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A NEW AUSCULTATORY SIGN FOUND IN CONSOLIDATION, OR THE COLLECTION OF FLUID, IN PULMONARY DISEASE.

Preliminary Note, G. S. Shibley, M.D., Hunan-Yale College of Medicine, Changsha.

During the past year, in the examination of the chests of patients suffering from a variety of lung conditions, in which fluid or consolidation has been demonstrated, a new auscultatory sign has come under my observation, which has proved both interesting and useful. In a rather careful examination of all works at hand which touch on physical findings present in pulmonary disease, no reference to the sign has been discovered and it has been felt by us that we may be dealing with a new contribution, possibly of value, and certainly most interesting, to the signs of fluid and consolidation in disease of the lungs and pleura.

Essentially the sign is as follows: In the presence of fluid or consolidation, and sharply limited to the area of involvement, all spoken vowels, "a," "e," "i," "o," "u," including also the broad vowel sounds, come through the stethoscope to the ear of the examiner as a frank "AH"; the shorter vowels do not show as striking a change. In the majority of cases, this change in quality is so startling as to cause the auscultator to doubt whether the patient is speaking the vowel sound directed. The "AH" has a "nasal" quality, its "a" ranging from the "a" of hat to the "a" of cart. It seems to be only slightly, if at all, modified by the vowel sound uttered. In extreme cases when the patient says "a, e, i, o, u," the sounds come through "AH, AH, AH, AH, AH"; in all cases differentiation of the vowels uttered is difficult. The sign is strictly limited to the area of involvement and recedes or advances as the process becomes less or greater in its extent.

1 Medical Diagnosis, Brown and Ritchie, 1906
   Physical Diagnosis, Cabot, 1915
   Physical Diagnosis, DaCosta, 1919
   Flint's Physical Diagnosis, Emerson, 1912
   Diseases of the Chest and Principles of Physical Diagnosis, Norris and Landis, 1918
   Sahli's Diagnostic Methods, Potter, 1918.
It should be noted that examination of normal chests has shown that all these vowel sounds are modified more or less toward this "AH" quality. However, the striking feature of the sign being described, is the manner in which this change becomes frank and distinct at the point where normal lung passes over to consolidation or to fluid.

The main characteristics of the sign may be readily elicited in the normal by auscultating over the subclavicular area and the anterior tracheal area (at the jugular notch) while the patient says "a, e, i, o, u," and comparing the two; the former place will show the usual normal modification of the vowel sound and the latter that of pathological change (more particularly resembling that of consolidation).

The phenomenon was discovered purely accidentally in the routine chest examination of Chinese patients. As is customary in ordinary auscultatory procedure, the patients had been instructed to say "i, er, san" (one, two, three) and in cases where fluid could be demonstrated it was noticed that there came to the ear, "AH, er, san." Following this observation "i"* alone was used in the auscultation of chests, and it was rapidly found that consolidation as well as fluid constantly caused this striking change to "AH." Later the whole group of vowels was investigated and the universal change to "AH" noted. Usually the use of one vowel is more satisfactory in eliciting the sign, and with the Chinese "i" (one) has been used. In addition to bringing out the vowel change, the use of this single sound is as satisfactory as any other for the bringing out of other auscultatory phenomena, and has the advantage of a single sound over many in bringing out contrasts as well as requiring less effort on the part of the patient. Unfortunately, the fact that our X-ray machine has been undergoing repairs in Peking, has deprived us of radiographic confirmation of the lesion as otherwise demonstrated by physical signs, exploratory puncture and autopsy. However, it is a hackneyed statement in our classrooms nowadays that dependence upon the X-ray is subversive to acuteness of observation, and perhaps our lack may have served to sharpen our faculties in the procedures of physical diagnosis. Most of the cases in which the sign has been demonstrated, particularly of late, since it has been called to their attention, have been checked by my colleagues of the medical staff and faculty and it has been demonstrated to students in clinical medicine for the better part of a year.

*"i" is the Chinese numeral one, and in this province has the sound of double "e."
A New Auscultatory Sign.

Some of the characteristics of the sign in fluid and consolidation follow. A few brief case records of typical cases are appended for illustration. In all cases showing fluid in the chest where it has been tested, the "AH" sign described above has been constant. In addition to this distinctive change in quality, the other usual voice changes of fluid have been noted (Cases 1, 2, 5). The level of the fluid seems to be accurately indicated by the sign and changes in this due to increase, absorption or removal of the fluid or to change of position seem to be fairly readily demonstrated (Cases 1, 2, 5); it has been here of course that the lack of X-ray control has been most acutely felt. In one case of pneumothorax associated with fluid (Case 5), the "AH" change was noted and showed in addition, markedly, the metallic quality usually associated with air in the pleural cavity; here the presence of fluid was determined by the succussion test, although there was no dulness or flatness, and later by needle and autopsy findings; it would seem from this single observation that the vowel change might be of value in pointing to the presence of fluid in pneumothorax when percussion or the succussion test is negative, as is often the case, i.e., in phypneumothorax, hemopneumothorax, etc. In one case (Case 2) the sign served to differentiate thickened pleura from the fluid which had preceded this and had been absorbed. The sign has been regularly found in the presence of the hydrothorax accompanying cardiac and renal failure. The sign has not been studied, as yet, in empyema; it would seem, however, that the conditions here would in no way differ from those in the non-suppurative forms of pleurisy and that the sign should be positive.

In consolidation, the "AH" sign has been constantly present and is found limited sharply to such areas as show "bronchial" voice, whisper and breathing. The vowel change is more striking here than in the presence of fluid, no doubt because of the "nearness" to the ear of "voice" in solid lung. Apparently when consolidation does not extend from the bronchi to the chest wall, i.e., when the physical signs of consolidation consist in dulness accompanied by muffled voice and breathing, the sign is negative (Case 4). The sign has been found regularly in lobar consolidation (Case 3 and 4), in lobular (bronchopneumonic) consolidation (Case 1), in the consolidation of confluent tuberculosis (Case 5), in the consolidation accompanying lung abscess, and in unresolved consolidation (Case 3). It seems to be negative in bronchitis, asthma and the diffuse infiltration of tuberculosis. The sign has not been studied in lung tumor nor in atelectasis; in these it would seem as if the mechanism present would
result in positive findings. The sign has been found positive in consolidation when the vowels have been whispered.

The following are five typical illustrative cases:


CC. Suppurating boil of right lower jaw, duration 3 months.

FH. Sister in hospital with pulmonary tuberculosis.

PH. Negative in all respects.

PI. Suppurating mass in right lower neck for three months.

Four days ago sudden fever, cough unproductive, anorexia and night sweats, slight abdominal pain also noted.

PX. (Personal examination)


The patient is not acutely ill, and not dyspneic.

Chest: Left side bulges and seems to move more than the right. Marked dulness over whole of left chest anteriorly and posteriorly, with spodiac note over upper front. Tactile fremitus is decreased over this whole area. Anteriorly, voice and breathing are broncho-vesicular and a trifle distant. Posteriorly, extending to the spine of the scapula, the voice and breathing are bronchial and distant. The “AH” sign is positive anteriorly and posteriorly over the area of dulness. The heart is pushed over, making right border 6 cm. in 5th i.c.s. with impulse best felt and heard at sternum.

WBC. 8400, Polys 80%.

DIAGNOSIS: Left serofibrinous pleurisy; tubercular adenitis.

Aspiration was done in the afternoon and 600 cc. of clear yellowish fluid removed. The signs of fluid dropped to the level of the angle of the scapula and the vowel change accompanied this. The heart by percussion returned to a practically normal position.

Following the removal of the fluid the small amount left seemed to be absorbed; but dulness persisted at the left base and on the 15th and 16th two other attending physicians and myself felt that there was an area of consolidation here involving most of the lower portions of the left lower lobe. The “AH” sign which had begun to recede again became prominent and corresponded to the area of consolidation. Previously (13th) and later (16th) small patches of consolidation were noted in the right base and at the third rib anteriorly on the left; here the “AH” sign was definitely positive.

These findings, in conjunction with the continued elevation of temperature, pulse and respiration led to the additional diagnosis of Bronchopneumonia.

The later progress of the case has shown gradual disappearance of the patches of consolidation with the presence of rales and a slow disappearance of the “AH” sign.

A needle was introduced into the left posterior chest on the 17th and absence of fluid confirmed the impression that this had been absorbed and suggested the accuracy of the observation that we were dealing with consolidation.

The last observation (Dec. 1st) showed slight residual unresolved patch at the right base, many dry and moist rales, and a normal T.P. and R.

DIAGNOSIS: Sero-fibrinous pleurisy, acute, left.

Bronchopneumonia.

Tubercular adenitis.
CC. Fever, pain in left chest, duration 12 hours.
FH. Negative.
PH. Negative.
PI. Fever and pain in chest after exposure to cold, considerable shortness of breath.
PE. Internes Examination.
Prostrated, dyspneic, suffering much pain. Chest findings practically negative.
WBC. 13,000, Polys 89%.
Provisional diagnosis: Pleurisy or lobar pneumonia. Strapped.
August 9th. Condition a little better, strapping removed. Chest findings:
Left, marked dulness to midscapular level posteriorly, here diminished bronchial breathing and voice but present tactile fremitus. "AH" sign present over this area.
August 11th, pain still present but less. Percussion shows flatness, otherwise as above. Diagnosis changed to serofibrinous pleurisy.
(Personal examination)
August 15th, condition a little improved as far as pain is concerned. 400 cc. of clear yellowish fluid removed with slight drop of fluid level and "AH" sign.
Thereafter the patient's condition rapidly improved and the fluid was gradually absorbed, dulness, etc., and "AH" sign dropping.
By August 28th the "AH" sign had disappeared but dulness and distant sounds persisted and there was still a slight amount of fever. Thickening or residual fluid considered, absence of "AH" sign pointing to the former; negative exploratory puncture confirmed this.
September 3rd, patient discharged well.
DIAGNOSIS: Serofibrinous Pleurisy.

CC. Headache, abdominal pain, backache, pain in left chest, cough, duration 2 days.
FH. Negative.
PH. Similar attack to present at 16 years.
PI. Two days ago, sudden chill with headache, backache, thirst, diarrhea, pain in left chest.
Next day epistaxis, vertigo, cough with yellowish sputum.
PX. Temp. 39.5°C, Pulse 110, Resp. 25.
Signs of consolidation in left upper lobe (examination by house officer).
Blood count: WBC 15,000, Polys 85%.

October 16th, personal examination.
Patient acutely ill, respiration grunting in character, slight cyanosis; slightly irrational.
Chest, dulness to tympany over whole left anterior chest with increased tactile fremitus, and bronchial voice, whisper and breathing; typical signs of consolidation.
"AH" sign strongly positive in this area. Back negative.
DIAGNOSIS: Lobar pneumonia, left upper lobe.

October 17th-18th, temperature dropped to normal.
October 19th, temperature rise to 39°C.
October 21st, personal examination.
T. 37.2, P. 90, R. 25.
Left chest, signs as noted above except for presence of many fine moist rales.
The China Medical Journal.

Right chest, posteriorly, dulness over upper half, increased tactile fremitus, bronchial voice, whisper, breathing: "AH" sign present over whole area: extension of consolidation.

October 22nd, temperature normal.

November 1st, small area of dulness in left posterior axillary line, many rales, bronchial voice, whisper and breathing present, "AH" sign positive.

November 6th, chest entirely clear. Discharged cured.

Diagnosis: Lobar pneumonia, right and left upper lobes.

CC. Fever, headache, pain in right chest, duration 3 days.
FH. Negative.
P.H. Negative.
PH. Three days ago sudden pain in right chest; headache and fever next day; cough with rusty sputum by that evening.
PX. T. 39, P. 120, R. 22.

