett, "Health Conditions in the Indian Territory from the Civil War to 1890," *Chronicles of Oklahoma* 36 (1958): 34–37; R. Palmer Howard and Virginia E. Allen, "Stress and Death in the Settlement of Indian Territory," *Chronicles of Oklahoma* 54 (1970): 357–58; Wallace B. Love and R. Palmer Howard, "Health and Medical Practice in the Choctaw Nation, 1880–1907," *Journal of the Oklahoma State Medical Association* 63 (1970): 126; Diane T. Putney, "Fighting the Scourge: American Indian Morbidity and Federal Policy, 1897–1928," Ph.D. diss. (Marquette University, 1980), 201–9; Peter Thompson, "The Fight for Life: New Mexico Indians, Health Care, and the Reservation Period," *New Mexico Historical Review* 69 (1994): 145–61; Clifford E. Trafzer, *Death Stalks the Yakama: Epidemiological Transitions and Mortality on the Yakama Indian Reservation, 1888–1964* (East Lansing: Michigan State University Press, 1997); idem, "Invisible Enemies: Ranching, Farming and Quechan Indian Deaths at the Fort Yuma Agency, California, 1915–1925," *American Indian Culture and Research Journal* 21 (1997): 83–117; Robert A. Trennert, "The Federal Government and Indian Health in the Southwest: Tuberculosis and the Phoenix East Farm Sanatorium, 1909–1955," *Pacific Historical Review* 65 (1996): 61–63.

7. *Contagious and Infectious Diseases*, 19, 29–31, 37; Fitzhugh Mullan, *Plagues and Politics: The Story of the United States Public Health Service* (New York: Basic Books, 1989), 65; M.C. Guthrie, "The Health of the American Indian," *Public Health Reports* 44 (April 19, 1929): 950, 952. By comparison, a 1912 survey by the Public Health Service (PHS) found 8 percent of whites in the Kentucky backcountry to be suffering from the disease, a figure which Congress deemed so alarming that it authorized the PHS the following year, for the first time ever, to treat trachoma patients. See Mullan, *Plagues and Politics*, 65.

8. Hrdlicka, *Tuberculosis among Certain Indian Tribes*, 3. See also Joseph A. Murphy, "Health Problems of the Indians," *Annals of the American Academy of Political and Social Science* 37 (1911): 104; idem, "The Work of the United States Indian Medical Service," *Survey* 33 (1915): 446; Jon F. Rice, Jr., "Health Conditions of Native Americans in the Twentieth Century," *Indian Historian* 10 (1977): 15; Burke to Kober, Oct. 13, 1921, 96343-21-732-GS, CCF, RG 75, NA; Guthrie, "Health of the American Indian," 949; Florence Patterson, "A Study of the Need for Public-Health Nursing on Indian Reservations," printed in Senate Committee on Indian Affairs, *Survey of Conditions of the Indians of the United States* (Washington, DC: GPO, 1928–43); 3: 959. National statistics are drawn from Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970* (Washington, DC: GPO, 1975), I: 58–9.

9. Putney, "Fighting the Scourge," 1–22; Prucha, *The Great Father*, II: 842–3.

10. Two excellent accounts of these developments are Frederick E. Hoxie, *A Final Promise: The Campaign to Assimilate the Indians, 1880–1920* (Lincoln: University of Nebraska Press, 1984), 147–87; and Janet A. McDonnell, *The Dispossession of the American Indian, 1887–1934* (Bloomington: University of Indiana Press, 1991).

11. *Annual Report of the Commissioner of Indian Affairs* [hereafter *ARCIA*], 1908, 24. The authors of a PHS survey of Indian health conditions went even further by arguing that Indians represented the single biggest threat to the nation's health. "[T]he danger now," they concluded, "is not so much the transmission of contagious and infectious diseases from immigrants to inhabitants of the United States, but from Indians to immigrants settling on lands in the West." *Contagious and Infectious Diseases Among the Indians*, 70.

12. *ARCIA*, 1904, 36.

13. *Trachoma in Certain Indian Schools*, 2; *Contagious and Infectious Diseases*, 19.

14. *Annual Report of the Department of the Interior* [hereafter *ARDI*], 1915, II: 12; *ARDI*, 1916, II: 5. The implementation of a national health care system intended to facilitate the process of assimilation appears to challenge Frederick Hoxie's conclusion (*A Final Promise)* that assimilationist policies became less ambitious in the early twentieth century.

