

Ravages of Consumption.

How Present Great Mortality Rate May Be Lessened Under Proper Management.

Through the kindness of Dr. August C. Kinney, of Astoria, the following paper is submitted. It is by Llewellyn P. Barbour, M. D., Tullahoma, Tenn., professor of materia medica and therapeutics, University of the South; lecturer on tuberculosis, University of Tennessee:

According to the statistics of the last census, 130,000 people die from consumption in the United States alone each year. If the effects of this disease were concentrated in Memphis your city would be depopulated in three months. By the same authority there are 2300 deaths from consumption in Tennessee each year. This concentrated in a town like Tullahoma would wipe it from the earth in a year's time. Again, these figures mean that in the United States 15 people die from this cause every hour. Three hundred and sixty every day. Ten in Tennessee every day.

Recently in a gathering of about 100 men and women I asked if there were any present who had not felt the dreadfulness of consumption by the loss of some one dear to them; there was not one. In the same gathering five had mourned death from yellow fever, seven from diphtheria, four from scarlet fever, one from smallpox, and one from cholera. Surely this is the David among diseases.

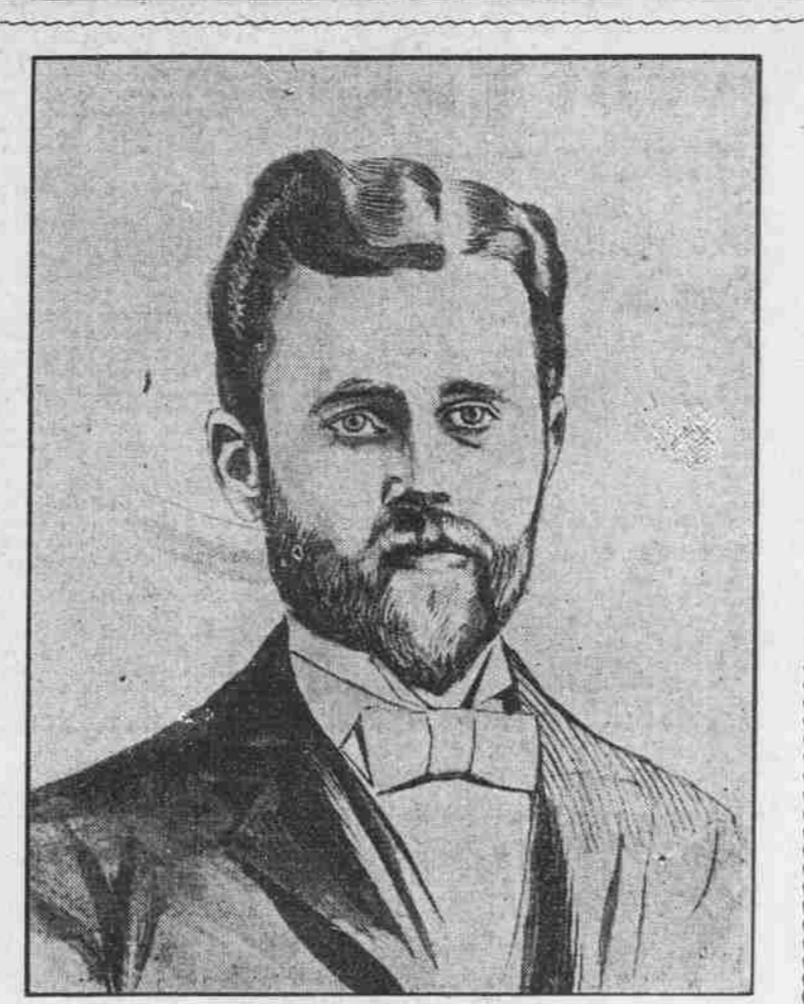
Our duty as guardians of the public health is plain. Our leaders have demonstrated the truths of the contagiousness of consumption, of its preventableness, and of its curability in early stages under proper management. We must arouse ourselves and be making life-saving application of these truths. Every life of attack and defense must be guarded, every resource used. Individual efforts and municipal, state and national authority must be enlisted, as is done when the scourge of cholera or smallpox threaten to invade our shores or lift their heads within our land.