Personal examination:
Patient prostrated and in acute pain, slight dyspnea.
Small patch about size of a dollar just below and outside of right nipple showing slight dulness, bronchial voice, whisper and breathing, no rales.
"AH" sign quite marked in this area.
Posteriorly chest dull, tactile fremitus decreased, voice breathing and whisper distant; "AH" sign negative.
WBC. 25200, Polys. 87%.

Diagnosis: Lobar pneumonia, right.

October 23rd, another attending corroborated above findings and reported positive "AH" sign in right lower back.

October 24th-27th, temperature dropped to normal by lysis.

November 6th, right base nearly clear, a few rales present; signs at right nipple unchanged.

November 9th, right base clear; nipple area shows no dulness but bronchial voice, whisper and breathing are still present; "AH" sign still noted.

November 11th, chest clear anteriorly and posteriorly.

November 13th, discharged well.

Diagnosis: Lobar pneumonia, right, middle and lower lobes.

CC. Fever, cough, anorexia, hemoptysis, duration 4 months.
Dyspnea, duration 1 month.
FH. Negative.
P.H. Health always excellent.

Respiratory history entirely negative.

PH. Four months ago began to notice fever, cough, sweats and anorexia, soon after blood began to appear in the sputum which was thick yellowish. This has continued to the present, with, however, only small amounts of blood.
Two months ago had diarrhea for four weeks, stools ten or so a day.
One month ago began to note shortness of breath which has lately become quite marked.

PX. (Personal examination)
T. 38, 5C. P. 120, R. 30.

There is moderate dyspnea with movement of alse nasæ. Cyanosis slight.
Patient is well developed and moderately well nourished.
A New Auscultatory Sign.

Chest examination:
Left chest more prominent than right; right lags during respiration.
Anteriorly, tactile fremitus is more marked on the right. On the right side there is dulness; on the left, tympany upon percussion. On auscultation, right, small area of bronchial voice, whisper and breathing at nipple (consolidation), "AH" sign present here; elsewhere chest is full of fine and medium-sized moist rales. On the left, voice and breathing are slightly diminished.

Posteriorly:
Right side, dulness over upper half with slight increased tactile fremitus; rales throughout chest, no signs of consolidation, no "AH" sign anywhere noted.
Left side, tactile fremitus present, percussion note tympanitic. Breathing rather distant as in voice, breathing being a little wheezing in character, and "AH" sign is negative, over upper half, to angle of scapula. Below this level breathing is amphoric and the "AH" sign is present being more marked over the lower portions, and showing a metallic quality. The coin test is strongly positive over the lower half of the chest and succussion sounds can be easily elicited.
Position of heart hard to determine but sounds suggest moderate displacement to the right.

Sputum positive for tubercle bacilli.

Blood count: RBC, 3,192,000, WBC, 10,000, Polys. 80%.

Diagnosis: Pulmonary tuberculosis of both lungs with pneumothorax and fluid on left side.

November 4th, heart over 11 cm. to right in 4th i.c.s.
Needle introduced shows air and clear yellowish fluid.

November 7th, patient died after progressively getting worse in spite of aspiration of fluid and air.

Autopsy findings:
Right lung diffuse tuberculosis with area of confluence (consolidation) in middle lobe.
Left lung, collapsed except for adhesions in two places, one anteriorly, the other posteriorly. Diffuse tuberculosis throughout the lung.
Point of perforation in upper posterior third of lung. (?)
Over a litre of clear yellow fluid in left pleural cavity.
Heart markedly pushed over to right.

Diagnosis: as above.

The above represents in a rather brief and sketchy way the present status of the sign under our observation. Obviously there is much more about it to be studied. The presence or absence of the sign, and such limitations as it may present, in a large series, including a greater variety of pulmonary conditions, must be minutely studied; x-ray check must be used. We are proposing to do this and to make an exhaustive report in a second paper.

The presence of the change in normals has been investigated. In a general way, it may be stated that it can be found regularly in the neck or regions over the brouchi where physiological bronchial breathing is demonstrable. This varies of course with the states of nutrition and development of the individuals examined. In children and emaciated subjects, where the trachea and larger brouchi are...
nearer to the chest wall, the change is more readily and extensively demonstrated. The change is especially marked over the thyroid gland. These findings suggest that the sign might be of service in the diagnostication of tuberculosis of the tracheo-bronchial glands, paralleling, perhaps, d’Espine’s sign.

Experimental production of the sign has been attempted, so far, in two ways.

A small hot water bag has been placed on the neck in areas showing the vowel change slightly. Transmission of vowels through the unfilled bag showed no change. Transmission of the vowel through the bag when it contained fluid, however, showed the typical “AH” change.

Again, a case of enlargement of the thyroid was examined; the “AH” sign was strikingly present in an area corresponding to the enlargement of the gland as determined by palpation. This finding seems to suggest the possible value of the sign in the recognition of enlargement of the thyroid (intrathoracic) and of the thymus.

Explanation of the sign is difficult. There is plainly no relation present to changes in pitch or intensity. The change is obviously one of quality or timbre. This is unquestionably related to the facts in phonetics, so strikingly demonstrated by auscultating over the larynx, that “AH” is the fundamental tone of the larynx. Ordinary spoken vowels represent modifications of this note produced in the resonating chambers of the mouth. In the immediate neighborhood of the larynx and of the larger tubes the fundamental is predominant; more distantly the modifications become audible, blended with the fundamental, much as one might, at a distance, distinguish the smaller instruments of an orchestra which are quite inaudible when one is among the trombones. It is conceivable that the mechanism of the sign consists in the artificial production of relative nearness to the larynx, by consolidation, or the condensed lung of effusion, with restoration of the dominance of its fundamental note. The dampening or absorption of overtones mentioned in the old explanation of egophony has been considered as a possible factor but has not, as yet, been reconciled with the facts. Further work of an experimental nature has been projected which may bring us nearer to an explanation based firmly upon the physical laws of sound.

**SUMMARY AND CONCLUSION.**

1. A new auscultatory sign, observed in the presence of consolidation of lung or collection of fluid in the pleural cavity, has been described.
2. The sign has been noted constantly and without exception in all conditions showing the lesions, tested to date.

3. A few illustrative cases have been cited.

4. The sign is confirmatory of other physical findings of the conditions mentioned above. It has some value in differential diagnosis.

5. A possible basis of the explanation of the sign has been ventured.

6. A further, more exhaustive and better controlled study is planned and will be reported in a subsequent paper.

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**PEKING UNION MEDICAL COLLEGE.**

**OFFICIAL PROGRAM OF THE OPENING.**

*September 15-22, 1921.*

**Thursday, Sept. 15.**

9.30-11.30 a.m. Registration.

11.30-12.15 a.m. Address: "Concerning the evolution of the ocular symptoms of pituitary body disorders." Dr. G. E. de Schweinitz, of Philadelphia.

2.00-5.00 p.m. Inspection of Plant.

5.00-7.00 p.m. Reception and tea.

9.00-10.00 p.m. Address: "Survey of medical education in China," Dr. Edward H. Hume, of Changsha.

**Friday, Sept. 16.**

9.30-11.00 a.m. Sectional Clinics:

- Medicine—Syphilis. Dr. Smyly.
- Surgery—Operation. Dr. Taylor.
- Repair of inguinal hernia.
- The use of silk.
- Obstetrics and Gynecology. Dr. Maxwell.
- Interesting cases of 1919-1920.
- Combined extraction of cataract with insertion of sclero-conjunctival suture.
- Discussion of secondary cataract.
- Otolaryngology—Esophagoscopes. Dr. Dunlap.
- Pathology. Dr. Faust.
- "Parasitology in China."

11.30-12.15 a.m. Address: "Plague in the Orient with special reference to the Manchurian Outbreaks." Dr. Wu Lien Teh, of Harbin.

2.00-5.00 p.m. Sightseeing:

- Coal Hill and Pei Hai.
- Confucian and Lama Temples.
- Tung Yueh Taoist Temple.
Illustrated Address: "Medical Education in the Dutch Indies." Dr. A. de Waart, Director, Government Medical School, Batavia.

Address: "An adventure in public health." Dr. George E. Vincent, President, Rockefeller Foundation.

Saturday, Sept. 17.

9.30-11.00 a.m. Clinic Sections:
- Medicine—Symposium on Kala-azar. Dr. Robertson.
- Surgery—Demonstration, Balkan frame and apparatus for treatment of fractures. Dr. Van Gorder.
- Skin grafting—Thiersch and Reverdin. Dr. Char.
- Discussion. Prof. Tuffier, of Paris.

Obstetrics and Gynecology.
- Operation, vaginal cyst. Dr. Clark, of Philadelphia.
- Demonstration case of total prolapse of uterus.

Pathology—Certain aspects of parasitology in the Philippines. Dr. Houghwout, of Manila.

Ophthalmology—Presentation of cases of focal infections and toxic amblyopias. Drs. Howard and Li.
- Discussion. Drs. de Schweinitz, Sudaroff and Neville.

Otolaryngology—Operation—Mastoid. Dr. Dunlap.

11.30-12.15 a.m.
- Address: "The Clinical Importance of the Vital Capacity of the Lungs." Dr. Francis W. Peabody, of Boston.

2.00-5.00 p.m.
- Official reception by President and Madame Hsü of the Republic of China.

Monday, Sept. 19.

9.30-11.00 a.m. Clinical Sections:
- Medicine. Dr. McLean.
  - Diseases of the Circulatory System.
- Surgery and Pathology Combined.
  - Epithelioma. Dr. Frank Meleney.
  - Surgical Aspects. Dr. Taylor.
  - Discussion. Dr. Tuffier.

Obstetrics and Gynecology.
- Measurements of Chinese Pelvis.
- Main forms of contraction in China,—introduction by Dr. Ford.

Ophthalmology—Operations. Drs. Howard and Li. Complete tenotomy, graduated tenotomy and resection in four different types of strabismus.

- Removal of tonsils and adenoids.

11.30-12.15.
- Address: "Problems of Parasitology in the Orient." Dr. R. T. Leiper, of London.

4.00-5.00 p.m.
- Dedication Ceremonies:
  - Presentation of the Hospital and School. Dr. George E. Vincent, President, Rockefeller Foundation.
Acceptance. Dr. Henry Houghton, Director of the P. U. M. C.

Invocation. Dr. Leighton Stewart, President of Peking University.

Greetings on behalf of the Ministry of the Interior. Dr. Ch'i Yao Shan, Minister of Interior, and Dr. S. P. Ch'en, Medical Director, Central Hospital.

Greetings on behalf of the Ministry of Education, Mr. Ma Lin Yi, Minister of Education.

Response for the China Medical Board. Mr. Roger S. Greene, Resident Director, China Medical Board.

Response for the Rockefeller Foundation. Mr. John D. Rockefeller, Jr.

Address: "Biochemistry in retrospect and prospect."

Dr. A. B. Macallum, of Montreal.

Tuesday, Sept. 20, 9.30-11.00.

Clinic Sections:

Medicine and Neurology. Dr. Woods.

Syphilis of the Central Nervous System.

(a) the fundamental lesion.

(b) action on nerve roots.

Surgery—Dakins Solution.

Preparation. Dr. Taylor.

Application to infected wounds. Dr. Tuffier.

Obstetrics and Gynecology.

Causes of Uterine Hemorrhage. Dr. J. C. Clark.

Demonstration of Woo's needle. Dr. A. Woo.

Pathology—Conference on Plague.

Demonstration of Specimens. Dr. Wu Lien Teh.

Discussion. Drs. Shiga, Tsurumi, Lostchiloff and Tchaplik.

Ophthalmology.

Interesting cases of 1920-21. Drs. Howard and Li.

Address: "The origin of blood cells." Dr. Florence R. Sabin, of Baltimore.

