sublimate solution twice a day and the heart is supported by digitalis and strychnia. If sweats appear, fever and delirium subside, and the bubo continues to enlarge and fluctuates, recovery is hastened by incision and the evacuation of the pus. Several physicians whom I saw in Bombay have conducted plague cases to a favorable termination and in no sense despair of saving a fair proportion of their European cases. Some had plague themselves. They spoke of a tedious and tardy convalescence characterized by a great adynamia. Statistics, I am told, are not very trustworthy guides of the mortality from plague, because the death often results from the absolute neglect of the native by his friends. Good doctors told me that where they could have the cases from the start with good nursing they could save five out of six cases. Most of the deaths would occur in the pneumonic cases, which might at first be mistaken for pneumonia due to other causes. Early diagnosis is not easy. Here fevers are due to many things that do not occur in temperate climates. Sores of diver sorts are plentiful with lymphatic gland induration due to scratching simple insect bites. Oriental cases of malaria are so often seen that the real plague infection may be overlooked at the first visit. The chronicity of all these troubles and the sudden assault of the plague virus makes the diagnosis sure and prompt in the hands of cautious and skilful physicians. My inquiries in Bombay and other parts of India and at Aden lead to the inference that the serious obstacle to the control of plague by sanitation is the difficulty of breaking up the overcrowding of natives and of destroying rats and other vermin. Popular opinion has to be consulted in the East or the riots will kill more people than the plague. The Hindu will not destroy rats or other animals; it is contrary to his religion. He will die of famine before he will take food from the hand of a person of another caste and he can only be induced to enter the segregation camp by great effort and when paralyzed with fear. Now that plague and famine are both spreading in some parts, prospects are not everywhere bright in India.

LIVER ABSCESS.

An American surgeon visiting this country usually wants to learn something about liver abscess. At home he has been told that it is the scourge of the tropics and is quite unprepared to learn that hepatic abscess is not much of an abscess in the northern meaning of the word. It has no abscess wall like pyosalpinx. When treated by incision and drainage it discharges bloody brown pus from the usual pus microbes of northern climates and is not nearly as plentiful in numbers as dysentery, which is the guide in its diagnosis, dengue, beriberi, elephantiasis and filariasis. At Indore, at Ujjani, at Mhow and Bombay I found cases in all stages from early to late inception, with vast destruction of liver tissue and death. A soldier reported sick had fever, pain and swelling in right side; had been losing flesh for two weeks, but kept about. Here was fluctuation at the costal margin near the median line. Incision evacuated a great amount of brownish clotted material. He died in 24 hours; autopsy revealed destruction of the greater part of the right lobe. Was it a rapid destruction of liver tissue with sudden fever and prostration, or was it a chronic lesion of the organ with sudden appearance of symptoms? Liver abscess here has always an antecedent history of dysentery or disease of the alimentary tract. It is distinguished from malarial and other fevers by a daily evening rise of temperature, usually 102 F. There is always enlargement of liver if carefully looked for; rarely enlargement of spleen. Quinin dosing has been usually tried and given no benefit. There is more or less pain, always in the region of the liver; tired feeling, loss of strength and rarely any jaundice, but the complexion is muddy. Natives, unless alcoholics, never have it. The patient usually dies of exhaustion or of lung complication if the abscess is not opened. All the surgeons I talked with confirm the diagnosis by resort to aspiration and treat the abscess by drainage. The cavity is syringed out with salt solution every day. The tube is left in as long as any cavity remains to hold it. The back part of the right lobe is the favorite location of abscess, but it is sometimes found pointing beneath the costal margin and is opened there. The favored

place for introduction of aspirator trocar is between the eighth and ninth ribs in the axillary line. If pus is not found on aspiration once, they try two or three more thrusts, always with caution to avoid a long gall-bladder, portal veins and intestines. If fever does not abate and condition improve after opening one abscess, others are sought for in the same manner as the first. Chloroform is given for anesthesia throughout all India. Accidents are very rare.

HAL. C. WYMAN, M.D. (Detroit).

Arterio-Venous Aneurysms of the Subclavian Vessels— An Addendum.

NEW ORLEANS, LA., Feb. 2, 1902.

To the Editor: I regret that in preparing the text of this contribution the very interesting and instructive case of arterio-venous aneurysm operated upon by Dr. John F. Erdmann and reported by him to the New York Surgical Society, January, 1899 (see *Annals of Surgery*, pp. 618-622, vol. 29, Jan.-June, 1899) should have escaped my observation while compiling the bibliography. It presents so many unique features and is so encouraging from the operative point of view that it is well worthy of a special abstract in connection with the analytical study of the subject which has been attempted in this contribution.

