Current Literature

The series of articles on scientific progress during the year is intended for the general public, and the section dealing with medicine and surgery will not impress the professional reader.

The political articles are supplemented by sufficient information regarding previous years as to make them intelligible, and the volume should prove most useful to those who wish to understand current events without extensive reading. A comprehensive index makes it most convenient for reference.

C. J. C.


Professor Greeff, impelled by the cursory treatment given to the subject of the eye in handbooks on microscopic work, has designed the volume under review to “collect such matter as may prove specially useful to the ophthalmologist.” No doubt the book fully realizes this object, but, in addition, it affords a summary of pathological technique calculated to be of great service to the general student of pathology. The precise and practical descriptions of the processes of hardening, embedding, mounting, and staining are exceedingly good, and should be of assistance both to the ophthalmologist and also the general pathologist, who is liable to be called upon to deal with any part of the central nervous system. The technique involved in the division of the bulb is clearly described. The brief résumé of the examination of the secretions and bacteria of the eye, contributed by Professor Stock, is disappointing after the thorough nature of the main portion of the book, and affords an object lesson on the danger of attempting to deal with an important subject in five pages.

S. L. C.

Current Literature.

Intraspinal Injections in Syphilis.—Swift and Ellis (Journal of Experimental Medicine, October, 1913, p. 428) find that injections of 2 mg. of salvarsan into the subarachnoid space of the spinal cord of monkeys, cause paralysis of the hind legs which continues for months, and the appearance of many leucocytes in the cerebrospinal fluid. One milligramme produces a cell count of over 1,000 per cubic centimetre although paralytic symptoms may be absent. Neo-salvarsan is somewhat less irritating. They quote Wechselmann, who ascertained that 1 mg. of salvarsan in 1 in 1,000 dilution gives rise to convulsions, paresis, and death in two to four days when injected into the brains of dogs and rabbits. Half a milligramme in a 2,000-fold dilution appears to be harmless. Wechselmann introduced 3 mg. of salvarsan into the spinal subarachnoid space of four patients suffering from tabes and general paralysis. In one, the lightning pains were aggravated and bladder atony came on. Marinesco treated thirteen cases with intraspinal
injections of 5 mg. of neo-salvarsan. The reaction was severe in
most. Incontinence or retention of urine occurred in eight; paresis
of the extremities in three; anaesthesia of the rectum, buttocks, and
lower limbs in one. Levaditi and Mutermilch discovered in 1911 that
the serum of animals to which salvarsan had been given intraperitoneally
exerts a strong germicidal effect in vitro, which is not destroyed by
heating the serum to 55° C. Swift and Ellis (Münch. med. Woch.,
September 9, 1913, p. 1978) have treated thirty-two cases of tabes,
general paralysis, and cerebro-spinal syphilis by introducing within the
sac of the spinal dura mater 30 c.c. of a 40 per cent dilution of the
blood serum of men to whom they had administered intravenous injections
of salvarsan or neo-salvarsan one hour previously. Severe pains in the
lower extremities sometimes ensued but no serious mishap resulted. In
72 per cent of the cases the Wassermann reaction of the cerebrospinal
fluid became less marked or disappeared, and the number of cells
decreased to the normal limit. Control intradural injections of normal
serum left the pathological condition of the cerebrospinal fluid un­
changed. As many as fifteen injections were given to one patient, combined
with multiple intravenous doses of salvarsan and neo-salvarsan until
6 to 10 grm. of these substances had been administered. Improvement
was observed in most, but no cure was effected. The authors think that
this intraspinal therapy should be adopted in cases of tabes and general
paralysis which are running a rapid course.

Levaditi, Marie, and de Martel (Compt. Rend. Soc. Biol., De­
cember 19, 1913, p. 567) injected 5 c.c. of the heated serum of a rabbit
which had received intravenously 0.07 grm. salvarsan per kilo. body
weight one hour before, into the subarachnoid space of the brains of
two general paralytics. Severe reactions followed; high fever, vomiting,
convulsions, and collapse lasting four to six days. Afterwards, however,
improvement was observed in both. The rabbit serum proved to be
both trypanocidal and spirillicidal.