Sightseeing:

Coal Hill and Pei Hai.

Confucian and Lama Temples.

Temples of Heaven and Agriculture.

Wednesday, Sept. 21.

9.30-11.00 a.m.

Clinic Sections:

Medicine and Neurology. Dr. Woods.

Syphilis of the Central Nervous System (cont.)

(a) action on blood vessels.

(b) action on the cells themselves.

(c) prognosis and treatment.

Surgery and Pathology.

Tetanus infection from feces. Drs. TenBroeck, Bauer and Char.

Obstetrics and Gynecology. Dr. Jean Dow.

Paper "Special maternity work in the famine area."
The China Medical Journal.

Opthalmology—Operations. Drs. Howard and Li.

1. Expression operation for trachoma.
2. Modified Streeterfield Snellen operation for trichiasis following trachoma.
3. Heisrath's resection of tarsus for chronic trachoma.

II.30-12.15 a.m. Address: "Osteomyelitis." Dr. Tuffier, of Paris.

2.00-5.00 p.m. Sightseeing: Temples of Heaven and Agriculture. Lung Fo Ssu and other markets.

9.00-10.00 p.m. Address: "Hookworm control as a Promoter of Public Health." Dr. Victor Heiser, of New York.

Thursday, Sept. 22.

9.30-11.00 a.m. Clinic Sections:

Medicine. Dr. Korns.
Tuberculosis.

Goitre. Dr. Taylor.
Ankylosis of hip. Dr. Tuffier.

Obstetrics and Gynecology.
Hydatidiform mole and early abortions.
Specimens and discussion.

Pathology.
Problems of Pathology in the Orient. Dr. W. H. Welsh, of Baltimore.
Pathological Case Reports and Demonstrations. Dr. H. E. Meleney.

Ophthalmology—paper. Dr. de Schweinitz.
"Some newer aspects of uveal tract diseases and therapeutic measures for their relief."
Presentation of cases. Drs. Howard and Li.

II.30-12.15

Address: "Present Status and Future of Chemotherapy." Dr. S. Hata, of Tokyo.

2.00-5.00 p.m. Sightseeing.
Astronomical instruments and city wall.
Museum and Central Park.
Western Hills and Pi Yun Ssu.

9.00-10.00 p.m. Address: "How Medicine is Advanced and Contributes to human progress." Dr. W. H. Welsh, of Baltimore.

Official Delegates of Educational and Scientific Bodies at the Dedication of the Peking Union Medical College.

Many of these organizations have sent formal written greetings which are placed on exhibition in the buildings of the College. Only institutions which have given notification of the appointment of delegates are included in this list.

American Medical Association, Dr. G. E. de Schweinitz, President.
American Presbyterian Board of Foreign Missions, Mr. T. H. P. Sailer.
Batavia Medical School, Dr. A. de Waart.
Bureau of Science, Manila, Dr. F. G. Houghwout.
Canton Christian College, Canton, Professor H. B. Graybill.
Peking Union Medical College.

Canton Hospital, Dr. W. Graham Reynolds.
Chinese Eastern Railway, Harbin, Dr. Lostchiloff, Chief Surgeon, Dr. Chaplik, Sanitary Division.
Columbia University, New York, Prof. Paul Monroe.
Fuh Tan University, Shanghai, Dr. Teng Hui Lee, President.
Fukien Christian College, Foochow, Mr. E. C. Jones, President.
Government of the Philippine Islands, Dr. Antonio Sison, Professor of Medicine, University of the Philippines.
Ginling College, Nanking, Mrs. Lawrence Thurston, President.
Hangchow Christian College, Hangchow, Dr. Warren Stuart, President.
Harvard University Medical School, Boston, Dr. Francis W. Peabody.
Hongkong Medical Association, Hongkong, Dr. C. C. Wang, President.
Hongkong University, Hongkong, Sir William Brunyate, Vice-Chancellor.
Dr. Kenelm Digby, Dean of the College of Medicine.
Hunan Yale Medical School, Changsha, Prof., Brownell Gage, College of Arts: Dr. Edward H. Hume, Professor of Medicine.
International Health Board, Dr. Victor G. Heiser.
Johns Hopkins Medical School, Baltimore, Dr. Florence R. Sabin.
Johns Hopkins University, Dr. Wm. H. Welsh, Director, School of Hygiene and Public Health.
Kitasato Institute, Tokyo, Dr. S. Hata.
McGill University, Montreal, Dr. A. B. Macallum, Professor of Biochemistry.
Mukden Medical College, Mukden, Dr. Peder Pedersen, Dr. W. A. Young.
Mt. Holyoke College for Women, Dr. Mary Emma Woolley, President.
Nankai College, Tientsin, Mr. Chang Po-ling, President.
Nanking University, Nanking, Dr. A. J. Bowen, President.
National Medical Association of China, Dr. Wu Lien Teh, Dr. Way Sung New, Secretary.
Peking University, Dr. J. Leighton Stewart, President.
School of Tropical Medicine, London, Dr. R. T. Leiper.
Shanghai Baptist College, Shanghai, Dr. F. J. White, President.
Shantung Christian University, Medical School, Tsinan, Dr. E. R. Wheeler, Acting Dean.
Soochow University, Soochow, Dr. W. B. Nance, President.
Southeastern University, Nanking, Dr. Ping Wen Kuo, President.
St. John's University, Shanghai, Dr. F. L. Hawks Pott, President.
The Rockefeller Foundation, New York, Mr. J. D. Rockefeller, Jr., Chairman, The Board of Trustees, Mr. G. E. Vincent, President.
Tsinghua College, Peking, Dr. P. C. King, President.
University of Chicago, Chicago, Illinois, Dr. Martin A. Ryerson, Chairman, The Board of Trustees.
University of Iowa, Dr. Wm. Fletcher Russell, Dean, College of Education.
University of Michigan Medical School, Ann Arbor, Michigan, Dr. Ida Kahn.
University of Paris and French Academy of Sciences, Dr. Martin Theodor Tuffier.
University of Pennsylvania, Philadelphia, Dr. J. G. Clark, Dr. de Schweinitz.
West China Union University, Chengtu, Sze., Dr. E. W. Wallace.
Yale University, Mr. E. R. Embree.
ABSTRACTS OF ADDRESSES DELIVERED AT THE
DEDICATION EXERCISES OF THE PEKING UNION
MEDICAL COLLEGE, SEPTEMBER, 1921.

DR. FRANCIS W. PEABODY, HARVARD UNIVERSITY.

SUBJECT: — "THE CLINICAL IMPORTANCE OF THE VITAL CAPACITY
OF THE LUNGS."

The first important observation on the vital capacity of the lungs
was made by John Hutchinson who attempted to establish normal
standards and described the variations in pathological conditions in
1846. The subject received attention from clinicians for several
decades but then fell into relative obscurity and interest in it has only
recently been revived. New and improved normal standards have
been established by Dreyer and by West, both of whom demonstrated
that vital capacity has a close relation to body surface area.

As a clinical test the determination of the vital capacity of the
lungs gives information as to the possible extent of the movements of
the lungs and therefore as to one aspect of the respiratory mechanism.
It is a functional test which tells of any decrease in the ability of the
lungs to expand or collapse. Abnormal changes in the vital capacity
are not of specific diagnostic value but they indicate a disturbance of
function which must be explained by other clinical findings.

In relation to disease, the most comprehensive studies have been
made (1) in pulmonary tuberculosis, in which the vital capacity has
been found to vary closely with the clinical condition and (2) in
heart disease.

Observations at the Peter Bent Brigham Hospital have shown
that in cardiac cases the development of dyspnoea is associated with a
decrease in the vital capacity of the lungs and that the relation is,
roughly speaking, quantitative. The vital capacity thus serves as an
index of the tendency to dyspnoea and indirectly as an index of the
clinical condition of the patient.

Recent experimental work by Drinker, Peabody and Blumgart
makes it probable that the low vital capacity in early cases of heart
disease is due to engorgement of the pulmonary vessels.

The vital capacity test, therefore, often gives information as to
the functional condition of the pulmonary circulation which cannot be
obtained in any other way, since changes in the vital capacity may
precede the development of physical signs.
Subject:—"Methods of Visualizing Modern Health Ideas."

Dr. Peter illustrated and demonstrated his ideas with the assistance of many theatrical devices and stage paraphernalia. The demonstration was given as an example of the kind of work carried on by the Council of Health Education all over China. Health campaigns are organized and carried through only at the request of local governmental authorities. There is considerable preliminary advertisement, parades are organized and great numbers of meetings are held in which the advantages and necessity of public health are demonstrated in the most striking way that can be devised to appeal to the Chinese mind.

The weak, sickly, poorly nourished, disease bearing individual is represented by a smoky, dirty oil lamp while the strong, healthy, bright, active individual is represented by a bright, clean oil lamp. The contrast is brought out by presenting the two lamps to the view of the audience.

China's load of diseases is represented by a man coming into the platform with a great bundle on his back, filled with great blocks of wood, each one representing a disease. Other nations have loads but they are considerably lighter.

The death rates of the various nations are shown by square plates hanging in a row from the ceiling, and China which has 40 per 1,000 is contrasted with the other nations.

The relative population of various nations is shown by little tin men which, by the manipulation of levers, jump up from beneath the surface of a table. Per square li (approximately 1/3 of a mile) where Germany is 32, England 40, Belgium 73, China is only 11. China could support three times her present population. She is not over populated but the high death rate makes her weak.

Disease is the weakest link in the chain of national power and with one weak link the whole chain is weak. This is easily demonstrated by the means of a chain. When the health link is made a strong one, the power of the nation is shown to be great.

The ignorance of the Chinese in the anatomy of the human body is emphasized by the presentation of a model of the body, life-size, with removable parts, which are explained in detail according to the nature of the audience. Then follows a full statement as to the purpose and place of medical schools, hospitals, nurses training schools and general health education among the people.
The necessity for co-operation of all classes of society is demonstrated by the use of a large wheel inside of which the five classes of Chinese society, scholar, farmer, laborer, merchant and soldier, work at their own wheels. By working together they move the whole wheel which represents national health and strength.

After this demonstration health exhibits are shown and a definite program for the community is presented.

Dr. R. T. Leiper of the London School of Tropical Medicine.
Subject:—"PROBLEMS OF PARASITOLOGY IN THE ORIENT."

Dr. A. B. Macallum of McGill University.
Subject:—"BIOCHEMISTRY IN RETROSPECT AND PROSPECT."

Biochemistry, briefly defined, is the chemistry of living matter and all of its products, normal and pathological which are of the class known as organic. Its province is a large one. It touches the fields of Biology, Physics, Organic and Physical Chemistry. The demonstration of the principles of the Conservation of Matter and Energy and their application to the human body has given it a firm foundation.

The period from 1868-1885 mark the time when biochemistry began to assert itself as a distinct science. During that time Hoppe-Seyler in Strassburg was its chief exponent. Miescher, who discovered nuclein, Flemming who demonstrated mitosis, Langley who showed that pepic glands produced the ferment of pepsin and Heidenhain who observed the zymozen granules in pancreatic cells, followed and made the foundations of the science still more strong. Later Van't Hoff and Arrhenims advanced theories on osmosis, diffusion, absorption, secretion, catalysis including ferment action and many other vital phenomena.

Emil Fischer in 1893 gave a new impetus to research by his study of the composition of proteins and his discovery of the aminoacids. This work was paralleled by studies by Levene and Jones on the molecular structure of nucleins and nucleic acid.

This work brought great numbers of research workers into the field and in the last fifteen years the literature on biochemistry has been enormous. In 1920 more than 4,000 papers appeared in biochemical journals alone.