There are two obvious methods by which we may hope to lessen the mortality rate of any disease. First, by restoring those already diseased, second, by preventing the occurrence of the malady. The first method is the oldest and seems still to be more popular than the second. It is, however, less successful, and considered as a matter of social econ-

omic vigor of young men and women in our better class of colleges. This work must be encouraged and extended to schools of a lower grade and to the public schools. Especially should the children of families predisposed to phthisis receive careful physical training, and be kept in the best of sanitary surroundings.

Better Sanitary Conditions.
That insanitary conditions which do much to do in the causation of consumption was demonstrated by Drs. Bowditch, of Massachusetts, and Buchanan, of England, many years ago. They showed conclusively that consumption was much more prevalent in residences situated in low, wet soils than in those situated on hill-sides and perched soils. They confirmed also the general belief that ill-ventilated, dark, damp dwellings conduce to the occurrence of the disease. And this is all reasonable in the further light thrown on the etiology of the subject by recent investigations. While the tubercular bacillus is the specific cause, it is only under conditions favorable to its development in the human organism and starts the variety of pathological states called consumption. Dark and damp surroundings, with ill-ventilated rooms, weaken and make susceptible the animal organism, while the microscopic plant is conserved in great vigor to infect and infect the hosts. The authorities above cited also give statistics showing a remarkable lessening of the amount of phthisis wherever these unwholesome conditions have been corrected. And here is a great work for the future. The people must be persistently taught the importance of proper construction and location of dwellings. Our cities and villages must be thoroughly cleaned and drained. Landlords must be prohibited the erection of apartment and tenement-houses not properly ventilated, sunny and dry. The most worthless of the population must not be allowed to herd in damp and filthy holes. We as physicians must press upon the people as a scientific truth the lesson taught by the Great Physician that all men are brothers. Germs incubated in hovels may be carried to halls. Divas in his princely palace is not safe so long as Lazarus lives in an unwholesome den.

Spread of the Tubercular Bacilli.
"There can be no tuberculosis without the tubercular bacillus" is a pathologic axiom. This bacillus, under ordinary circumstances, does not propagate itself, or long exist outside the animal organism. Could we absolutely prevent the spreading of this germ from one animal organism to another, the phthisical death rate would soon be zero. This conveyance of the bacilli occurs through the medium of discharges from tubercular patients, and from milk and flesh of diseased animals. The almost complete prevention of infection from these sources certainly seems possible, and it is in this line that



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cities and states, and wherever any single one has been enforced to any extent, there has been a lessening of the death rate. Could all of them be rigidly enforced the world over, it is not extravagant to claim that consumption would soon be as rare as leprosy. How soon any or all of these measures are undertaken in our own states depends upon the energy and earnestness with which we set about our task.

How to Avoid the Danger.

The masses of the American people can best be instructed upon these points through the magazines and newspapers. We should avail ourselves of these avenues of reaching the people in a systematic way. To avoid the suspicion of self-interest which might attach to the physician who sought thus to enlighten the public, I suggest that our medical societies appoint committees or individuals who shall prepare a series of short, clear papers, couched in popular phrase, to be distributed through the newspapers within the territory of the society. These papers, signed by two or three well-known and responsible physicians, as a committee of the Society for the Prevention of Tuberculosis, would have so much more influence than do the unsigned paragraphs that occasionally appear. Of the details of what should be taught I will not stop for discussion, but I will not have such horror of consumptive created as to make them outcasts. It is not necessary. Sterilization of discharges is the keynote of the treatment by means of popular lectures. These can be given by responsible resident physicians in the cities and towns throughout the country.

Societies for the prevention of tuberculosis should be organized; literature should be distributed and lectures authorized by them. Such a society has been in existence in Pennsylvania for five years, and has distributed some 100,000 tracts upon such subjects, as "How to avoid contracting tuberculosis," "How persons suffering from tuberculosis can avoid giving to others," "How hotel-keepers can aid in preventing the spread of tuberculosis," etc. This society is making vigorous efforts for municipal and state institutions for the tubercular poor, with promise of success in the near future. The results of the work of this society and of educational work in general is shown in the decided lowering of the death rate from phthisis in Philadelphia. In 1870, 39,090 of population there were 342 deaths from this cause, 317 in 1880, 284 in 1890, and only 229 in 1894.

Registration of Every Case.