Typhus Fever in the Balkan War.—Hegler and von Prowazek
(Berl. klin. Woch., November 3, 1913, p. 2035) state that a great
epidemic of typhus fever broke out in the troops engaged in the Balkans
during the early part of last year. It was at its height in April, May, and
June. They had the opportunity of seeing several hundred cases, fifty
of which they studied closely. Although the men had been worn out by
field service, yet they withstood the infection in a surprising manner,
probably on account of their abstemious habits and their good physique;
the mortality was only about 10 per cent. Abortive attacks were
frequent. The leucocyte count ranges from 8,000 to 12,000 in the first
fortnight, though leucopenia is sometimes noted from the third to the
seventh day. In every case there is a relative increase of the polynuclears,
which number about 80 per cent. The nucleus is often much broken up,
and the chromatin is distributed in the periphery of the cell. From the
third day onward for about a fortnight alcohol-resisting inclusions are
seen, which are best stained by means of Rocha-Lima’s method of vital
coloration, or by iron-hæmatoxylin after fixing in sublimate alcohol.
Their detection may aid in distinguishing typhus from enteric fever and
measles.
The experiments of Nicolle and others in the transmission of the typhus infection to the lower animals were confirmed (see Journal of the Royal Army Medical Corps, November 1912, p. 521). One and a half cubic centimetres of blood taken from a typhus patient on the sixth day of his illness were injected into the veins of a Macacus rhesus. Eight days later the animal developed pyrexia accompanied with a relative polymuclear increase and cell inclusions; it was killed on the sixth day of the fever, and the post-mortem appearance described by Nicolle and Gavino-Girard in their experimental infections were found. Another ape was inoculated with washed corpuscles, in which inclusions were present, of a patient in the nineteenth day of fever; this animal had a mild pyrexial attack twelve days later; inclusions were discovered in its polymuclears, which were increased in ratio. The disease was excited in a third macacus which was inoculated intravenously with a crushed pediculus vestimenti which had been removed from a typhus patient two days previously. The incubation period was twelve days. Half a cubic centimetre of the blood of a man in the seventh day of his illness injected into the heart of a guinea-pig induced an eight day febrile attack after nine days' incubation; the passage of the virus in the blood of this animal to another guinea-pig and thence to a Macacus sinicus was successful.

C. B.

Bactericidal Power of Mastic Solutions.—Borchardt (Beiträge klin. Chirurgie, October, 1913, p. 453) dissolves 40 grm. of mastic resin in 60 grm. of pure benzol and adds 20 drops of castor oil, and finds that this is a cheap and effective substitute for the proprietary mastic solution “Mastisol.” Ten to twenty-five drops of this solution were added to 5 c.c. of broth cultures of bacteria. The mixtures were shaken and plated after twenty-four hours' incubation at 37° C. Ten drops inhibited the growth of streptococci and Bacillus pyocyaneus, but 20 to 25 drops were necessary to destroy staphylococci.

A camel-hair pencil infected with staphylococci when placed in mastic solution is not sterilized until after one hour's stay in the fluid. Streptococci are killed in thirty minutes, but twelve hours must elapse before B. proteus and B. anthracis are destroyed. Hence the varnish must be applied with a sterile pledget of wool or gauze which is renewed for each case. Mastisol gave similar results. Water is not employed in the cleansing of wounds; benzol is used as a substitute. Borchardt does not apply the varnish to the wounded surface but to the surrounding skin only.

C. B.

Austria, Voluntary Aid Resources for War.—Stabsarzt Dr. Richter (Das Rote Kreuz, No. 8, 1913, p. 168) gives a résumé of the preparations made by Voluntary Aid Societies for war. The Austrian Red Cross Society has in store a large quantity of medical and surgical material, among which may be mentioned 1,400,000 first field dressings for the army. It has also 35 medical store wagons with all the contents complete, and 3 mobile field medical store depots packed in 50 covered vehicles to replace material expended by field medical units.
For the transport of wounded the society has 500 ambulance wagons and 4,000 field stretchers. It has also 84 medical carts with complete equipment for mountain warfare. Two complete field hospitals have been provided for use with the fighting troops; the personnel is supplied from the landwehr. Three hospital ships can be fitted out by the society at short notice.