The future of biochemistry is of the greatest promise. In the main, the developments during the next thirty years will follow out to conclusions, the subjects of research to-day. Among these are those involving general nutrition in health and disease, for instance the
fate of aminoacids in digestion, the transformation of the proteins within the body, the enzyme action of tissue cells, the metabolism of fat and carbohydrates, the nature of vitamines, the chemical composition of internal secretions, the chemistry of bacteria and the immune substances which the body produces against them, the chemistry of the intestinal mucosa and the microchemistry of the cell. The greatest advance in medicine of the next two decades will be based on the investigation of the chemistry of the intestinal mucosa which is probably the greatest gateway to disease in the body. The microchemistry of the cell will involve an interest wider than medicine, a profounder knowledge of cellular chemical physical activity will give not only a deeper insight into disease but into life itself.

Dr. Florence R. Sabin of Johns Hopkins University.

Subject:—"The Origin of Blood-cells."

The origin of blood-vessels and of the blood-cells can be made out in a study of the living chick blastoderm, by the method of tissue culture. Chicks of the second to the fourth day of incubation can be mounted on a cover slip in a hanging drop preparation and beyond this stage the yolk sac alone can be so mounted. The studies are made in the zone of the area pellucida which can be analyzed with oil immersion lens. The preparations are mounted in Locke-Lewis solution (Locke solution plus 20% chicken bouillon) to which neutral red in the strength of 1 to 10,000 has been added and are studied in a warm box, with a fairly constant temperature for about five hours.

In these specimens it can be made out that blood-vessels begin by a differentiation of a new type of cell, the angioblast or vaso-formative cell. These cells come from mesoderm and have a basophilic, azurophilic cytoplasm. As soon as these cells divide, they form syncitial masses which soon make a plexus by the process of sprouting. Blood-plasma is then formed by a liquefaction of the center of the mass, the cells on the edge forming endothelium.

Red cells come either directly from angioblasts or, if the center of the mass has entirely liquefied, from the subsequent division of the endothelial walls of the vessels. The earliest red cells, or megaloblasts have an azurophilic cytoplasm common to all young blood-cells, and a very massive granulation, stainable vitally in neutral red and brilliant cresyl blue. The well known reticular forms of red cells discovered by Pappenheim and Israel are a later stage of this substance. This vitally stainable substance at first fills the cell, then it is reduced to a dense rosette around the nucleus, then to the...
reticular form, and finally to a few granules in each cell. These stages can be definitely related to the age of the embryo. Both the reticular substance and the basophilic cytoplasm decrease as the hemoglobin develops.

The white cells begin on the third day. In these studies it has proved that there are three groups of white cells, the monocytes or mononuclear cells, the leucocytes or granular forms and the lymphocytes. The monocytes are the first to appear, since an occasional one has been seen on the second day. On the third day, the endothelium of the capillaries and veins becomes reduplicated in many places. Then an occasional cell of the inner row differentiates into a monocyte, by enlarging and developing the neutral red granules and vacuoles characteristic of the transitional cell of Ehrlich. The surface of the cell develops a motile film of cytoplasm with a highly refractile filament in the center which serve the purpose of keeping the fluid around the cell in motion. Such a cell then becomes free as a monocyte. They occasionally have a red blood-cell in the vacuole. They move extremely slowly.

At the same time much larger masses of similar cells develop from the outer row of the endothelium and become free as the clasmatocytes of the connective tissues. These cells are the mononuclear cells of the tissues, the same as the histiocytes of Aschoff and Kiyono or the endothelial leucocytes of Mallory. Thus the monocytes of the blood and the clasmatocytes of the tissues are identical both being derived from endothelium. Their especial physiological characteristic is that they phagocytize and store particulate matter as has been demonstrated in the experiments of Bouffard, Goldmanu and Evans with injections of the benzidine dyes. Subsequently they give up this insoluble material for gradual excretion by the kidneys. These experiments only suggest the power of these cells to phagocytize soluble debris. It thus appears that the endothelial cell has a high degree of the power of phagocytosis and gives rise to free cells, both into the tissues as clasmatocytes and into the blood stream as monocytes which also have this same power.

On the third day, the leucocytes begin. The first leucocyte of the chick has pseudo eosinophilic granules, corresponding with the neutrophilic granules of human blood-cells. This cell differentiates from mesenchyme, outside of the vessels, and is a strain quite distinct from the angioblastic strain. Its characteristics are that it develops a high degree of motility and a specific granulation. The granules always come in a crescent around the centrosome. The nucleus is
excentric, the centrosome in the center of the cell, and the crescent of granules opposite the nucleus. The polymorphic form of the nucleus begins early and always on the side of the centrosome. As soon as these cells have a few granules, they move directly toward the vessels, and enter between their endothelial cells. Their first motion is slow and only later do they show a true amoeboid activity with fluid cytoplasm and marked streaming of the granules. The eosinophilic leucocyte develop a little later, the basophilic much later.

Typical lymphocytes appear in the circulation on the fourth day. Since they have not been seen to differentiate in the wall of the yolk sac, it may be that they arise only within the embryo.

From these studies it appears that there are three strains of white blood-cells each of which is represented by a very large group of cells in the connective tissues. Of the first strain, the monocytes are identical with the mononuclear cells or clasmocytes of the fixed tissues. They arise from endothelium. The function of this group is especially related to the power of phagocytizing and storing foreign particles. The second strain or the leucocytes, are not derived from endothelium, but from mesenchyme. They arise outside the vessels and wander in. Of this group the basophilic cells remain outside the vessels. They develop amoeboid motility. They have the power of phagocytosis but seem to be too fragile a cell for the storing of foreign material. The view of Ehrlich that their functions are related to their specific granulations is still held. The lymphocytes are the last blood-cell to appear. They are almost certainly of extra vascular origin and most of them never enter the vessels. Through the work of J. B. Murphy it is becoming clear that their functions are related to immunity against certain types of tumors. They are especially sensitive to X-rays and to the emanation of radium.

Dr. S. S. Goldwater, Director of Mt. Sinai Hospital, New York.

Subject:—‘‘The Search for the Ideal in Hospital Organization.’’

Four hundred years ago Sir Thomas More pictured in his ‘‘Utopia’’ an ideal hospital in a manner which has not been surpassed by any writer on hospitals, lay or professional, since that time. It has taken centuries of unflagging effort to lift hospitals to a position of safety and desirability. Even 60 years ago it was still a question whether the establishment of a hospital in such countries as England and France was an event fought with good or evil, and in the United States even in 1895 Richard Wood, a trustee of the hospital of the...
University of Penna, is quoted as saying in an address,—"Among the uninstructed"—there is still "a horror of the hospital."

Now progressive hospital superintendents not only concern themselves with problems of internal institutional management but also guard lest the hospital fail to measure up to the health needs of the community.

The three great types of hospitals in the modern world are: the Public Hospital, supported wholly by public funds, the Private non-sectarian Hospital and the Sectarian Hospital. The voluntary Hospitals of England correspond to the Sectarian Hospitals of the United States. The tendency of the voluntary and Sectarian Hospitals to focus their attention on certain classes of the sick to the exclusion of others has caused the public hospitals to fill up the gaps in the voluntary system. The Public Hospital accepts the responsibility for medical relief of society as a whole and it is supported at least potentially by all the resources of the state. State medical service in its narrowest application is limited to the care of persons suffering from communicable disease. In its widest application it not only includes every useful variety of hospital but provides medical treatment in the school and in the work shop, and may even provide constant oversight of the health of citizens.

A notable advance has been made toward hospital efficiency first by the training of special types of practitioners, laboratory workers and research workers, and then by the co-ordination of the activities of the several skilled groups.

A hospital in which many physicians are employed, cannot function smoothly in the absence of a sound physical basis for its operation, but it is evident that the physical arrangement of a hospital planned and erected at a given moment in the history of medicine can do no more than meet the requirements of that moment. The most important single principle in hospital planning is undoubtedly the principle of flexibility which means that even after it is built, it must be able to expand as social changes, community growth and scientific discovery make new demands upon it. Other important principles are unity, diversity, hygiene and economy. By unity is meant that all the departments must work in harmony. By diversity is meant that the sum total of the functions of all the departments, must be very great and cover wide fields of activity. By hygiene is meant proper orientation of wards, sun exposures, effective ventilation, proper dormitories for the doctors and employees; and also features which aid in the prevention of disease such as receiving wards and
isolation wards. By economy is meant that every cubic foot of construction must give maximum prolonged service.

Dr. G. E. de Schweinitz of the University of Pennsylvania.

Subject:—“Concerning the Evolution of Ocular Symptoms of Pituitary Body Disorders.”

“Dr. de Schweinitz expressed his high appreciation and that of his colleagues from the United States of America, in that they, owing to the courtesy of Trustees of the Peking Union Medical College and the kind invitation from the Rockefeller Foundation, were privileged to visit the beautiful buildings of this Institution; to become acquainted with the work which had been done and which is to follow; to observe the splendid opportunities afforded to those who aspire to a medical education of the highest rank, and to be able to follow lines of research which shall lead to the prevention of disease and the advancement of public health.

“Quoting his own experience in the University of Pennsylvania where he had had opportunity of taking part in the instructions of young men from China, he spoke in admiration of their outstanding mental capacity, their industry, their intelligence and their insistent effort to achieve success.

“He conveyed from the University of Pennsylvania, where he is Professor of Ophthalmology, to the authorities of the Peking Union Medical College greetings and congratulations, and representing the Trustees of the American Medical Association as its President-Elect extended their salutations and compliments.

“He congratulated the staff of the Peking Union Medical College on the work its members were doing and gloriéd with them in the opportunities which were here presented for extending the beneficient influences of Medical Education and Medical Practice in China.

“As a scientific contribution to the programme, Dr. de Schweinitz described the visual interpretations of pituitary body disease, tracing from its earliest manifestation the gradually increasing degradation of vision and the fields of vision.

“He dwelt particularly upon the early symptoms of this affection, in its various types in the hope that prompt discovery of the affection might lead to therapeutic measures which in the early stage were more effective than they would be if there was delay in their application.

“The visual and visual field changes were illustrated with a large series of diagrams projected upon a screen and with a few water colors showing changes in the optic disk.
He referred but only very briefly, to the surgical procedures especially as taught and practised by Dr. Harvey Cushing of Harvard and Dr. Chas. H. Frazier of the University of Pennsylvania, and other neurological surgeons. He also mentioned the use of radium in the management of the disease.

"He described the treatment of hypophysial diseases of certain types be means of the administration of extracts of the thyroid and pituitary glands, and reported favorable results in three cases, usually, however, operation was required.

He urged upon the oculists as well as the internists the importance of early recognition of the disease and the necessity of employing all methods of diagnosis—ocular examinations, the X-ray and general investigation in all patients whose symptoms suggested the possibility of the beginning of this disease."

Dr. E. H. Hume, Dean of the Hunan-Yale Medical College.

Subject:—"MEDICAL EDUCATION IN CHINA,—A SURVEY AND A FORECAST."

An Englishman, Thomas Richardson Colledge, founded the first dispensaries in China, first in Macao in 1827 and the following year in Canton. In 1834 Peter Parker, a graduate of Yale and recognized as the first medical missionary to China, joined him and together they founded the Canton Medical Missionary Society out of which developed the first Western medical teaching in China.

Forty years ago the Viceroy Li Hung Chang, grateful to Dr. Mackenzie for saving the life of Lady Li, provided premises in Tientsin for medical school work and aided in its support. This was the earliest school of medicine among the group that is functioning to-day. This is now the Naval Medical College of Tientsin.

