good and efficient executive government of this country, the services of the civil surgeon should not have been applied to other duties than those merely of a strictly professional character, the latter being on most occasions such as scarcely to occupy an hour of his time daily." He suggests, therefore, that the civil surgeon should be made responsible for the internal economy of the jail and should have power to act as a coroner and to deal with vital statistics. Two of these recommendations, as we all know, have been adopted and perhaps the third may someday come to pass. He draws attention to a practice, not, I think, unknown to-day, of "the cruelty and danger of carrying" wounded persons, however dangerous their cases, for the report of the civil surgeon." In a footnote he adds that only the previous year (1847), the "head criminal court" issued an order prohibiting the probing and cruel examination of wound by the police."

In the part devoted to "Climate," after discussing the various supposed causes of "fever" —miasmas and so on—he gives up a good deal of space to the "Pali malady," which ravaged Central India in 1833. He himself is inclined to think that this disease was undoubtedly the plague, although Ranken, to whose report he seems mainly indebted for his knowledge of the epidemic, is of a contrary opinion, in spite of the fact that buboes were common. In support of his contention he quotes a Dr. Twine, who also supposed it to be the plague. It is generally accepted now, I think, that the epidemic in question was certainly the plague.

Under "Hygiene" he gives simple directions for maintaining health in the tropics. He is greatly in favour of a proper headcovering for soldiers to protect them from the sun. With regard to alcohol he condemns the use of spirits but is in favour of beer.

The portion of the book dealing with prevailing diseases is by far the most interesting to the modern reader and shows the author to have been not only observant but in some respects ahead of his time. He is convinced that pools and ditches produce malaria, and with regard to the treatment of that affection he is rather against bleeding, but believes in purging. He has a good deal to say about "Mr. Assistant Surgeon Hare's" now famous pamphlet. He states that he, himself, gives small doses of quinine (gr. 2 every four hours) between the paroxysms, but admits that he gives calomel in "ardent fever," even to the point of salivation. At the same time he says that he has given as much as gr. 10 of quinine every four hours in cases of remittent fever, but never during the paroxysms. He seems rather jealous of Hare and attempts to detract from the originality and value of the latter's work.

The origin of cholera is an absolute mystery to him, but rather than leave it as such he must suppose that it may be connected in some way with "electrical discharges in the air." Following out this theory he thinks the disease begins in the liver and kidneys, as the result of "nervous shock." But when he drops theory and comes back to his clinical facts, his observant nature shows itself again. Thus he notes the *post-mortem* appearances in the liver, lungs, spleen and intestines, though he does not mention the kidneys. At the same time he evidently knows death from coma well, which, in a footnote—probably inspired by Bright's recent work—he thinks may be due to the effect of urea in the blood-vessels of the brain. He also recognizes the importance of getting the kidneys to start work again. With regard to treatment he advises against bleeding unless the "pulse be very full, there be a feeling of oppression at the chest and the cramps be very urgent." He believes in opium and calomel, the latter in 20 gr. doses; also in astringent enemas and stimulants in the second stage. He becomes enthusiastic over the effect produced by the injection of saline fluids into the veins, and quotes a series of cases in which this was done by a Dr. MacIntosh. He notes, however, that the fluid tends to pass off by the intestines and that the improvement, therefore, may only be temporary.

In his treatment of dysentery he thinks both bleeding and the use of mercury are overdone and favours senna and salts, if there be severe tenesmus and scanty stools. He thinks well of ipecacuanha, either with or without opium, and considers that it has an "emulgent" action on the intestine. Its emetic action should be avoided but he makes no suggestion as to the best way of doing this. He discusses the relationship of liver abscess to dysentery and thinks that their occurrence together is only accidental. Under the title of "Spleen Dysentery" he describes what is now known as dysentery of malarial origin. Considering that this book was written when bleeding and salivation with mercury were still the vogue and when the microbic origin of disease was undreamt of, this Dr. Mackinnon produced a book which must have been of great value at the time it was written and, although sixty years and more have elapsed since it was published, even now possess considerable interest.

REPORT ON AN OUTBREAK OF CHOLERA.

BY F. W. SUMNER, B.A., M.B., BC. Camb., F.R.C.S.E.,
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THE following remarks are extracted from a report on the outbreak of cholera in Bannu district sent to the A. M. O., N.-W. Frontier Province in May 1908 and filed in his office: they are of interest in the light of the causes of the disastrous epidemic of cholera at the Presidency Hospital, Calcutta, as worked out by Professor Haffkine.