Recently voluntary aid detachments, consisting of two doctors, four to six male attendants, and thirty female nurses, have been organized to reinforce immobilized field medical units.

In the home territory the society has 39 reserve hospitals, 19 hospitals for slight cases, and 25 convalescent homes; together these afford accommodation for 317 officers and 9,400 men. In addition, beds have been promised in civil hospitals for 249 officers and 1,943 men, and in private nursing homes for 4,170 officers and 12,183 men. Thus the society can find accommodation for a total of 4,736 officers and 23,526 men.

A large sum of money has also been set aside to assist invalids, and widows and children of men injured in war, and to institute an information bureau for wounded and prisoners.

To combat epidemics 16 mobile field laboratories have been organized with a specially trained staff.

The Sovereign Maltese Order has prepared twelve hospital trains.
The Teutonic Order has a large number of ambulance wagons, and also four fully equipped reserve mobile field hospitals.

J. V. F.

Extracts from the Annual Report on the Prussian Red Cross Society, 1911-12.—The following extracts from a review of the Annual Report on the Prussian Red Cross Society for 1911-12, which appears in the Deutsch. Kolonnenführer, November 15, 1913, may be of interest as an indication of the interest taken in the work, and of the lines on which the development of the training is being effected.

The report is rendered by provinces, and a statement of the number of members trained, and of funds at the disposal of the various provincial societies, has been extracted and is given in tabular form at the end of this abstract.

(1) In the Province of Eastern Prussia the stores, in which the war outfit of clothing of the Red Cross Society was kept, were destroyed by fire. The loss was covered by insurance and a new outfit has been supplied. It is stated that the whole of the personnel required for mobilization on the lines of communication and in the home territory is available.

(2) In Western Prussia the Sanitätskolonnen and the Genossenschaft freiwilliger Krankenpfleger im Kriege are making arrangements for rendering first aid in case of accidents. Another line of activity is to make all possible preparations for equipping voluntary aid hospitals on mobilization, so as to be able to take in sick from the very beginning. This is being undertaken by the Red Cross Societies in conjunction with the Women's League, and the latter have acquired and stored large quantities of linen, &c. In this province, as in most others, they have a
cornflower day on which money is raised for the purpose of assisting veterans, &c.

In Posen the clothing of the voluntary aid detachments in a distinctive uniform has made great progress, thanks to financial assistance given by local branches of the society. In many places the voluntary aid detachments have made an arrangement to render first aid when required, and during the year 549 cases were so assisted. They also have a similar arrangement with the railway authorities, and their efficiency is tested from time to time by calling out the detachments at night and at other times without warning.

Extracts from the Annual Report, 1911-12, on the Prussian Red Cross Society, showing in tabular form by provinces, the number of branch societies, and voluntary aid detachments, together with a statement of funds at their disposal.