There are now 24 medical colleges in China. Eleven are Chinese institutions, eleven under foreign control, two are co-operatively managed by Chinese and foreigners. The total number of medical students in China in regular colleges is a little over 2,000, of which 95 are women. The faculties vary from four at Foochow to 43 at the Peking Union Medical College. The budgets vary from $2,500 Mex. at Hangchow to $800,000 Mex. last year for the Peking Union Medical College. The tuition varies from nothing, in army and navy medical schools to $300 silver at Hongkou. Board and room cost from $30 a year up and yet even these moderate fees keep many able candidates from registering. The total number of graduates from these colleges is not over 3,000. Adding to this those
who have graduated from colleges not now functioning and those receiving direct instruction from foreign doctors, the total number of those who have received training in Western medicine in some measure is not over 4,500. Of these very few are really fully qualified.

The chief handicap to the proper functioning of these schools is lack of financial foundation. The only foreign institutions with a really adequate budget are the Peking Union Medical College, the South Manchurian College at Mukden, and the Medical School of Hongkong University. The Chinese schools are subject to every passing storm of revolution and intrigue and have great difficulty in securing funds.

As to standards, only six require thorough laboratory preparation in biology, chemistry and physics. The Chinese colleges all admit middle school graduates and the course is four years. Of the foreign schools ten have a five year course. Laboratories are in general few and poorly equipped. Lectures and recitations are the chief means of teaching. The teachers are on the whole a strong group. There are many F. R. C. S.'s and F. A. C. S.'s and every college has teachers who would rise to high position at home. In the majority of Chinese colleges, the teaching staff consists largely of men trained in Japan in the poorer medical schools rather than in the universities.

In China there is one medical school for every 15 million inhabitants, one medical student for every 175,000 of the population, one modern practicing physician to every 120,000 of the population. In America, there is one medical school for every 1 ½ million inhabitants, one medical student for every 8,000 of the population, and one modern practicing physician for every 720 of the population.

What is the outlook for the future?

At present the Chinese government has a program to extend medical education to every province. Official and public prejudice against dissection is slowly lessening. Better hospitals are being built and are being supported locally more and more. A Chinese scientific terminology is being developed. Medical associations both local and national are being founded.

The fundamental issues in medical education in China to-day are 1. The arousing of the realization of the distressing lack of trained men and of proper facilities for the care of the sick. 2. Every agency that is sending doctors to China must resolutely set apart more teachers for the medical colleges and the forces must be concentrated in a few strong points rather than be weakened by division and dissemination.
3. Standards must be high. There must be state control of medical education and practice. At present the quack and charlatan have no restraint in their practice. In the medical colleges the students must be taught the ethics of the profession and the graduate must be aided in his efforts to live up to them. He must be urged to keep up to date with the current literature and the medical schools themselves must be fountain heads of inspiration.

In the Peking Union Medical College is found one of the most perfectly equipped and efficiently manned medical colleges in the world. Here not only general medical subjects must be investigated but specifically Chinese problems must be worked out.

1. Inquiry must be made into the curriculum needed by the particular type of mind of the Chinese and the particular types of disease with which he has to deal. Ophthalmology, Parasitology, Pharmacology with the great field of Chinese medicines to be examined and Dietetics with its study of Chinese foods, may all need more emphasis than they did at home.

2. The language medium of instruction must be carefully determined.

3. The co-operation with Japanese and other foreign medical centers must be cordial and inspiring.

4. The best method of training technical workers must be thought out.

5. The best program for pre-medical instruction must be devised.

6. The success of medical education for women will have ample opportunity of demonstration.

7. The methods of securing pupils to enter the study of medicine must be worked out.

The future is in the hands of the Chinese but they must receive ample support from all foreigners in establishing a national medical policy which will stand on the highest possible plane of efficiency and morality. President Vincent has well said that "Scientific knowledge and technical skill must be dominated by idealistic loyalty to the highest and best influences of human life; and that idealism that is most enduring, that can be most counted on, that is least likely to fail is an idealism based upon a deep and abiding religious conviction."
Subject:—"Plague in the Orient with Special Reference to the Manchurian Outbreaks."

Since the great pandemic of 1894 the epidemic areas have increased in number and extent all over the Orient. In China no reliable statistics can be obtained except in Shanghai and Manchuria where public health commissions are active. In Shanghai between the years 1910-1919 only 61 human cases were reported.

The outbreaks in Manchuria occurred in 1910-11, 1917-18, and in 1920-21 when 60,000, 16,000 and 9,000 died respectively. The disease in Manchuria is clinically and epidemiologically different from the plague elsewhere, the cases being almost exclusively of the pulmonary and septicemic type. The rôle played by the rat and the rat flea is negligible beyond the fact that the early cases are probably secondary manifestations in the lungs of the bubonic infection. It is quite possible that the Mongolian Marmot is the real precursor of epidemics of plague pneumonia.

The first epidemic found China absolutely unprepared. Until the Plague Commission was appointed there were no hospitals and no sanitary staff, there was no antiplague authority and no co-operation by the railroads operating in those areas. In the last epidemic hospitals and sanitary staffs were ready, they had authority and they had the co-operation of the railroads but the ignorance and lack of co-operation of the people prevented perfect control. At Hailar where the first cases were reported, nine contacts were liberated by the local soldiers and this led to the general epidemic.

Some of the prominent symptoms are stated as follows: "After an incubation period of 2-6 days—(commonly 3) the patient feels drowsy and dizzy, with headache and lack of appetite. He is chilly and develops a temperature of 102-103 F. and a fast soft pulse. This condition lasts for 24 hours before cough sets in, which is at first dry but quickly produces liquid frothy sputum tinged with bright red blood." The 24 hour period of fever before cough sets in, is the non-infective period and if isolation is made at that time there is no danger of spread.

The chance discovery of B. Pestis in the sputum of a man who did not develop the disease, led to the examination of a series of cases in an effort to find carriers. One other case was found in 24 examinations.
Experiments with guinea-pigs and rabbits seemed to indicate that the sick room itself is not particularly infective although it is so to some extent. The same thing was observed clinically with regard to railway cars.

Experiments demonstrated that for disinfecting purposes, sulphur fumes were more effective than formalin gas on plague sputum but the latter was effective for clothing. 9% alcohol was more effective than any other antiseptic for direct sterilization of hands and gloves.

Experiments upon Mongolian marmots proved that the disease could be produced by spraying the respiratory passages with B. Pestis and then the disease could be transferred to other marmots by simple contact. There was some evidence that it could exist in a chronic form in these marmots.

The epidemic died out for one of two reasons: either the organism became less virulent as warm weather approached or the organism became more virulent and killed the patients by septicemia before pulmonary symptoms could develop and make them infective to others. The latter theory was borne out by virulence tests and by autopsies which showed more of the septicemic type in the later stages of the epidemic.

As to treatment—nothing avails. There is no authentic case on record where any serum or medicine has saved life.

Dr. A. de Waart, Director of the Government Medical School in Batavia.

Subject:—"Medical Education in the Dutch Indies."

Dr. George E. Vincent, President of the Rockefeller Foundation. Subject:—"An Adventure in Public Health."

Dr. Tuffier, Paris.

Subject.—"Osteomyelitis."

Monsieur Tuffier developed three points in his address.

1. The conditions of pathologic physiology in bone.

2. The conditions of pathologic anatomy.

3. The treatment of osteomyelitis.

The principal characteristic of infections of bone depend upon the structure of the tissue. Its vitality is low, its blood supply relatively poor, the nutritive canals are very narrow and inelastic, the ground substance is practically impermeable and its metabolism is very slow.
These facts explain the frequency of necrosis, the changes in the structure of the bone and the difficulty of therapy in these infections, which are hard to reach and whose real extent is impossible to discover.

The infection is of local origin after traumata, operations or infections. It is of general origin in the septicemias of staphylococcus, streptococcus or typhoid infections. The only remarkable point is that certain infective agents only rarely localize in bone while certain forms of staphylococcus osteomyelitis last during the whole life of the individual.

The macroscopic pathologic anatomy is easily seen in the bony changes in infected amputation stumps. Mr. Tuffier projected many lantern slides of cases of this kind in wounded soldiers. They demonstrated terminal osteomyelitis and lateral osteomyelitis (extending up the shaft for a considerable distance from the seat of infection). These two forms must not be confused with the exostoses arising from the periosteum which haven’t the same form nor the same location. The former are infections, the latter are faults of the operator.

Osteomyelitis is characterized by a complete irregularity of bony growth. It is neither compact tissue nor soft tissue but a production of spongy bony tissue in the medullary canal, under the periosteum and even outside it. This osteitis is several centimeters in length and its limits are often irregular. In the lateral form a newly formed bony cylinder extends far up under the periosteum. In certain points rarifying osteitis is complicated by necrosis of which one can follow the formation.

The treatment of osteomyelitis is preventive and curative, surgical and medical. In traumatic osteomyelitis, operative asepsis, and in amputation, making the flap sufficiently long to completely cover the bone, are the preventive measures. Several lantern slides showed in amputations of the leg the fibula too long and hindering this reunion. The same for the amputation of the thigh. It is necessary to make traction on the soft parts.

The cure of spontaneous acute osteomyelitis in young persons is difficult. Surgical treatment by immediate and extensive resection leads to relapses.

"Our attempts at auto-vaccination or stock vaccination with staphylococcus, have given us very inconstant results. We prefer at present medical treatment with 'proteinic shock' but even here, favorable results, while more frequent, are not constant. Some cases have even been cured without surgical intervention."
The China Medical Journal.

In chronic osteomyelitis, disinfection of the wound with Dakin Solution is long and difficult and exposed to frequent check, for the subjacent infection of the bone cannot be reached and the organisms spread to variable distances in the wound. Curettage and the resection of the diaphysis as far up as the medullary canal makes liable a reinfection. The transformation of the suppurating cavity into a large flat surface is the best method. If it is aseptic, a graft of living muscle with healing by primary intention is often efficacious.

In cases of osteomyelitis of amputation stumps one ought only to remove a minimum of the infected tissue and not touch the distant lateral osteitis which heals by itself.

In spite of all these methods, osteomyelitis remains the most terrible, the most tenacious and the most rebellious of surgical affections. One must reckon its duration by years.

Dr. Victor G. Heiser of the International Health Board of the Rockefeller Foundation.

Subject.—"Hookworm Control as a Promoter of Public Health Agencies."

One hundred thousand persons die each year in the United States because they swallow some portion of the discharges of other people. One hundred thousand die each year in the Orient from beri-beri. Thousands upon thousands die annually in India from snake bites. The deaths are only a part of the huge damage done and for every person who dies there are from three to ten who are ill for days or weeks and often undergo some form of acute suffering.

Modern medical knowledge has long since discovered the means for controlling diseases due to the above causes, but administrative science or the art of application has not yet brought relief to a suffering world. It was largely with the hope that some contribution to the application of knowledge might be made that the International Health Board of the Rockefeller Foundation was organized. It became clear that all too frequently laws were enacted for which the public was not ready and for which it had not been educated. Sometimes a group of intelligent, public-spirited medical men and well-informed laymen would draft legislation for the correction of obvious mistakes in public health methods.

Probably the first contact which the public had with laws of this kind was some form of a prohibition. It is obvious, then, that laws that come into existence under such circumstances seldom had popular support. Legislation should come upon the demand of the people
rather than in spite of them. It was believed that if some single
disease could be chosen which was widespread throughout the world
and which lent itself to practical demonstration, that the education of
the public could be most easily accomplished. After considerable
search it was decided that hookworm infection might serve the
purpose of education. In order to test the idea, a million dollars was
given to try the theory in the Southern States of America. When
this matter was proposed to the Southern people it can be truthfully
said that an idea seldom received a more hostile reception, but by
educational measures and patience, public opposition was overcome
and when it began to be appreciated that real benefits to the individual
could be had by the application of hookworm measures, the public
was inclined to listen more and more. Work was begun primarily
among school children, but when the parents noticed how greatly
they improved in their physical condition and that in many instances
their mentality improved, acute interest soon became manifest. Very
often the parents could be reached through the child and they began
to ask for examination and were ready to take treatment if found to
be infected with hookworms.