The case is one of arterio-venous aneurysm of the left subclavian vessels outside of the scalenes, and is not an aneurysmal varix as erroneously stated in the title of the report. The patient, a gymnast aged 20 years, was accidentally shot Aug. 19, 1898. The bullet (revolver, 32 caliber) entered left chest wall about 1½ inches below the middle third of the clavicle. This was followed by an immense swelling in the neck which persisted for a week or ten days. The wound healed after the first week, leaving the corresponding arm cyanotic and weak. A loud bee-buzzing murmur and thrill could be easily recognized in chest, axilla and upper brachial region. After a rest of seven weeks without improvement it was decided to cut down upon the subclavian artery, ligate it, and sew the aperture in the vein.

Under ether anesthesia, the patient was operated upon Nov. 11, 1898, three months after the date of injury. After dissection, a band of cicatricial tissue in the tract of the bullet was found encroaching upon the third division of the left subclavian. Compression of this band of scar tissue completely arrested the bruit and thrill in the affected areas. This band of scar contained the channel of communication between the injured artery and vein and was three-eighths of an inch wide and one-eighth inch long, just allowing an ordinary aneurysm needle to pass between the vessels. While dissecting this scar channel, the communication was nicked and torn through about half its width. Bleeding occurred, but was readily checked by pressure with the aneurysm needle. The needle was withdrawn and the silk tied about the communication. Hemorrhage was thus absolutely controlled. Finding it impossible to ligate the proximal side without further dissection, the clavicle was sawed at the junction of its middle and inner thirds, with a Gigli saw. Considerable difficulty was experienced even then in exposing the subclavian on account of dense cicatricial matting of the tissues. Finally the plexus and artery were freed and a ligature was applied to the third portion of the subclavian just outside of the scalenes anticus, another about the artery at the beginning of the axillary. Then a ligature was placed about the communication and the original ligature of long silk removed. Owing to the time involved and the patient's condition, the portion of the artery between the ligatures was not removed. The clavicle was wired and the wound closed without drain. Dressings were applied to keep the extremity warm. At the end of twenty-four hours, the color of the fingers and forearm was of a healthier hue than for six weeks past. At the end of the sixth day feeble radial pulsation could be felt and on the tenth day, it was quite demonstrable.

The wound healed per-primam with slight necrosis of skin. Patient left his bed on the tenth day. Union of the clavicle was not solid, but improving at time of report two months after operation. Condition of the arm as to innervation and nutrition has improved since operation. No murmur or thrill since operation.

In closing the analytical summary of the cases of arterio-venous aneurysm that the author has been able to collect from the literature it is important to revise the statistical conclusions as they are modified by the addition to the three remarkable cases recently reported by Vallas, Reboul and Erdmann which were not included in the statistics at the time when the text of this paper was written. In accordance with these new data the statistics must be amended as follows:

Total cases of arterio-venous aneurysm of the subclavian vessels reported, 18. Cases treated expectantly or without operation, 12. Operated cases, 6. Of the 12 unoperated cases, 2 died (Will's and Reboul's). Of the 6 operated, 2 died (Wattmann, Vallas).

Total mortality of the entire group, 4/18 or 22.2/9 per cent.

Mortality of the unoperated, 1/6 or 16.2/3 per cent.

Mortality of the operated, 2/6 or 33.1/3 per cent.

While these figures are interesting as showing the gross mortality of this class of lesions when viewed as a whole, they also demonstrate once more the fallacy of statistics especially of small groups, as guides, in arriving at conclusions, when the individual cases are not subjected to critical and discriminating analysis. In fact, a study of the records shows that if the two deaths included in the non-operated group had been subjected to a timely intervention before the patients had been exhausted by protracted hemorrhage and other complications they would, in all probability, have been saved. On the other hand, the two deaths which appear in the operated group could not fairly be attributed to the operation as in both instances (Wattman's, Vallas') the operations were undertaken in desperate conditions, when septic infection and other grave complications had already darkened the prospect of recovery. In trying to arrive at a fair estimate of the mortality of the operated cases, one conditions under which the interventions were undertaken and the division of the subclavian tract involved, should always be considered. Viewed in this light, the cases of Wattmann and Vallas, in both of which sepsis existed and a rupture of a varicose sac was threatened by suppuration, should be eliminated from the non-septic and non-complicated group. If separate groups of such desperate cases were collected we do not doubt that the mortality would not fall short of 95 per cent. On the other hand, the recovery of the four patients who were operated upon early (Rötter, Veiel, Erdmann and the author) in comparatively uncomplicated conditions and in the accessible portions of the artery and vein (2d and 3d divisions) demonstrates that a radical operation can be undertaken with great prospect of success and with a mortality less than in the unoperated cases in similar conditions. If we still eliminate the cases in which the profuse hemorrhage has greatly exhausted the patients and group together the type of cases represented by Erdmann's patient and my own, in which the operation was undertaken for aneurysmal varix or varicose aneurysm of the 2d and 3d division of the artery and vein, after full recovery from the effects of the primary hemorrhage and shock has taken place, we will find the operative mortality reduced to a very low percentage perfectly compatible with the aims of a thoroughly conservative surgery.