15. House Committee on Appropriations, Subcommittee on the Interior Department, *Interior Department Appropriation Bill, 1930*, 70th Cong., 2nd sess. (Washington, DC: GPO, 1928), 657; Putney, "Fighting the Scourge," 98–201; Prucha, *Great Father*, II: 852–55; Frederick L. Hoffman, "Conditions in the Indian Medical Service," *Journal of the American Medical Association* [hereafter *JAMA*] 75 (Aug. 14, 1920): 494.

16. Putney, "Fighting the Scourge," 199, 210–18.

17. House Committee on Indian Affairs, *Pueblo Indian Land Titles*, 67th Cong., 4th sess. (Washington, DC: GPO, 1923), 186–202 (quotations at 192 and 195).

18. Quoted in Prucha, *Great Father*, II: 846, 853; Hubert Work, "The Indian Medical Service," *Military Surgeon* 55 (1924): 427; *Interior Department Appropriation Bill, 1930*, 641.

19. Prucha, *Great Father*, II, 855–56.

20. Mullan, *Plagues and Politics,* 40–65; James Tobey, *The National Government and Public Health* (1926; rpt., New York: Arno Press, 1978), 39.

21. Hubert Work, "Speech before the Advisory Council on Indian Affairs," Dec. 12, 1923, reprinted in House Committee on Appropriations, Subcommittee on Interior Department, *Interior Department Appropriation Bill, 1925*, 68th Cong., 1st sess. (Washington, DC: GPO, 1924), 9, 188; House Committee on Appropriations, Subcommittee on Interior Department, *Interior Department Appropriation Bill, 1926*, 68th Cong., 2nd sess. (Washington, DC: GPO, 1924), 667.

22. This description of trachoma in this paragraph draws heavily on Larry Schwab, *Primary Eye Care in Developing Nations* (Oxford: Oxford University Press, 1987), 51–54. For contemporary discussions of what was known about trachoma see J. A. Stucky, "Trachoma: Suggestions as to Diagnosis, Etiology, and Treatment," *Southern Medical Journal* 19 (1926): 140–44; and Daniel W. White and Peter Cope White, "The Medical and Surgical Treatment of Trachoma," *Texas State Journal of Medicine* 20 (May 1924): 33–37.

23. Schwab, *Primary Eye Care*, 51–54. Entropion was also one of the disturbing aftereffects of tarsectomy which led Polk Richards initially to express his concern to Hagerman.

24. Stucky, "Trachoma," 140–44; White and White, "Medical and Surgical Treatment of Trachoma," 33–37; Mullan, *Plagues and Politics*, 65. A few years earlier, during the 1910s, the OIA had relied on public health methods as its primary weapon against trachoma. See Putney, "Fighting the Scourge," 109, 165–66.

25. For a discussion of the methods used by the PHS see Mullan, *Plagues and Politics*, 65; Paul B. Mossman, "The Clinic Control of Trachoma," *Eye, Ear, Nose and Throat Monthly* 6 (1927): 404–5; idem, "Trachoma," *Journal-Lancet* 47 (1927): 544–45; Joseph S. Waldman, "Trachoma: A Review of the Literature," *Illinois State Medical Journal* 54 (1928): 143.

26. Burke to J. S. Perkins, June 14, 1924, 25663 (Pt. 1)-24-700-Navajo, CCF, RG 75, NA; Perkins to CIA, Sept. 24, 1924, ibid.

27. "Program for Eradicating Trachoma among the Indians," John McMullen to CIA, May 15, 1924, ibid.; Malcolm McDowell to George Vaux, May 17, 1924, ibid.; Joseph S. Waldman, "Trachoma: A Review of the Literature," *Illinois Medical Journal* 54 (1928): 143.

28. Burke to Perkins, June 14, 1924, 25663 (Pt. 1)-24-700-Navajo, CCF, RG 75, NA; Perkins to CIA, Sept. 24, 1924, ibid; Walker to CIA, Aug. 12, 1924, ibid.

29. "Program for Eradicating Trachoma," McMullen to CIA, May 15, 1924, ibid.

30. Ralph Ross to CIA, Aug. 1, 1924, ibid.; Perkins to CIA, July 21, 1924, ibid.

31. G. Oram Ring, "Lawrence Webster Fox, M.D., 1853–1931," *Archives of Ophthalmology* 6 (1931): 598; Beatrice Fox Griffith, *Pennsylvania Doctor* (Harrisburg, PA: Stackpole Company, 1957).