Having seen the benefits following the treatment for hookworm
diseases, a large part of the public was ready to venture further into
the public health field and almost for the first time in the history of
the United States, popular demand arose for spending part of the
revenues for the creation of health services and the employment of
competent health officers. When measures against hookworm disease
were instituted, the entire Southern States were spending approxi-
mately $250,000 per annum for health work. In the last ten years
the public interest has increased to such an extent that now over
$2,500,000 are being spent upon the direct demand of the people. In
other words, public health in the Southern States is annually being
provided in the true democratic manner.

The success in America led to the creation of the International
Health Board and the extension of similar methods to countries all
over the world wherever opportunity offered.

The International Health Board of course undertakes many
activities in addition to assisting in the control of hookworm disease.
Frequently it happens that a scientific method for controlling a disease
is available, but considerable experimenting may be necessary in
order to arrive at an effective and economical and administrative
method. Under those circumstances it often happens that the Inter-
national Health Board may be of service in undertaking the experi-
ments and when an effective method has been discovered it can then be taken over by the official health agency.

The control of malarial fever is a conspicuous example. It might now be said that in the majority of the communities in the Southern States malaria can be brought under control at an annual cost of a dollar per capita, and frequently with a maintenance cost of 50 cents per annum thereafter.

It is frequently asked why something is not done toward attempting the application of health measures to China. Up to the present time it has not been possible to formulate a plan which offers reasonable hope of being permanently useful. If health measures are to succeed, there must be an efficient official central health agency. The problem now is how that is to be created. The hope for the future lies largely in the well-trained young Chinese doctors.

Dr. Sahachiro Hata, the Kitasato Institute for Infectious Diseases of Tokyo.

Subject.—"The Present Status and the Future Problems of Chemotherapy."

The first requisite in experimental work in chemotherapy is to know the nature of pathogenic viri and to be able to produce the disease in animals.

The discovery of the therapeutic action of salvarsan was the real beginning of the school of modern chemotherapy.

Recent improvements have been made in salvarsan. Neosalvarsan has been produced, which has greater facility of application. Work has also been done independently by Kolle and Hata on the preparation of metallic salts of salvarsan which have an advantage over salvarsan in their greater stability.

Clinically there has recently been a wide increase in the range of salvarsan. In almost all forms of spirochetosis, in trypanosomiasis and in Oriental sore it is very effective. It is partially effective but not curative in malaria and amoebic dysentery. Of the bacterial diseases anthrax is the only disease that can be cured.

The attempts of Koch, Behring and others to produce internal disinfection by the administration of drugs in bacterial infections proved futile but Morganroth has recently discovered that quinine affects the internal disinfection of pneumococcal infection and both Japanese and German observers have discovered that salvarsan will cure anthrax in man. This has stimulated further interest along the line of bacterial disease.
In the study of protozoa, which cannot be artificially cultivated, in vitro experiments are of little value. Also for protozoa certain drugs which have no effect in vitro have excellent effects in vivo and animal experimentation alone is of service.

In bacterial infections, however, in vitro experiments are of value because bacteria may be cultivated artificially after contact with chemicals and the presence of the specific chemoceptor may thus be established.

In vitro experiments the media is very important. Drugs which are to be efficacious in internal disinfection must act as effectively in serum as in saline.

The following drugs have been found more or less effective in bacterial infections.

1. Quinine and its derivatives. Morganroth has shown that hydrochinin and optochin is a specific remedy for pneumococcal infection. Eukupin and vusin which are also effective against pneumococci are still more effective against streptococci and staphylococci. There have been many reports of the success of quinine compounds in influenza.

2. Acridin dyes. Neufeld of the Koch Institute has found that acriflavine has a strong sterilizing action on pneumococcus and chicken cholera bacillus. Proflavin is even more powerful and both are more active in the presence of serum than in saline. Langer has found that Flavicid is active against staphylococci and against B. Diph. Acriflavine has been used as an internal disinfectant against meningococcus, pneumococcus, streptococcus B. anthrocis and micrococcus melitensis and in all forms of septicemia.

3. The salts of para-amido auro-phenol carbonic acid have been used in Germany and France with excellent results in cases of surgical tuberculosis of bones and joints but do not touch internal tuberculosis.

4. Recently Dean of Hawaii has prepared an ethylester of the fatty acid of gynocardic oil which is having excellent results in the cases of leprosy.

5. The brilliant work by Wasserman on eosin selenin, the so-called "tumour affine" substances by Neuberg and the use of cholin as a chemical imitation of the action of Röentzen Rays originated by Wemer and Scesci give promise of a great future for chemotherapy in the treatment of malignant tumors.
All science is advanced by observation and experiment. In the field of medicine the dividing line between the observational period and the experimental period is rather sharply fixed in the year 1600. Experiment is, of course, observation; it is observation under controlled conditions deliberately set up by the experiment. Gilbert and Harvey ushered in the experimental period. Before their time medicine was almost purely observational, beginning with Hippocrates, whose name typifies the observation of disease unhampered by speculation and theory. His observations and his books on epidemics are valuable even to this day.

Most writers of antiquity had little or no conception of the conveyance of disease by contagion from person to person. This doctrine was practically first brought to men's minds by the great epidemic of the Middle Ages—the "Black Death," which was probably the pneumonic plague. The work of Fracastorius in the early part of the 16th century crystallized this doctrine. He demonstrated that disease can be spread by direct contact and by very indirect contact, and was not far from the conception that disease is a living thing.

The observational period advanced rapidly during the time of the extensive study of human anatomy, which reached its climax with Vesalius in the middle of the 16th century. From that time on, human anatomy came to occupy a very important place in medical education. Chinese medicine of the present day may be compared with Western medicine of the 16th century before the time of Vesalius. It is essentially observational, formulistic and speculative medicine. It has not had the period of dissection and has not entered into the experimental period.

The experimental period in Western medicine began essentially with Harvey's discovery of the circulation of the blood, and there is very little that we know to-day in the science of physiology which is not dependent in some phase at least upon experiments which have been carried out on living animals. Practical medicine, however, the real knowledge of disease itself, remained practically on an observational basis until the application of pathological anatomy, toward the end of the 18th century, when the systematic prosecution of post-mortem examinations became really established in the mind of the medical profession. This was immediately followed by and correlated with more exact methods of physical diagnosis.
The next big step forward was the establishment of laboratories in the third decade of the 19th century. This development gave Germany its great prominence and prestige. Then came about the penetration into the causes of disease, and the era in which we now live is characterized by a recognition of the importance of understanding these causes.

The rewards which attract men into fields of scientific medicine are many. Foremost among them are intellectual satisfaction and the appreciation of the community. This latter reward must be fostered and cultivated in order that as large a number as possible of men who possess a real gift for advancing knowledge and a real gift for discovery may be led to enter the field. Young men of to-day should know the lives of the great men of the past, especially Harvey and Pasteur, in order to receive their inspiration and follow as closely as possible their lead.

NOTES ON OTOLOGY.

W. S. T. Neville, M.D.

In view of the fact that we all have to treat discharging ears, the Observations on the Management of Tuborrhœa by H. I. Lillie of the Mayo Clinic in April 1920 seem to be most helpful. It is not generally recognized that the nose blowing habit and nasal pathology, other than suppurative processes, are causative factors in the continuation of tuborrhœa in the adult. By tuborrhœa is meant the tubal type of discharging ear, i.e., an anterior perforation filled with mucopurulent secretion, frequently showing air bubbles without an appreciable odour. Occasionally a low grade involvement of the middle ear is found. It is the rule that suppurative processes within the middle ear subside under well-directed treatment when the infection in the tube is removed.

The history of such a case is that the discharge commences during childhood, after which it is more or less constant, with occasionally quiescent periods, but the discharge is always greatly increased if the patient has a "cold in the head" or if the weather changes and affects the nasal membranes.

The increased secretion coincident with acute rhinitis causes the patient to blow the nose more frequently and usually with great force, and if the nostril is not cleared easily, this completes the vicious cycle.
Later, as the nasal condition resolves, the ear discharge becomes less.

Of 26 cases the initial causative factors in the process were as follows:

- Scarlet fever: 8
- Colds in the head: 6
- Measles: 3
- Swimming: 2
- Operation on the nose: 1
- Unknown: 6

The nose and throat findings were:

- Septal deflection with obstruction (varying 15 amounts): 6
- Pharyngitis, granular: 6
- Hypertrophic rhinitis: 7
- Infected tonsils: 6
- Previous tonsillectomy: 6
- Previous turbinectomy: 1
- Condition of nose negative: 3

Thus we see no patient had any suppurative process such as sinusitis. The septal deflection was the finding, which in these cases proved to be pathologic.

Few of the patients knew that they had any unusual condition within the nose. Adenoids were not discovered in any case.

**TREATMENT FOR THESE CASES.**

- Correction of the nose blowing habit: 8
- Correction of the nose blowing habit and local treatment: 3
- Correction of the nose blowing habit and operation on the septum: 4
- Correction of the nose blowing habit, operation on the septum and local treatment: 5
- Correction of the nose blowing habit, tonsillectomy and local treatment: 1
- Correction of the nose blowing habit, operation on septum, Gankaner procedure and local treatment: 1
- Correction of the nose blowing habit, operation on septum, Gankaner procedure and local treatment: 1
- Correction of the nose blowing habit, operation on septum, Gankaner procedure and radical operation: 1
- Correction of the nose blowing habit, local treatment, Gankaner procedure and radical operation: 1

By correction of the nose blowing habit is meant instruction of the patient in blowing the nose without closing either nostril. In
eight patients who have learned to blow the nose properly, the process became dry without other treatment. One of these patients had been advised to have a radical mastoid operation. Local treatment consisted in mechanically removing the secretion with cotton application on suction; application of fluids was avoided if possible. This was followed by drying the cavity with air, instilling boric acid and alcohol drops solution and again drying with air. We note that there were thirteen operations on the septum, one-half the number of cases of the group. The ear becomes dry in as short as five days in patients who blow their nose properly and whose nasal obstruction on the same side as the involved ear is removed.

Mr. Rockefeller's Address—Dedication of the Peking Union Medical College.

Oliver Wendell Holmes says in his "Autocrat of the Breakfast Table" that every individual is a combination of three persons; first, what he thinks he is; second, what his friends think he is; third, what he really is.

I am here today representing not three, but four personalities. First of all, I have come to China representing my father, who established the Rockefeller Foundation. I am here, secondly, as a representative of the Foundation itself, not inappropriately called my father's child. Thirdly, I represent the China Medical Board, the child of the Foundation, hence the grandchild of my father. And lastly, I am here as a Trustee of the reorganized Peking Union Medical College, the adopted child of the China Medical Board, hence my father's great-grandchild.

It is fortunate for this assembly that I am not particularly interested in genealogy, for otherwise I might insist on your climbing with me through the numerous branches of this family tree.

Speaking first, for my father, and as his representative, may I say how much I wish he were with us that he might himself see and rejoice in what is here being accomplished, and that you might feel the inspiration of his simplicity and greatness of character. But since that cannot be, I am happy to be able to read you a cable message which has just been received from him:

"My highest hopes are centered on the Peking Union Medical College which is about to open its doors. May all who enter, whether
Faculty or Students, be fired with the spirit of service and of sacrifice and may the Institution become an ever-widening influence for the promotion of the physical, mental and spiritual well-being of the Chinese Nation."

On behalf of the China Medical Board, Mr. Greene, the Resident Director, has already spoken.

Therefore, in the few moments at my disposal, as a representative of the Rockefeller Foundation, the grandparent of the baby—an adult infant to be sure—whose rechristening we are here to-day to celebrate, I shall devote myself chiefly to the youngest offspring of this family tree, the Peking Union Medical College, of whose origin, prenatal history, birth and early development I desire to speak briefly.