I. Cause of present outbreak.

(*a*) The facts are:—Cholera has broken out in the Bannu, Peshawar and several Punjab districts, all at about the same time.

(*b*) A map is herewith sent, shewing that the first few cases, at any rate, were so located as regards water supply, etc., that they must be regarded as separate foci of infection.

In any outbreak of cholera the factors determining such outbreak are:—

(*a*) Presence of cholera vibrio;

(*b*) Certain necessary climatic conditions;

(*c*) Some unknown personal factor.

Climatic.—I am of opinion that the climatic condition required is a state of unsettled, unseasonable weather, alternately hot and comparatively cold; the season when chills are rife and diarrhœas prevalent, the latter being due in part to the consumption of unripe fruit or of fruits in excess: at such a season one's mucous membranes are unstable and hence also the resistance to the invasion of micro-organisms.

Bacillary.—This is the difficult factor to explain: a cholera epidemic cannot start without vibrios, and where do these vibrios come from? One may infer that some necessary conditions from the letting loose of cholera vibrios in many diverse places have been fulfilled.

In every place there are:—

(*a*) Burial spots containing the corpses of individuals who have died from cholera;

(*b*) Individuals who have recovered from cholera.

(*a*) as a cause may be discarded as the vibrio is not a resistant germ and quickly dies in the putrefaction of the corpse. As regards (*b*) I am of opinion that such people as have recovered from an attack of cholera constitute the foci of infection for outbreaks of cholera, and that such people retain vibrios in their alimentary canal, in an attenuated culture, harmless to their hosts and passed in their fæces, but that, under the abovementioned climatic conditions, they regain somewhat their vitality and rapidly, after the passage through the intestines of one or more individuals who have diarrhœa, become virulent.

In support of this theory of outbreaks being due to 'cholera carriers,' I might mention: (1) the frequent result of gonorrhœal infection of a person by one of the opposite sex who has exhibited no gonorrhœal symptoms for a considerable period and yet from whose urethra gonococci are continually passing, harmless to the possessor, perhaps, but very likely to be harmful when they find a favourable nidus for development; (2) the case, published by parliamentary order, of 'the typhoid carrier' in the shape of a dairymaid—who had had typhoid six years before—who was the cause of a severe outbreak of typhoid fever in a home in England and which continued notwithstanding all precautions until this lady was removed from service in the dairy, and who was found to be still passing typhoid bacilli in her fæces.

A Mirror of Hospital Practice.

A CASE OF SUCCESSFUL SUTURE OF BOTH FEMORAL ARTERY AND VEIN IN HUNTER'S CANAL FOR TRAUMATIC ANEURISM.

By E. R. ROST,
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HAZARATH GUL, a Mahomadan male, cooly, age 25, was admitted on the 23rd of August with a large pulsating swelling of the left thigh, with a history of having fallen on a nail a month previously. After the accident he came to hospital but stayed only one day. A week later he noticed a gradually increasing swelling of the thigh, which became painful and prevented him from continuing his cooly work.

On admission he had a large pulsating swelling occupying the inner and front portion of the middle of the left thigh. There was a small scar on the surface which the patient pointed out as being the original puncture wound.

A sound like the buzzing of a bee in a paper box was heard over it and, on compressing the common femoral, the pulsation and sound ceased, and the tumour became smaller. The case was diagnosed as either a Traumatic Aneurism or *Arterio-Venous* Aneurism. Before commencing the operation Captain H. A. Williams, I.M.S., who kindly assisted me, suggested using the method of placing a temporary ligature on the common femoral artery and turning out the clots, ligaturing the ends of the artery and inserting deep sutures as to enclose the whole of the aneurismal cavity and bring its walls together, as has been lately carried out with success in America.

We therefore placed a temporary ligature of tape around the common femoral artery just below Poupart's ligament and freely incised the aneurismal sac and turned out the clots. There was free venous hæmorrhage, however, and this was found to come from the femoral veins. We therefore placed a tourniquet above and, having turned out the clots and sponged the large cavity dry, examination showed that we had to deal with an *Anterio-Venous* aneurism in Hunter's canal. The connection between the vein and artery was small, very firm and very marked. It was carefully dissected out. The spike which had caused the original injury had evidently pierced the femoral vein and gone into the femoral artery, so that, after dissecting off the vein from the artery, there were left two holes in the vein and one in the artery. These holes were circular in shape. The hole in the artery occupied about half the *lumen* of the vessel. I used fine celluloid thread and a small round needle and found I was able to bring the walls of the artery together. I inserted the