<table>
<thead>
<tr>
<th>Province</th>
<th>Branches of Red Cross Society</th>
<th>Number of members</th>
<th>Voluntary Aid Detachments (Sanitäts Kolonnen and Kriegersanitäts Kolonnen)</th>
<th>Number of members</th>
<th>Funds in hand and at interest in Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Prussia</td>
<td>31</td>
<td></td>
<td>48</td>
<td>1,087*</td>
<td>M 84,700</td>
</tr>
<tr>
<td>Western Prussia</td>
<td>27</td>
<td>4,136</td>
<td>37</td>
<td>2,182</td>
<td>M 89,689</td>
</tr>
<tr>
<td>Posen</td>
<td>46</td>
<td>6,000</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pommern</td>
<td></td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silesia</td>
<td>19</td>
<td></td>
<td>98</td>
<td></td>
<td>M 86,867</td>
</tr>
<tr>
<td>Brandenburg</td>
<td>32</td>
<td>6,000</td>
<td>115</td>
<td></td>
<td>M 200,000</td>
</tr>
<tr>
<td>Saxony</td>
<td></td>
<td></td>
<td>90</td>
<td></td>
<td>M 183,000</td>
</tr>
<tr>
<td>Schleswig Holstein</td>
<td>81</td>
<td>16,137</td>
<td>32</td>
<td>2,186</td>
<td>M 18,426</td>
</tr>
<tr>
<td>Hanover</td>
<td></td>
<td></td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hessen Nassau</td>
<td>41</td>
<td>12,621</td>
<td>88</td>
<td>2,609</td>
<td>M 23,552</td>
</tr>
<tr>
<td>Westphalia</td>
<td>47</td>
<td>15,864</td>
<td>119</td>
<td>3,884</td>
<td>M 470,388</td>
</tr>
<tr>
<td>Rhine Provinces</td>
<td>81</td>
<td></td>
<td>243</td>
<td></td>
<td>M 112,327</td>
</tr>
</tbody>
</table>

* Of these, 365 on L. of C., 259 home territory, ready for mobilization.

The arrangements for mobilization are in a satisfactory condition. A large quantity of clothing and equipment for the personnel is kept stored in readiness in the commissariat barracks.

In Pommern the amount of personnel asked for by the military authorities is forthcoming; but there is not enough personnel for the voluntary aid hospitals and convalescent homes. There are several thousand beds ready for convalescent homes. Ten new hospitals of the Red Cross Society have been built, with a total of 586 beds.

In Silesia there is a society at Breslau with about 900 members associated with the railway, and many of the railway employees belong to this, and have received training in first aid which will be of use not only in peace, but during war.

In Brandenburg the voluntary aid detachments appear to render a great deal of first aid, and 15,947 cases are reported as having received assistance.

The voluntary aid detachments possess 625 stretchers, 8 ambulance
wagons, and 69 wheeled stretchers. There are 378 stations for reporting casualties, 13 posts where detachments are held in readiness to turn out 39 partially and 23 completely equipped stations for dealing with emergency cases. There are two institutions for the treatment of chest diseases at Kœstrin and Frankfort managed by the voluntary aid detachments. Another society has a supply of sick room equipment for sending out on loan.

In Saxony special mention is made of the training of the voluntary aid detachments in fitting up auxiliary hospital trains with the recognized suspension apparatus. An outfit is supplied by the military authorities for training purposes, and is circulated in the province during the winter. One detachment has it for a fortnight and they have two Sunday practices. The railway authorities provide empty trucks at a siding. At the second practice the next detachment for instruction in the use of the apparatus attends, and sees how it is done, and is able to practise by itself on the following Sunday.

In Hessen Nassau an application for assistance to purchase clothing and equipment for the voluntary aid detachments was not approved by the Central Red Cross Committee, but the latter promised to let them have by degrees at a very reduced rate the prescribed service uniform from the periodical turn-over in the mobilization stores.

In the Rhine Provinces the Red Cross Societies rendered first aid 43,668 times in 1911.

Practical Exercises by Voluntary Aid Detachments.—Dr. Wollenberg, in a paper on this subject (Deutsch. Kolonnenfuhrer, No. 24, 1913), quoted some very practical remarks from the report of Furst zu Solms-Baruth, the Imperial Commissioner and Inspector of Voluntary Aid in Germany. The main points referred to were as follows:—

The management of practical exercises has made very considerable progress. Only in exceptional cases was a special point made of the searching for and dressing of wounded on the battlefield. In almost all cases attention was rightly directed to the transport and housing of wounded, especially so with improvised means. The disinfection of personal property belonging to, and of rooms occupied by, persons suffering from infectious diseases was also practised, and should prove a valuable training for war time. In certain cases it was noted with regret that the exercise was based on a military strategical disposition. The inspector strongly recommended that the practical exercises of voluntary aid detachments should be kept quite separate from military tactical exercises, as the two have nothing in common with each other.