As my father's interest in human betterment widened, and it came within his power to render service to his fellowmen beyond the boundaries of his own country, his attention was naturally directed to the great Chinese Nation, with its history running back thousands of years; its early achievements in industry; its literature and art, so rich and beautiful; and its population, greater than that of any other nation on earth. Feeling that perhaps by seeking to assist in the establishment of high educational standards the greatest service could be rendered to the Chinese people, my father made possible the sending of a commission from the University of Chicago, in the year 1909, to study the educational conditions of China.

The commission, composed of Dr. Ernest D. Burton, Professor of Theology and Dr. Thomas C. Chamberlin, Professor of Geology, after a thorough study, recommended the establishment at Peking of an educational institution for the teaching of the natural sciences. However, so gigantic seemed the undertaking and so important the avoidance of a false step, that further study and conference were deemed desirable before any move was made. This led to the conclusion that to focus thought and effort on one group of sciences, namely, the medical sciences and their application, was the wiser course to follow. A second commission was therefore sent to China in 1914, consisting of Dr. Harry Pratt Judson, President of the University of Chicago, Dr. F. G. Peabody, of the Medical Faculty of Harvard University; and Mr. Roger S. Greene, at that time Consul-General of the United States at Hankow, now Resident Director in China of the China Medical Board. This group was requested to study the medical needs of China and the opportunities for co-operation in meeting them. The commission returned convinced of the wisdom of the conclusion already reached and recommending the establishment of a
medical school and hospital at Peking and a similar medical centre in Shanghai. Before final action was taken, however, a third commission went out in 1915, composed of Dr. William H. Welch, of the Johns Hopkins University Medical School, Dr. Simon Flexner of the Rockefeller Institute for Medical Research, Dr. Wallace Buttrick, President of the General Education Board, and Dr. Fred Gates, also of the Rockefeller Institute. The report of this commission corroborated the findings of its predecessor and cordially endorsed the programme of establishing the two medical centers previously recommended. Going further, it advised entering into an alliance with the Peking Union Medical College, which had been in operation for several years, and building upon that foundation the medical school proposed for Peking.

Let me pause just here to say that in the light of subsequent events and experience it became clear that the main objects sought could be attained by the development of a medical school in Peking alone.

In the meantime, the Rockefeller Foundation had established the China Medical Board as a subsidiary organization to deal with medical and health questions in China. The China Medical Board therefore entered into a contract for the purchase of the land and buildings of the Peking Union Medical College and the reorganization of its board of trustees. The new board was to consist of thirteen members, each of the organizations which had been associated together in the founding and development of the College to have one representative, namely:

- The Medical Missionary Association of London.
- The London Missionary Society.
- The Board of Foreign Missions of the Presbyterian Church in the United States of America.
- The Board of Foreign Missions of the Methodist Episcopal Church.
- The American Board of Commissioners for Foreign Missions.

The seven remaining trustees to represent the China Medical Board. The contract also contained an agreement on the part of the China Medical Board to build the necessary additional buildings and provide such maintenance funds as in the judgment of the Board might be required until the College should become permanently established and its future should be assured.

The purpose of the China Medical Board in entering into this contract was to develop in China a medical school and hospital of a
standard comparable with that of the leading institutions known to Western civilization. In this contract it was proposed to offer to the Chinese people facilities for acquiring a thorough knowledge of and training in Western scientific medicine.

While it was intended that the College should lay emphasis upon the training of promising men and women for positions as teachers and investigators, it was of course realized that many of its graduates would enter the service of the community as well-equipped physicians and surgeons.

It was also a part of the plan to provide short courses for medical missionaries and Chinese doctors throughout the Chinese Republic that they might be enabled to keep up with the rapid strides made by modern medicine and helped to make of the greatest service the many useful medical enterprises which they were carrying on.

But above all, it was hoped that this new medical center might so commend itself to the Chinese people that it would stimulate them to develop similar institutions in varied parts of China. For the China Medical Board recognized from the outset that only the Chinese Nation itself could cope with a task so colossal as the establishment of modern scientific medical education throughout the Republic and that all Western civilization could do would be to point the way.

There have been purchased for the Peking Union Medical College considerable areas of land and fourteen main buildings and fifty-five residences and auxiliary structures have been built or remodelled, all of which are complete and ready for occupancy. The College is now offering to both men and women students the regular medical courses with its practice work in dispensary and hospital, and a pre-medical course as well. It is also conducting a training school for nurses.

As regards graduate instruction, it is intended that in certain subjects, where the need is great, short courses such as are now being given to medical missionaries and Chinese practitioners will be provided. It is believed, however, that a more valuable service will be rendered by affording opportunities for more prolonged and thorough training of those suitably qualified by receiving them, in necessarily limited numbers, for a stay of months or even a year as volunteer assistants or special workers in the various departments, whereby they become for the time being a part of the organization.

While the primary function of the College, as of every medical school, is educational, opportunities have been provided in its laboratories and the hospital for the prosecution of research in the fundamental medical sciences and the clinical subjects. A medical school
imbued with the scientific spirit and prepared not only to impart but also to advance knowledge, is capable of rendering an inestimable service to China in the influence which it may exert upon the standards and the methods of medical education, in the training of teachers and leaders in the profession and in contributing to the solution of the many problems of disease in this country.

Abundant experience has demonstrated that teachers gifted with the inclination and capacity for productive investigation are able to combine with their duties as teachers the production and the stimulation of research and to gather about them advanced students and special workers whose contributions extend the reputation of teacher, department and school.

A grateful service which the College will be glad incidentally to render to the community through the hospital and dispensary, is the alleviation of suffering. But the number thus reached will of necessity be relatively small, for it must be borne in mind that the hospital is primarily a teaching institution, which while affording the best care for patients, exists, first of all, for instruction and research. Moreover, while the College has not been established to serve the foreign community it will do all possible, within the limits of its primary purpose, to receive serious cases in the hospital, assist private physicians in diagnosis and enter into consultations. Obviously, however, the medical staff cannot, in justice to its first duty of teaching and research, be expected, except in rate and critical cases, to make calls upon patients in Peking or to undertake journeys to distant points. But we are happy in the belief that other hospital facilities now available in Peking and an increasing number of well-trained medical men will be able to give adequate care to foreign as well as Chinese patients.

Toward the realization of the purpose which has animated it from the outset, the China Medical Board has spent in developing the Peking Union Medical College well-nigh twice the sum which the present physical plant and equipment would have cost before the war. Several factors combined to bring about this result. Just as the building programme was well under way, the rate of exchange doubled, which item alone increased the cost of the plant by nearly two millions of dollars gold. Moreover, as a result of the war, freight rates rose so rapidly and the delays in shipping were so great that very considerable extra cost was thereby involved. Then, too, the fact that the China Medical Board had had no previous experience in building in the Orient doubtless somewhat increased the total outlay.
Probably a fair valuation of the physical properties of the College today, including the land, would approach five millions of dollars gold.

In drawing plans for the medical buildings and hospital, it has been necessary to follow Western design and arrangement in the interior of the buildings in order to meet the requirements of modern scientific medical practice. At the same time we have deliberately sought in so far as possible, although at no little additional cost to combine with utility of interior the beauty in line and decoration of the Chinese exterior, particularly as regards height, roof structure and ornamentation.

This we have done in order that the Chinese people for whose use these buildings have been constructed may feel at home in them and be drawn into closest sympathy and co-operation with the work which they house, and also as a sincere expression of our appreciation of the best in Chinese architecture.

Surely it is not too much to hope that the same fidelity and devotion to their task which characterized some of the artisans who built those buildings, may be inspired by the buildings in the students who use them.

But we have realized that stone and wood, however cunningly and skillfully fashioned, and equipment however complete, cannot make a medical school; that that result is dependent on the quality of mind and heart which the faculty brings to bear on his work. Hence the United States, Great Britain, Canada, as well as China have been drawn upon in making up our faculty which is composed of men pre-eminently fitted for their work and entering into it in a fine spirit of loyalty and enthusiasm.

Particularly gratifying is it to be able to bear testimony to the excellent work and promising character of a number of the young Chinese members of the staff, whose development we are following with the greatest satisfaction.

We have realized, too, that although we might give to the Chinese medical students who pass through the College training as good as is to be had anywhere, that alone would fall far short of equipping them for their life work as the highest type of medical practitioner should be equipped. For only as their professional skill goes hand in hand with high character, only as they are inspired with the spirit of service and of sacrifice referred to in the message from my father, will our graduates be of most value to their fellowmen and to their country. And it is because we believe that the highest
character is built upon the deepest spiritual foundations alone that we have sought to bring together a medical faculty not only with the best scientific equipment but possessed at the same time of the finest idealism. In other words, it is the desire of the Peking Union Medical College to offer to the people of China the best that is known to Western civilization not only in medical science but in mental development and spiritual culture. While, therefore, we shall willingly minister to the bodily needs of these who come within our doors seeking physical aid only; while we shall gladly afford training for the minds of those who come for that purpose, and while it is our profound conviction that the best in any man can only be realized as his nature becomes receptive to the highest spiritual influences, at the same time it is not our purpose to force upon any one that which he does not wish; nor shall we refrain from serving those who come to us for aid along any one of these three lines of human betterment because he does not wish help along all three.

With the Medical Missionary Boards which have been most zealous in the development of medical missions, and with the work which they have undertaken, the Peking Union Medical College wishes at all times to be in most cordial co-operation. We are here to supplement, not to supplant, what they are doing, to aid not to impede them in their efforts. In fullest sympathy with the missionary spirit and purpose, we are desirous of furthering it as completely as may be consistent with the maintenance of the highest scientific standards in the medical school and the best service in the hospital. We would ever show respect to the genuine spiritual aspirations evidenced in service and sacrifice, of those who come within our doors, whatever their views,—for after all is it not a fact that the final test of true religion is the translation of that religion into the highest type of life?

Rome was not built in a day, nor can the ideals which animated the founders of the new Peking Union Medical College be realized in a day, or a year or a decade. A mushroom growth is short-lived. The most stable and enduring structure is that which is built on deep and broad foundations. This enterprise was entered upon, as has already been pointed out, only after years of careful study and deliberation. The purpose of those who are back of it has never weakened or changed. The one danger to be carefully avoided is the temptation to too rapid growth and a superficial development. Gradual growth alone gives assurance of stability and permanence. A frank recognition of this danger at the outset and concerted action
on the part of the Trustees and Faculty in standing resolutely against it will insure its avoidance. Patience will be needed on the part of the faculty, students and the public is the development of this institution. Certain departments may not be fully organized or completely equipped for some time to come and a few may not even be started until later. We shall endeavor, however, to maintain a high standard for those departments which have been established. So long, therefore, as all those related to the enterprise are working together in a spirit of sympathetic co-operation toward the attainment of the ultimate ideals which we have set before us from the outset, each step taken will be a step of real progress in reaching the final goal.

In order that one of the foremost objects of the China Medical Board in building up the Peking Union Medical College may be attained, namely, that the College may serve to stimulate the development by the Chinese people of similar institutions, it is essential that the current cost of operating should always be kept on a conservative level. If a policy other than this is followed and a school set up here more expensive to maintain than comparable institutions in America and Europe, not only will a disservice have been rendered to the cause of medical education and hospital development throughout the world, but the Chinese people will not be so ready to undertake the creation and maintenance of similar institutions in other parts of the Chinese Republic.

Clearly, whatever Western medical science may have to offer to China will be of little avail to the Chinese people until it is taken over by them and becomes a part of the national life. So we must look forward to the day when most, if not all, of the positions on the Faculty of the Peking Union Medical College will be held by Chinese; when the Board of Trustees, while embracing appointees of those bodies which founded the institution, as well as other representatives of Western civilization in China, will include leading Chinese; and when such current support as the institution may need beyond that derived from tuition fees, and such endowment as may be set aside by its founders, shall be derived from Chinese gifts and governmental subsidies as is the case with medical institutions of similar rank in other countries of the world.