To fight a foe successfully we must know where he is. Not only should there be registration of names and residences at the beginning of the disease, but record should be made of his removal to other residences and distant places. By this means all those immediately concerned can be specially instructed in the future. The results of the work of this society and of educational work in general is shown in the decided lowering of the death rate from phthisis in Philadelphia. In 1870, 39,090 of population there were 342 deaths from this cause, 317 in 1880, 284 in 1890, and only 229 in 1894.

Thorough Disinfection.

Infected buildings are large factors in the causation of consumption. In an investigation of the origin of consumption made by me in the much larger city of Philadelphia, I found about two-thirds of all cases were contracted in such houses. He has shown that families in whom no claim of inherited phthisis could be made have been stricken with the disease after moving into such houses, and that, after thorough renovation, the families following remained free. Objections of expense do not hesitate in other diseases because of expense, still less should we do so in this disease. The work should be under the supervision of sanitary officers, and among the poor at public expense.

The death rate from consumption in penal institutions has in the past been something appalling. Part of this has been due to the development of the disease by the close confinement and often depressed mental condition of the convict, but more of it is due to cases contracted from infected cells. Yet these institutions where under the direct control of the authorities, and preventive measures can easily be enforced. A case of consumption originating in a penitentiary ought to be practically unknown.

Cars Are Hotbeds of Infection.

Of our modern cars, street and railway, I would speak more in detail. True the occupancy here is short, but sufficient amount of infective material makes even short occupancy dangerous. And nowhere is more infective material collected. The floors are used as cuspidors by succeeding passengers. The broom is used at the end of the trip, the germ-laden dust raised and scattered to settle again on seat and woodwork. This is again stirred up with the duster, to again settle and be brushed off by the clothes of the passengers, and

would willingly enter. Many honest working men who are self-supporting when well find themselves and families the objects of charity when stricken with a chronic disease. To compel this class to invite resistance. But by proper presentation most of these could be induced to accept this opportunity of recovery and thus relieve their families, who could then in many instances maintain their independence. The gathering of these invalids in communities where they would be under the care of experts, where the sanitary regulations are as perfect as possible, and where everything he impute to work for their comfort and recovery, is agreeable to the feelings when looked at properly. I would, however, compel all patients, rich or poor, high or low, to choose between the alternative of attendance at some such special institution, private or public, or submission to close inspection and regulation of their homes by a sanitary officer.

The first objection made to public sanatoria for this purpose is the ground of expense—it would increase our taxes. I answer, first, we cannot weigh the suffering and loss of life caused by this disease in the balance with money; second, it would not increase the expense of society at large, but is to be urged on the very ground of economy. The tubercular poor inevitably become objects of charity; many of these are already in hospitals and poorhouses. The expense of their maintenance would be no more in sanatoria, and their chance of recovery and restoration to usefulness would be immeasurably improved. Others are supported by the charity of their friends and neighbors, to whom they are a source of danger; and the expense of all this finally reacts upon the community at large.

Another objection made to gathering consumptives in communities is that the danger of further infection is increased. To this I answer: The possibility of complete enforcement of necessary precautions makes the air of all properly-conducted sanatoria much freer from bacilli than that of most houses containing a single consumptive. This objection may be urged against the hotels and boarding-houses of health resorts, where patients are not controlled, but not against sanatoria. The same answer applies to the objection that these institutions spread the disease in the communities where they are located. Rompler states that not only has consumption not increased among the inhabitants of Gorborsdorf, but on the contrary has diminished since the establishment of the sanatoria at that place. The same is true of Kalkenstein. This lessening

SICK ANIMALS IN CAPTIVITY.

Inmates of Zoological Gardens Very Susceptible to Disease.

The wild animals who hold daily receptions are our zoological gardens are not always as healthy as they look, says a writer in the New York World. In fact, he asserts, the death-rate among the captive members of the brute creation is alarmingly high. Every animal has some particular ailment to which he is liable. Lions and tigers, for instance, are apt to be overcome by nervous debility. As soon as they exhibit signs of being run down the keepers ply them with port and sherry wine. The wine is first mixed with their drinking water, and the dose is increased until the patient is ready to take his medicine straight from the bottle or keg. In the monkey-house it is consumption that proves most fatal. Very little care is done for the sufferers, and many of them die from this cause every year. Birds also have lung troubles, and are dosed



BRIDAL VEIL FALLS, 1000 FEET.

ing of the death rate is to be attributed to the educational influence of the sanatoria.