The Employment of Women in Voluntary Aid in War.—In the Wien. med. Woch. for January, 1914, Professor Dr. Alfred Exner and Dr. Cornelius Ritter von Massari contribute an interesting article on their experiences with volunteer women helpers in the Balkan War (Über die Verwendung freiwilliger Krankenpflegerinnen im Kriege). They emphasize the importance of organizing civilian medical assistance in peace time, and they state that in all discussions on the subject the
only point on which all are united is the necessity for employing volunteer female nurses and attendants, for without them the enormous amount of work cannot be got through. The writers had a ten months' experience in hospitals at Sofia, Philippopolis, Stara Zagora, and Baba-Eski, with staffs composed of volunteer nurses with little or no training. They treated 13,000 cases of wounds, 9,000 of which were out-patients.

In October, 1912, they took over a hospital of 360 beds at Sofia with two trained Bulgarian nurses, who, however, were soon transferred somewhere else. They had therefore to get through the work with volunteer nurses, most of whom had been through a course of training analogous to that given by the Austrian Red Cross Society. They came mostly from the middle classes, and many of them had had a higher education. After a few days the writers were able to decide which duties each nurse could best perform. They allotted two to twenty cases of severely wounded or to forty slighter cases, and they had to perform all nursing duties, except for the coarser cleaning-up work in the wards. There was, of course, also a night duty service, which was very heavy, as wounded often arrived at night. The work was heaviest in the first few weeks, as it included the organizing of the hospital and the training of the personnel.

The sterilization of dressings, instruments, &c., presented considerable difficulty at first. There is so much technical knowledge required in an operating-room that untrained assistance is of little use. For the first two months they had a sister of the Rudolfinerhaus in Vienna. She was succeeded by a volunteer, the wife of an advocate in Sofia, who did the work splendidly. Over 100 big operations were performed without sepsis occurring.

Massari left for Adrianople during the siege, and Exner worked alone in the Alexander hospital at Sofia for three months with these volunteer nurses, who assisted him at operations, and even administered anaesthetics.

With regard to the out-patient department the removal and renewal of dressings was largely left to the sisters, the line of treatment being indicated by the medical men. This involved considerable preliminary instruction, with emphasis on the use of sterile instruments and the disinfection of the hands. The good instruction bore fruit, for they had no erysipelas, which was common in most of the hospitals there. They also had typhoid fever and cholera to deal with. They attribute their success with these untrained assistants in part to the fact that the conditions of a war hospital are simpler than those of ordinary surgical wards in peace time; by grouping the various classes of patients (fractures in one ward, simple wounds in another, &c.), and instructing the attendants on what points to concentrate their attention, they can soon be taught to deal at any rate with a particular class of case.

The writers make some interesting remarks on the selection of volunteer nurses. In all wars doubtful characters come forward as volunteers; they are to be eliminated at once. There were well-founded complaints against nurses of being unwilling to work and of giddy behaviour. Another unwelcome kind of volunteer is the sensation-loving lady, who comes into the hospital dressed up to the nines with the idea of nursing, but who only gets in the way. If, however, the doctor can keep these characters out of his hospital, very good work can be done with volunteer nurses.
The writers were able to make their selection at Sofia, and that is how they were so successful in their experience compared with many other hospitals. Various hospitals, especially near the front, were filled with what they describe as "doubtful elements." They state that several of their rejections found employment in other hospitals. The writers do not wish to state that a volunteer can compete with a good trained nurse, but they came to the conclusion that an intelligent untrained volunteer is often better than a badly-trained professional nurse.

**Instruction of Red Cross Nurses in Germany** (Notiz, Kalender des Vaterland. Frauen Vereins für 1914).—The course of instruction is laid down in the official manual on the subject revised in January 1912.