32. L. Webster Fox, Letter to the Editor, *JAMA* 81 (1923): 1545; idem, "Trachoma Among the Blackfeet Indians," *Archives of Ophthalmology* 53 (1924): 166; idem, "The Trachoma Problem Among the Indians," *Medical Searchlight* 1 (1925): 17; *Annual Report of the Board of Indian Commissioners, 1925*, 13; Walter Stevens to CIA, [Oct.] 10, 1924, "From Feb. 1, 1922" File, Box 1, Records of the District Medical Director, Muskogee Area Office, Record Group 75, National Archives, Southwest Region, Fort Worth, Texas [hereafter RDMD, MAO, RG 75, NAFW]. Stevens mistakenly dated his letter September 10.

33. Stevens to CIA, Oct. 10, 1924, "From Feb. 1, 1922" File, Box 1, RDMD, MAO, RG 75, NAFW; L. Webster Fox, "Trachoma at Its Worst Among the Blackfeet Indians," *Journal of the Indiana State Medical Association* 17 (1924): 371.

34. Stevens to CIA, [Oct.] 10, 1924, "From Feb. 1, 1922" File, Box 1, RDMD, MAO, RG 75, NAFW; Fox, "Trachoma at Its Worst," 373.

35. Perkins to CIA, Oct. 2, 1924, 25663 (Pt. 1)-24-700-Navajo, CCF, RG 75, NA; Perkins to CIA, Sept. 24, 1924, ibid.; Stevens to CIA, Oct. 10, 1924, "From Feb. 1, 1922" File, Box 1, RDMD, MAO, RG 75, NAFW.

36. Stevens to CIA, [Oct.] 10, 1924, "From Feb. 1, 1922" File, Box 1, RDMD, MAO, RG 75, NAFW.

37. Ibid.

38. Ibid.

39. Burke to Stevens, Sept. 12, 1924, "From Feb. 1, 1922" File, Box 1, RDMD, MAO, RG 75, NAFW; Burke to Stevens, Oct. 19, 1924, "Oct. 10, 1924" File, Box 1, ibid.; Stevens to CIA, Oct. 15, 1924, ibid.; E.B. Meritt to Stevens, Oct. 24, 1924, ibid.; *Interior Department Appropriation Bill, 1926*, 672. The last of the two letters cited describe and give official approval for the organization of the clinic, but predate it. There is no rea-

son, however, to doubt that the actual method of pedagogy differed from what was planned, especially since Meritt gave Stevens' ideas the OIA's official sanction.

40. House, *Interior Department Appropriation Bill, 1926*, 671–73.

41. Burke to R. E. L. Newberne, Dec. 19, 1924, 93221-24-734-GS, CCF, RG 75, NA; Burke to J. R. Collard, Jan. 5, 1925, ibid.; Burke to L.L. Culp, Jan. 5, 1925, ibid.; Burke to L. Webster Fox, Feb. 5, 1925, ibid.

42. Perkins to OIA, Jan. 18, 1925, ibid.

43. Burke to Fox, Feb. 5, 1925, 93221-24-734-GS, CCF, RG 75, NA; Walter S. Stevens, "Indian Service Doctor Replaces the Medicine Man," *Nation's Health* 7 (1925): 385; *Annual Report of the Board of Indian Commissioners, 1925*, 13–14.

44. W.C. Barton to CIA, Sept. 11, 1924, "From Feb. 1, 1922" File, Box 1, RDMD, MAO, RG 75, NAFW.

45. Work to Guthrie, March 29, 1926, Marshall C. Guthrie personnel file, U.S. Office of Personnel Management, St. Louis, Missouri; House Committee on Appropriations, Subcommittee on the Interior Department, *Interior Department Appropriation Bill, 1928*, 69th Cong., 2nd sess. (Washington, DC, GPO, 1927), 327; House Committee on Appropriations, Subcommittee on the Interior Department, *Interior Department Appropriation Bill, 1927*, 69th Cong., 1st sess. (Washington, DC: GPO, 1925), 398; "The Southwestern Trachoma Campaign Among Indians," *Santa Fe New Mexican*, Oct. 10, 1925, copy in 25663 (Pt. 2)-24-700-Navajo, CCF, RG 75, NA; Walker to CIA, Jan. 20, 1926, ibid.

46. William Wilder to CIA, "Outline of Suggestions for the Control and Treatment of Trachoma among the American Indians," April 24, 1925, 78136-24-732-GS, CCF, RG 75, NA.

47. Meritt to Wilder, May 18, 1925, ibid.

48. Richards to Knapp, Nov. 5, 1926, "Polk Richards—Special Physician" File, Box 452, Correspondence of Medical Officers, Phoenix Area Office, Record Group 75, National Archives, Pacific Southwest Region, Laguna Niguel, California [hereafter PAO, RG 75, NALN].