Preventive Ordinances.

The benefits that would result from the enforcement of such ordinances are very patent. Consumption is not the only disease which would be lessened by stopping the filthy and disgusting habit of indiscriminate spitting. The public needs to be educated to the dangers, however, before such laws can be enforced. The law it-

with tincture of iron and lime to counteract the disease. Wild hogs of all sorts in captivity are liable to have paralysis. The hard flooring of the cage is supposed to affect them so they lose the use of their legs. The bear has his off days, but he is the easiest animal to ply with medicine. So long as he has any strength left he will eat whatever is thrown to him. He is thus made to gulp down loaves of bread, with castor oil or magnesia hidden inside; apples hidden with pills, etc.

The most troublesome patient in a zoo is the elephant. His wonderful keen sense of smell enables him to detect medicine under any covering, and he must sometimes be starved for several weeks before he will take the dose that has been prepared for him.

Broken legs are most frequent among the deer. Generally, an attempt is made to set the fractured limb, as the bones knit of themselves, if left alone. The struggles of the injured animal to escape from the doctor have been found to prevent the healing process.

Once a year every lion, tiger and bear is obliged to have his nails trimmed—a very dangerous operation for the manicurist who does the work. The animal is securely strapped, face forward, to the front of his cage, while the keepers with long-handled scissors shear away the long claws.

The healthiest animals in a zoological garden are the frogs and alligators. Snakes also are hardy and seldom experience a day of sickness.

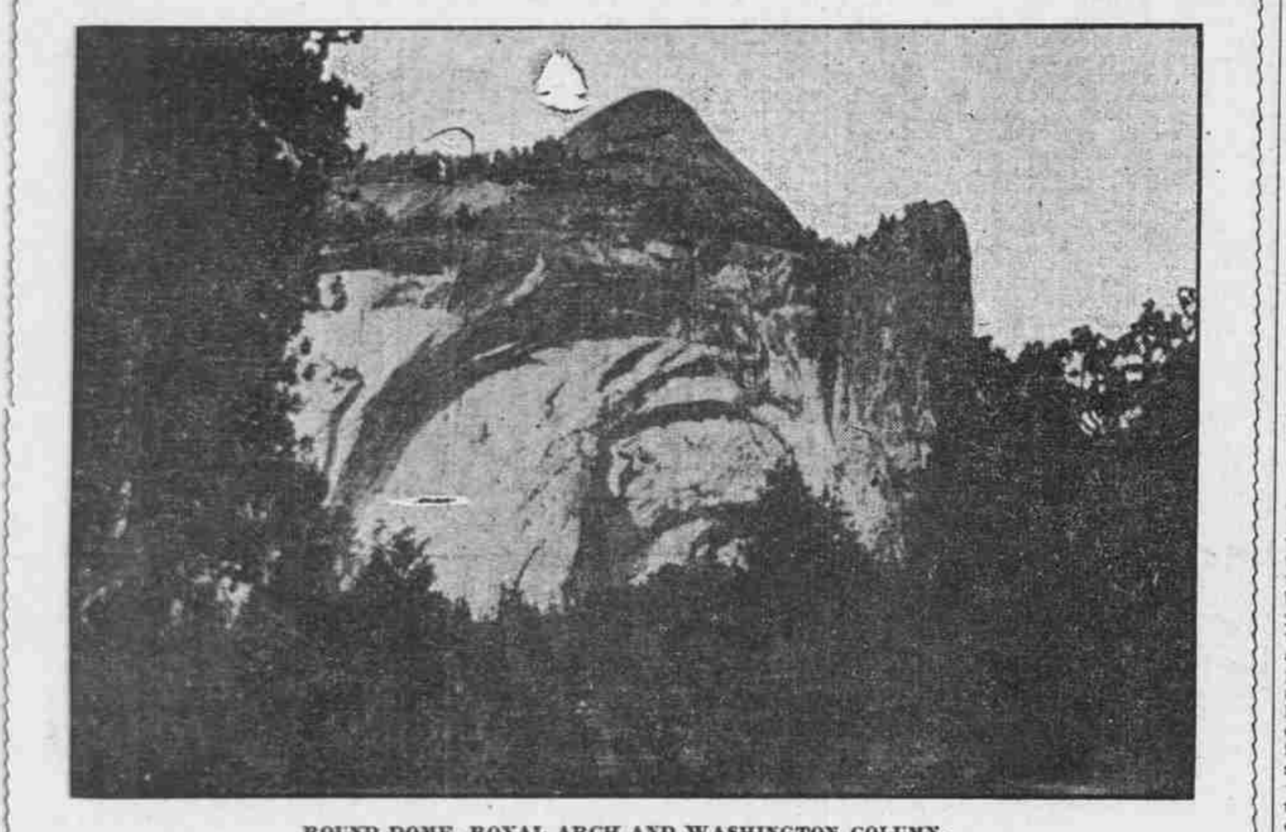
Yes! He Sabed 'Em All Right.