The prognosis as regards the viability of the limb still remains a debatable question to be determined by future observations; but it is evident from the results of Veiel's case and my own, that a prudent reserve must be maintained on this important point before deciding definitely as to the comparative merits of expectancy and the radical operation in the group of cases last referred to. But even from this point of view it is evident, from the lessons gathered in my case, that further modifications of the technique will justify a far more aggressive attitude than in the past.

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Tuberculophobia.

COLORADO SPRINGS, COLO., Feb. 6, 1902.

To the Editor:—The recent agitation in California shows a growing tendency to make the life of a tuberculous patient miserable. It is said to be done in the interests of the people and for the good of the states that are to bar these unhappy victims. But in fact it is due to nothing less than what may be called tuberculophobia. Physicians are to a great extent responsible for this. There are too many exaggerated statements about the contagiousness of tuberculosis. Here is a city built up almost entirely by its fame as a health resort for lung patients; also because no useless restrictions have been placed upon invalids. Yet it is a fact that there are hundreds of people in Colorado who came for their health, have regained it and taken up permanent residence, who now advocate the passage of laws restricting others from regaining their health in the same way. A young man from the East went to New Mexico over a year ago. He arrived in a town where he found the people so afraid of a consumptive that it was with the greatest difficulty he secured boarding, and he was unable to find a place in the town where he could rent a room per-

manently. Disheartened and discouraged he turned eastward again, only to die. Such fear is nothing short of criminal. It seems to me that the medical profession at least should be the friend of the sick. Even consumptives are entitled to some rights.

The plan suggested of isolating them in colonies like lepers is both inhuman and uncalled for. If there is anything depressing to the mental condition of a consumptive it is in being thrown into constant contact with so many others in his own state. Whatever may be the legal right of a state to shut the citizens of other states out from its natural advantages (though we doubt the legality of it) there can be no question about the inhumanity of such a law.

Any physician knows that tuberculosis is neither contagious nor infectious as the ordinary layman understands those terms. Yet we meet with people who will walk a block out of their way to keep from passing one of these poor victims. A few days ago I was called to see a man who works at one of the hotels in this city. He had a severe cold and an accompanying cough. His first question was: "Do you think I could have caught consumption?" I inquired how. "Well," he said, "there were some men stopping here who had it." I found out that the men referred to had stopped at the hotel over night, and my patient had an idea he might have taken it from them as he would smallpox. No word but "panic" expresses the present attitude toward this disease in some quarters.

JOHN INGLIS, M.D.

Sugar Testing with Haines' and Purdy's Solutions.

BUFFALO, N. Y., Feb. 17, 1902.

To the Editor:—The method of quantitating sugar in urine, reported by Dr. Wm. H. German, and credited to Mr. Carl Irenaeus in THE JOURNAL of February 1, apparently does not differ in principle from that of Dr. Purdy, yet the table does not seem to correspond proportionately to that published in Dr. Purdy's book. Is the "Purdy's solution" of different strength or what is the explanation? A. L. BENEDICT, M.D.

The above was submitted to Dr. German, who answered as follows: "The proportion of urine required in this test is larger than in the Purdy test, though the same copper solution is used. This is due to the smaller bulk of the test, a slight excess of urine being required to give a perfect end-reaction."

Book Notices.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPICAL AND CHEMICAL METHODS FOR STUDENTS, HOSPITAL PHYSICIANS AND PRACTITIONERS. By Charles E. Simon, M.D., author of Simon's Physiological Chemistry, etc. New (4th) Edition, Thoroughly Revised and Enlarged. In One Handsome Octavo Volume of 608 Pages, Illustrated with 139 Engravings and 19 Plates in Colors. Cloth. Price, \$3.75 net. Philadelphia and New York: Lea Brothers & Co. 1902.

Four editions of this work have been issued in the brief space of five years. This is an indication not only of the excellence of the work, but also of what is even more gratifying, namely, a rapidly growing appreciation on the part of the general practitioner of the necessity of familiarizing himself with the methods of accurate clinical diagnosis, as it is work of this character that lies at the very foundation of all medical progress. The author presents the facts as they are known to-day in a clear and concise manner, and the frankness with which he acknowledges the many points that are not known instead of attempting to hide ignorance in misty theory, is highly commendable.

The first chapter of 137 pages is devoted to the blood, and the subject is admirably presented, with the exception of the use of the hematokrit. The author acknowledges that his enthusiasm for this instrument is dampened by the fact that he has only a hand machine, and the information which its use affords concerning the size of the corpuscles, "volumen index," etc., is therefore entirely omitted. The importance which is attached to the urine is well shown by the fact that 250 pages are devoted to its consideration. We find no men-