49. P. Richards, "Results in Treating Trachoma among Indians," *Archives of Ophthalmology* 56 (1927): 202–4.

50. "Report of the Advisory Committee on Trachoma Among the Indians," *JAMA* 88 (April 9, 1927): 1175; "Report of the Advisory Committee on Trachoma Among the Indians," April 13, 1927, 40506-25-732-GS, CCF, RG 75, NA; William Posey, "Trachoma Among the Indians," *JAMA* 88 (May 21, 1927): 1618–19.

51. Mark Guthrie to District Medical Directors, July 2, 1927, 36655-27-734-GS, CCF, RG 75, NA; H.J. Warner to Guthrie, July 5, 1927, ibid.; Stevens to Guthrie, July 8, 1925, ibid.; Paul D. Mossman to Guthrie, July 11, 1927, ibid.; Emil Krulish to Guthrie, July 13, 1927, ibid.; Circular no. 2347, July 22, 1927, Roll 13, Series 6, Mfilm 1121, NA. A copy of this circular can also be found in 36655-27-734-GS, CCF, RG 75, NA. Positions for four district medical directors, each with responsibility for several states, were created when the OIA reorganized the medical division in 1926 and officially established it as a separate unit. Previously, medical activities had been conducted as part of the activities of the education division. See Department of Health, Education, and Welfare, Public Health Service, Division of Indian Health, *The Indian Health Program from 1800–1955* (Washington, DC: Public Health Service, 1959), 5.

52. Circular no. 2369, Sept. 20, 1927, Roll 13, Series 6, Mfilm 1121, NA.

53. See the correspondence between Paul G. Eilers and Burke in 24166-29-734-Southern Navajo, CCF, RG 75, NA, and between Culp and Commissioner Rhoads in 27501-31-734-GS, ibid. Special physician C. E. Yates was performing tarsectomies as late as 1932, although it is unclear whether or not he received official authorization to do so. See C. E. Yates, Annual Report, 1932, Box 8, Reports of Special Physicians, 1925–32, RG 75, NA.

54. The special physicians' reports reveal great variation in the frequency with which each doctor utilized the procedure. This should not invalidate the final result, however. These were, after all, specialists in treating the disease. One can assume even greater variation among inexperienced agency physicians: for every local MD reluctant to try surgery, there was probably another who used the tarsectomy operation at the first hint of trachoma infection.

55. Since Fox did not present his tarsectomy clinic at Blackfeet until late September of 1924, and since the OIA's clinic at Fort Defiance was not held until just over a month later, it could be argued that roughly one-third of the trachoma operations performed in fiscal year 1925 could not have been tarsectomies, and that the total of 22,626 should be reduced correspondingly. Counterbalancing this, though, is the fact that this total figure does not include any trachoma operations performed after June 30, 1927. And, as noted above, Guthrie did not ban tarsectomies until September of 1927. The historian Robert Trennert has attributed the failure of the OIA trachoma program to "[c]ultural problems," which, he says, "interfered with the campaign," creating a climate in which "radical surgery for large numbers of adults appeared to be impossible." But the large number of tarsectomies performed contradicts this assertion. It also appears as if Trennert bases this conclusion solely on contemporary descriptions of the campaign by OIA doctors, whose explanations for the campaign's failure were quite biased. See his "Indian Sore Eyes: The Federal Campaign to Control Trachoma in the Southwest, 1910–1940," *Journal of the Southwest* 32 (1990): 129–34 (quotations at 131 and 132).

56. William H. Wilder, "Trachoma Among the Indians: Report of the Advisory Committee of the American Ophthalmological Society," *American Journal of Ophthalmology* 13 (1930): 387–9 (quotation, 387).

57. H. V. Hailman, Monthly Statistical Report, August, 1926, Box 7, Reports of Special Physicians, Records of the Health Division, RG 75, NA.

58. Ross to CIA, April 13, 1927, 19278-27-734-Southern Pueblos, CCF, RG 75, NA. Ross believed that in the remaining eleven cases a tarsectomy had been needed and had proven successful.

59. CIA to Ross, May 3, 1927, 19278-27-734-Southern Pueblos, CCF, RG 75, NA; Ross to CIA, May 14, 1927, ibid.; Warner to CIA, June 15, 1927, ibid. Warner noted that Dr. J. S. Perkins, who had directed the trachoma campaign in its initial stages, continued to perform tarsectomies. Perkins "still insists," Warner said, that the operation was "a cure for trachoma."