A well-known Pacific Coast attorney, who prides himself upon his handling of "Chinee" defenses, was defending a rail-way damage case. The lawyer is a rail-way duffer, so failed to note when a Chinaman came upon the stand that the witness' clothing was of finer texture than the ordinary coat.

Instead of following the usual questions as to name, residence, if the nature of an oath were understood, etc., the following dialogue ensued:
"What is your name?"
"Kee Lung."
"You live in San Francisco?"
"Yes."
"You sabed God?"
"Mr. Attorney, if you mean 'Do I understand the entire of our Creator?' I would simply say that Thursday evening next I shall address the State Ministerial Association on the subject of 'The Divinity of Christ,' and shall be pleased to have you attend."

When order was restored the examination proceeded on ordinary lines, but to the day of his death the lawyer will never cease to be asked if he "sabed God."—New York Telegraph.

The most influential newspaper in Scotland is the Edinburgh Statesman, and the oldest is the Dundee Advertiser. They are edited, respectively, by Sir John Laing and Charles Cooper, both of whom are English-born natives of Hull, Yorkshire.



ROUND DOME, ROYAL ARCH AND WASHINGTON COLUMN.

omy, is by far the most wasteful. But the sick, like the poor, we have with us always, and for humanity's sake we must be uniting in our efforts to cure.

An Early Diagnosis.

First, permit a sort of Irishism; the greatest advance the general practitioner can make in the treatment of consumption is in learning to make an earlier diagnosis. It is a truism to say of any disease that the earlier it is recognized and put under correct management, the better are the chances of recovery. This is doubly true of phthisis. A distinct disease, a pathological entity at first, it becomes in more advanced stages a complication of various pathological conditions. Yet alas and alas! cases are daily overlooked, only to be recognized when death has played its cruel upon the face of the patient. The early diagnosis bears also upon the prevention of consumption; for the silent, knowing his trouble, can thus be early instructed as to the source of danger he may become to others, and how to avoid that danger.

Therapeutic Management.

By the judicious use of some of our familiar drugs, we can help to lessen the mortality rate of consumption. Iron, arsenic, the hypophosphites, strychnine, cod-liver oil, digitalis, opium, the digestive ferments—these most indications which frequently arise, and are aids not to be despised. Yet their excessive and injudicious use will defeat the ends aimed at. The more recently introduced remedies for consumption are yet on trial, and are the subjects of much controversy. The remedies produced by Professor Kiebs from culture growths of the bacilli are, I am convinced, a distinct advance in the therapeutics of phthisis. These products, antiphrasin and tuberculoidin, seem to me to be identical in results. In my hands these remedies have certainly seemed to accomplish all that Kiebs claims for them, namely, the destruction of tubercular bacilli in living tissue. This claim itself shows the limitations of any specific for tuberculous. We must keep clearly in mind that advanced phthisis is not a simple disease; that it consists of a multiplicity of pathological conditions. With all the bacilli destroyed, there remain still the septic germ to be overcome, damages to be repaired, and the body, shattered generally, to be improved. This leaves a great work to be done, and this work can only be done by wise hygienic management.