In case of war each nurse must be prepared to serve for three months in the home territory. In return she receives free of charge a theoretical and practical training, and must attend three refresher courses at not longer intervals than one in two years. The theoretical instruction consists of at least twenty two-hour classes. The practical instruction is given in a civil or military hospital and occupies four to six weeks. The theoretical and practical instruction may be given concurrently or separately, and on completion of the course the candidate must pass an examination. If successful, she receives a copy of standing orders and the diploma for nurses of the Red Cross Society; she is then also entitled to wear the prescribed uniform when employed on any Red Cross duty.

**Plague among the Ouled Fredj, a Tribe in Morocco.**—Médecins Major Sacquépée and Garcin contribute an interesting article on an outbreak of plague in Morocco in the Archives de Médecine et de Pharmacie militaires for December, 1913.

Plague from native accounts appears to be endemic in the south of Morocco. It occurs sporadically in various districts due, no doubt, to the nomadic habits of the various tribes. The disease being on the increase, a medical commission was sent out in March, 1912, to investigate the epidemic, and they devoted their particular attention to the Ouled Fredj tribe.

They discovered plague in several domestic animals, viz., in camels, mules, sheep, and cats. From these various animals the bacillus of Yersin was isolated. They also suspected dogs and cattle but were not able to prove it. There was no epidemic disease amongst the rats, and of 4,247 rats examined not one was found diseased. Of 102 rats caught in or near infected dwellings and specially examined only one gave a plague culture from the splenic pulp.

The writers are of opinion that the disease is conveyed chiefly from man to man, that the rats there do not play an important rôle and that infected domestic animals are undoubtedly capable of infecting men.

The commission had considerable success in various villages with protective inoculation of 10 c.c. of serum along with 1 c.c. of vaccine. Out of 309 persons so treated only five developed plague, not more than five days after vaccination. Four men from the same villages who refused this treatment all developed plague.
General prophylactic measures should be directed not only against insects and rats, but also against domestic animals.  

J. V. F.

**Vaccination and Small-pox in Germany.**—In a lecture on the prophylaxis of disease, Dr. Beintker (*Das Rote Kreuz*, No. 26, p. 814, 1913) quoted the following statistics to show the effect of compulsory vaccination.

In Germany the average annual mortality per 100,000 of the population from small-pox was as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Mortality Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860-1864</td>
<td>39.1</td>
</tr>
<tr>
<td>1865-1869</td>
<td>37.4</td>
</tr>
<tr>
<td>1870-1874</td>
<td>113.7</td>
</tr>
</tbody>
</table>

On April 1, 1875, vaccination was made compulsory for everyone. The effect was at once apparent in the mortality statistics for small-pox; the death-rate per 100,000 was as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Mortality Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1875-1879</td>
<td>1.8</td>
</tr>
<tr>
<td>1880-1884</td>
<td>2.6</td>
</tr>
<tr>
<td>1885-1889</td>
<td>0.64</td>
</tr>
<tr>
<td>1890-1894</td>
<td>0.23</td>
</tr>
<tr>
<td>1895-1899</td>
<td>0.05</td>
</tr>
</tbody>
</table>

J. V. F.

**Correspondence.**

THE PREVENTION OF MALARIA—A SUGGESTION.

TO THE EDITOR OF "THE JOURNAL OF THE ROYAL ARMY MEDICAL CORPS."

Sir,—I have thought for a long time that the suggestion of supplying every British soldier serving in India with a mosquito net would always remain a dead letter, and that no Government would be prepared to face the initial expense, still less the recurring expense. But when we realize that the greatest danger of contracting malaria lies in the fact that undiscovered malarial carriers sleep in the same barrack rooms as healthy men, and in the extreme facility with which mosquitoes can carry the malarial parasite from infected to healthy in these circumstances, it would appear sound and reasonable to ask that only infected men should be provided with mosquito nets at the public expense.

Every medical officer in charge of a unit should make himself thoroughly acquainted with the medical history sheet of each man in the unit, examine the blood of every man who has had an entry for malaria within recent years, and satisfy himself that the crescents cannot be found in their blood after at least-three examinations. But even then I would recommend that these once infected men (though not proved to be carriers at the time) be provided with mosquito nets.