60. *Annual Report of the Board of Indian Commissioners*, 1925, 14; Burke to Perkins, July 3, 1925, 75270-24-735-GS, CCF, RG 75, NA.

61. Yates to CIA, Oct. 2, 1926, Box 7, Reports of Special Physicians, 1925–32, RG 75, NA; comments by G.F. Drew on Paul D. Mossman, "Trachoma," *Journal-Lancet* 47 (1927): 547.

62. For articles in favor of tarsectomy see, in addition to the Fox articles cited

above, H. H. Turner, "The Combined Excision of the Tarsus in Trachoma," *Atlantic Medical Journal* 28 (1925): 369–371; and S. Lewis Ziegler, "The Surgery of Trachoma: Practical Problems," *JAMA* 86 (Feb. 6, 1926): 404. For attacks on the procedure see the comments by J. A. Stucky on Fox, "Trachoma Problem," 406, and by Edward A. Shumway on Turner, "Combined Excision," 373. See also Joseph S. Waldman, "Trachoma: A Review of the Literature," *Illinois State Medical Journal* 54 (1928): 143.

63. For a discussion of the approach taken by the PHS, see the works cited in note 24, above.

64. Arthur E. Middleton, "Supplanting the Medicine Man," *Modern Hospital* 19 (1922): 42; Robert E. Lee Newberne, "A Review of Miss Patterson's Report Entitled 'A Study of the Need for Public Health Nursing on Indian Reservations,'" in Senate Committee on Indian Affairs, *Survey of Conditions of the Indians of the United States*, 43 vols. (Washington, DC: GPO, 1928–43), 3: 1013. Louis Cramton, who as chair of the House's budget subcommittee on the Interior Department had more influence over OIA funding than any other member of Congress, made a similar argument in 1928 in justifying why OIA hospitals received only a $1.50 per diem per patient versus a figure of $4 for Public Health Service hospitals and $5 for Veteran's Bureau facilities. "Is there not," he said, "a distinction in the facilities that should be provided, as between those who have been used to a life of comfort, and living on a pretty high plane, and those who have been living in wikiups [*sic*] and hogans, with their uncertain food supply, and perhaps accustomed to having their food cooked in a few tomato cans over a little fire. When they suddenly are taken into a hospital, not only do they not appreciate it, but the same food program for them that we gave our veterans, very possibly would not be the best thing for them." *Interior Department Appropriation Bill, 1930*, 655.

65. Mullan, *Plagues and Politics*, 65.

66. "Program for Eradicating Trachoma among the Indians," McMullen to CIA, May 15, 1924, 25663 (Pt. 1)-24-700-Navajo, CCF, RG 75, NA.

67. McDowell to Vaux, May 17, 1924, 25663 (Pt. 1)-24-700-Navajo, CCF, RG 75, NA; "Program for Eradicating Trachoma among the Indians," McMullen to CIA, May 15, 1924, ibid.

68. Fox, "Trachoma Among the Blackfeet Indians," 170; idem, "The Trachoma Problem," 405–6.

69. L. Webster Fox, "Trachoma: Its Surgical Treatment," *Northwest Medicine* 25 (1926), 493 (order of quotations reversed); idem, "Trachoma Problem," 406.

70. L.L. Culp, "Chippewas Affect Medical and Public Health Work," Paper read before the 23rd annual session of the Minnesota State Sanitary Conference, St. Paul, Minn., Nov. 6–7, 1924, in 33171-24-732-GS, ibid. Burke thought that Indians were naturally lazy. "It is astonishing," he said, "how difficult it is to get Indians to apply themselves diligently to an occupation that requires attendance." *Interior Department Appropriation Bill, 1925*, 144.

71. Quoted in "Medical Party Hopes to Save Sick Indians," *San Francisco Chronicle*, July 7, 1921, p. 6, copy in 48093-21-732-GS, CCF, RG 75, NA; Hailman to Burke, July 14, 1926, "H. V. Hailman" file, Box 449, General Correspondence, PAO, RG 75, NALN.

72. Vine Deloria, Jr., *Red Earth, White Lies: Native Americans and the Myth of Scientific Fact* (New York: Scribner, 1995), 19.

73. H. V. Hailman, Monthly Statistical Report, August, 1926, Box 7, Reports of

Special Physicians, Records of the Health Division, RG 75, NA; John E. Hewitt, "Remarks," n.d. [ca. November, 1927], Box 2, ibid. For Hailman's description of conditions at Hopi, see above, 16, 18.

74. H.J. Warner, "Notes on the Results of Trachoma Work by the Indian Service in Arizona and New Mexico," *Public Health Reports* 44 (1929): 2913, 2919.