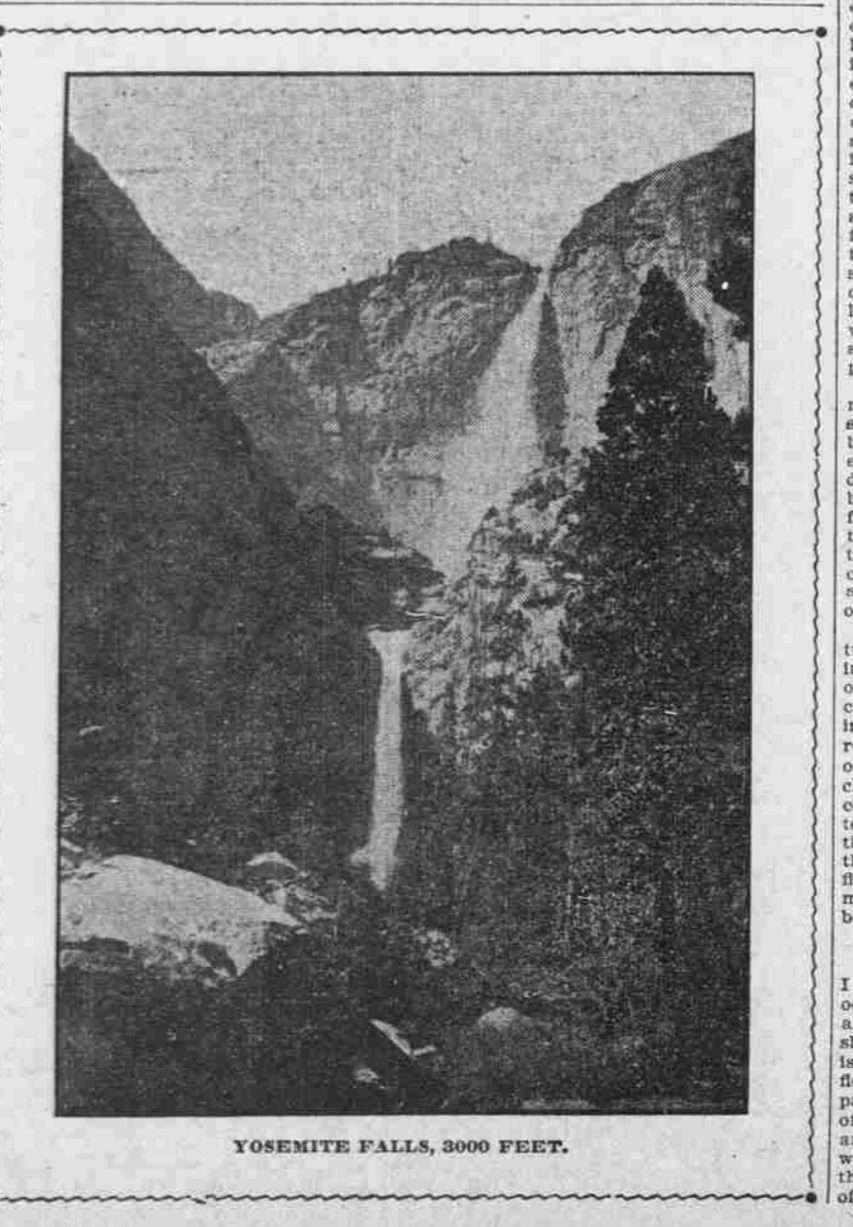
Hygienic Treatment and Special Institutions.

The wise hygienic management of phthisis involves the close, careful, untiring, personal supervision of every detail of the patient's daily life. Nothing avoidable must be allowed to occur that will injure the patient, and nothing left undone that will make for improvement. Because of this need of minute personal supervision of the patient, the general practitioner feels, and must continue to feel, to attain the success reached in special institutions is so well established, that we can make toward lessening the mortality rate of consumption by bringing about the recovery of those already diseased, in placing them in special institutions. This proposition is so well established by statistics as to scarcely admit of discussion, yet it is not generally known. Climatic treatment has been tried and found

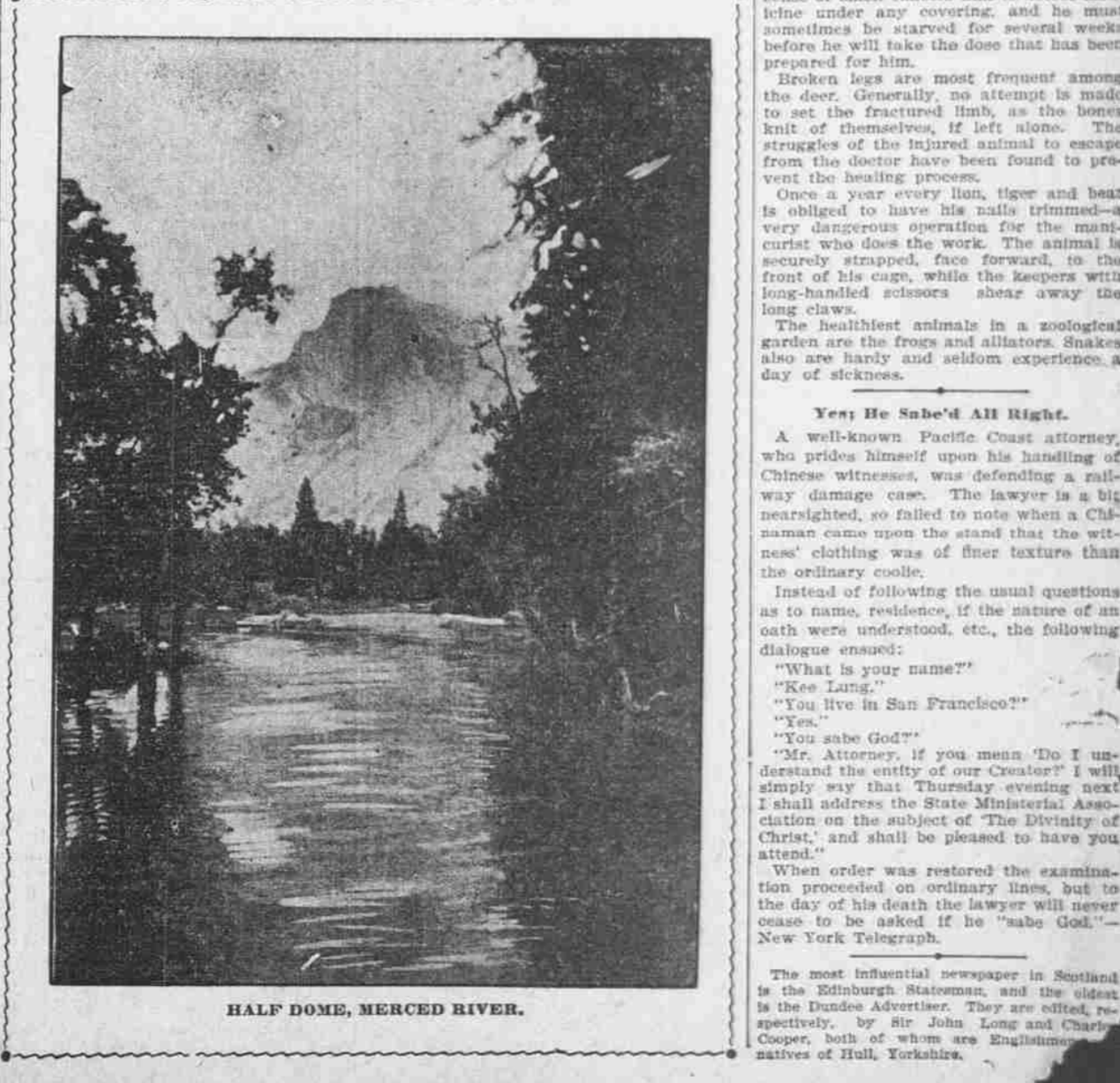
ly for recovery. Peace of mind is almost essential to recovery. Mental treatment is no less important than physical treatment. In a well-managed institution the appearance is that of a popular boarding-school, so free from care do the inmates seem, rather than that of the usually conceived idea of a hospital. Objection on the score of expense is met by the establishment of state sanatoria for the tubercular poor. This will be referred to later, as will be also the objection because of fear of contagion in such institutions.

Prevention of Occurrence of Malady.

There are two plans by which we may attempt this: First, by increasing the resistance of the race through better physical training of youths and through the introduction of better sanitary conditions; second, by preventing the spread of the specific germs. Much is being done to increase the phys-



YOSEMITE FALLS, 3000 FEET.



HALF DOME, MERCED RIVER.