Let us then go forward with one accord towards the attainment of this objective which will make permanent the establishment on Chinese soil of the best in scientific medicine that the world can offer.

Recently, when the pneumonic plague appeared in Shansi, the Minister of the Interior assigned certain physicians, among them Dr.
Yu Shu Feu, to combat it. Dr. Yu succumbed to the disease, and realizing that he could not recover, dictated a farewell message in which this remarkable paragraph occurs:

"With my enthusiasm for plague prevention I overstepped the bounds of convention and in my constant contact with the plague accidentally contracted the disease. I am dying for the people. I have no complaint."

Just a few days before his death Dr. Yu had written in the guest book of Dr. F. F. Tucker of Tehchow:

"I come to fight the plague and to put into practice God's love for men."

When the Peking Union Medical College faculty is manned with Chinese professors of Dr. Yu's type, bringing to bear upon the students of the College the influence of such lives, and when men of that calibre are each year being graduated from the College to spread abroad throughout this great land the healing of the body and the inspiration of the soul of the Chinese people, the spirit of service and of sacrifice, in which this institution was conceived, will have been immortalized and one of the chief purposes for which the College was founded will have been realized.

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SOME PRACTICAL ASPECTS OF EMBRYOLOGICAL RESEARCH IN CHINA*

BY PAUL H. STEVENSON, Anatomical Laboratories of Peking Union Medical College.

One of the fine inspirations that has come to the laboratory workers of this institution from the week that is just drawing to its close is to be found in the genuine interest manifested by so many of the visitors in the various research activities upon which these workers are engaged. The readiness—in most cases eagerness—with which the vast majority of medical missionaries in China are willing to put to practical and actual use every advance in the knowledge of medical conditions in China that this or any other institution is able to place at their disposal constitutes a very real stimulus to those whose days are spent among test-tubes and microtomes. Although this interest is particularly manifest with respect to progress in the diagnosis

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and treatment of the diseases that are peculiar to China and with which many have had little or no opportunity of coming into contact before coming to their present work in China, yet the same expectancy and willingness to profit by our studies along more generally scientific and less strictly clinical lines (such as physiology, bio-chemistry and anatomy) is also evident upon every hand. It will be quite impossible for those of us so employed to return to our work without the feeling that the opportunities and obligations naturally imposed upon us, by the inherent spirit of the work that engages us will be multiplied several times by this added consciousness of the confident expectancy on the part of the large numbers of medical missionaries in actual clinical contact with the great masses of Chinese.

It is with pleasure therefore this morning that I am able to report briefly upon the beginning of a particular type of research being undertaken in the anatomical laboratories of this institution, which, in addition to its broader interest along the lines of anthropology and racial embryology, is capable of making a specific contribution to the solution of some of the clinical problems of those engaged on obstetrical and gynecological work among Chinese women. Viewed in this light, the work in question represents not so much an effort to collect and preserve a type of material which though plentiful in China is very seldom preserved and made available for scientific study, as a start towards the investigation of the causes and conditions which bring about the waste of human life that this material represents. The matter of collecting as large a number of Chinese embryos, fetuses and abnormal products of conception as possible must of course be the first consideration in a work of this kind, and will continue to occupy much of the time and attention of the investigators for some time to come. But it is hoped that the time will come, and that not far too removed, when an increasing interest on the part of an enlarging number of contributors will ensure an adequate and continuous supply of embryological material from the four corners of China, and the routine of receiving and properly caring for the collection will be in the hands of a qualified assistant allowing the laboratory staff to give all its time to the study of the many interesting problems that the material represents.

A detailed report of the collection up to April 1st of this year will be found in the coming number of the China Medical Journal and you are referred to this for detailed information as to the progress already made along the line of collecting and preserving this type of material. For our purpose this morning those features of the work
will be reviewed which place special emphasis upon some of the more practical problems involved.

The complete list of specimens at the end of the report referred to above\(^1\) and more particularly the appended summary of the list by individuals, seeks to give credit to each person who has contributed to the collection. A casual analysis of a revised summary of those contributors reveals the significant fact that of the one hundred and eighty-seven specimens, one hundred and thirty-five or seventy-two per cent, have come from women physicians. It is also interesting to note further that of the entire number of specimens in the collection, one hundred and fourteen, or considerably more than half of the whole collection have come from the large clinics of only four women medical missionaries.

These facts are mentioned here because they emphasize not only the degree to which the women physicians of China are to-day in practical touch with an important field of medical work which still remains very largely closed to medical missionaries of the opposite sex, but also, as evidenced by the four women who have furnished more than half of the entire collection from the material of their four respective clinics, the fact that the difficulties in the way of building up a large maternity work among the Chinese women are not as insuperable as is usually supposed. The witness of this collection as well as the personal observations of the reader of this paper during a recent trip among the mission hospitals of Central China convinces him of the fact that where there is a real desire on the part of the physicians in charge of a woman's work to enter into this needy field of service, and where tactful announcement and solicitation is made among the large number of pregnant women who come to the daily clinics for the treatment of other conditions but who would in the natural run of events go as a matter of course to a Chinese midwife to be mutilated at their time of confinement, that there is a ready and grateful response.

So much for the general points of interest connected with the collection and some of the implications which an analysis of the sources of the specimens makes possible. We turn now to some practical aspects of embryological research in China.

We are dealing in the last analysis with those products of conception among the Chinese which, usually through imperfect or mal-development, or because of an abnormal or diseased environment, or because of artificial interference, or for any other reason, fail to pass safely through the normal period of gestation and produce new normal
living individuals. The problems associated therewith reduce themselves into the determination of the rate of, an investigation into the causes of, and the subsequent invention of means towards the prevention of, this factor of prenatal death among the Chinese. Of these the first two naturally take precedent over the third, and it is with these that the work under consideration at present is concerned.

The difficulties in arriving at an accurate conclusion concerning the frequency of abortion among any people increase proportionately as these people are removed from scientific medicine.

Statistics along this line in America are just now becoming available, yielding estimates of one abortion for from every 2.3 Taussig to every 5 Williams labors. Of conditions in Europe, Franz places the figure for abortions at 15.4 per cent in a typical lying-in hospital in Germany, Malins reports 19.23 per cent of abortions in a representative series of 2,000 pregnancies in England, while Ballantyne quotes Tarnier and Boudin to substantiate his claim that throughout Europe in general the fetus at the beginning of intraterine life runs about a 25 per cent risk of never reaching the time of viability. With the possible exception of that of Taussig, all of the above estimates are admittedly too low, failing to take into account very early abortions as well as an estimation of those cases failing to come into the hands of medical practitioners. To the above is to be added, by deduction in the case of the human, a percentage of normal prenatal deaths, with degeneration and absorption of the early zygote, which is now known to exist in the case of all animals studied. Robinson who has contributed most to our very recent knowledge of this factor, estimates that this normal prenatal death rate in the human family under our present conditions of living amounts to over 40 per cent. This figure, though purely speculative in the case of the human, is nevertheless a very conservative estimate according to our more definite knowledge of conditions in other forms.

Turning now to specific inquiries along similar lines among the Chinese, it is only reasonable to expect that the prenatal death rate here, both the normal which we have just mentioned and the more or less avoidable abortions with which we meet more commonly, will be found to be not less high than in Western groups of the human family. A careful study of accumulating records such as those which we are endeavoring to obtain and preserve in connection with the present work, as well as those of other investigators along these and allied lines, will be necessary to arrive at accurate conclusions concerning these questions. This is obviously a matter for the future but it
serves our purpose to-day to emphasize the importance of these records at this time of early beginning, as well as to indicate a few of the specific lines of inquiry upon which it is desirable that they contain data.

Spontaneous expulsion of the ovum in the early weeks of pregnancy is invariably accompanied or caused by foetal death, and, as Williams points out, any consideration of the etiology of abortion in this stage resolves itself practically into determining the cause of the foetal death. Mall in turn maintains that a very large percentage of these early foetal deaths is due to abnormalities of development which are usually inconsistent with life. Had these lived on as is sometimes the case they would have produced one of the several types of monster which we not infrequently see. As to the factors directly concerned with the production of these abnormalities of development, the student finds an endless contradiction of opinions. Mechanical, toxemic, microbial and toxic agents, have all and each been invoked as explanatory causes. Aside from the abnormalities in the development of the embryo itself, Mall's studies showed further that abortions at this early stage resulted also from abnormalities in the foetal appendages which interfere with the nutrition of the foetus. Serious studies into the causes of these early degenerative and abnormal developmental changes in forms other than human have been carried out along the lines of the condition and health of the parents; the environment and food of the parents, age of the parents; excessive service on the part of the male; the health of the environment of the gametes and the resulting zygotes; the nutrition of the fertilized ovum, and the constitution of the gametes and the possibilities of individual variations therein conducive to incompatibility in the case of certain matings. Although the results of these investigations have so far been scant from the standpoint of positive knowledge gained, yet the list of factors considered is suggestive. Among some of the lower classes of the Chinese, such factors as the health of the women, early and frequently incompatible marriages, marital unhappiness, frequent hysterical fits of unrestrained anger on the part of the women in the home, probable excessive intercourse, the practice of prolonging lactation to avoid pregnancy, and others, suggest themselves as possible factors in this subtle problem of the failure to develop and the subsequent expulsion of many early ova.

Demonstrable abnormalities in the generative tract of the female; arrested development or infantilism, malpositions of otherwise normally formed organs, chronic metritis secondary either to malposition
or to infection, any other conditions bringing about circumstances unfavorable to implantation and later nutrition of the ovum—may be expected to account for their share of early abortions in China as well as elsewhere. These physical and pathological factors in the generative tract to the mother, although belonging more strictly to the gynecologist than to the embryologist, if found to exist with disproportionate frequency among the Chinese are nevertheless factors which will have a direct bearing upon the results of the present studies. Taken at large, it is hardly to be expected that special conditions in China will add to or subtract from the number of fundamental factors concerned in these early abortions, yet the detailed study of the embryo, sac, chorion, decidua and uterus in as many cases as possible cannot but add to our general knowledge of this difficult subject, and help to clear away the clouds that so envelop it in mystery at the present time.

Passing on to the consideration of abortions and miscarriages in the later months of pregnancy, we feel ourselves upon more solid ground and in possession of more tangible facts. What are some of the questions which a study of this kind, both of records of the specimens themselves, ought to answer?

In contradistinction to those of the earlier weeks of pregnancy, these later abortions are usually due to interference with the placental circulation of the foetus through disease or abnormal development of the decidua, and not to the death of the foetus per se. The physical and pathological conditions of the female generative tract that have just been mentioned in connection with early abortions may also exert a latent influence and constitute the predisposing cause of abortions in the later months. Infectious diseases, either by the transmission of toxine or less frequently the specific organism itself from mother to child, may be expected to act in China as elsewhere as a factor in the production of abortions. In Central and Southern China, Dr. J. P. Maxwell has found that malaria is a causative factor in a very large percentage of abortions every year; which may be prevented, however, by the prophylactic administration of 4 or 5 grains of quinine daily to all pregnant women throughout their term of pregnancy.

The rapid spread of syphilis throughout China, especially in the port cities and along the projecting railroad lines, offers a unique opportunity for the study of the relative frequency of late abortions in regions as yet practically free from the disease as compared with those already infected. The influence of plagues and famines, and the resulting malnutrition and bone disease, especially the osteomalacia of
Shansi and Kansu, the possible effects of footbinding on the development and shape of the female pelvis, and other factors suggest themselves as worthy of investigation in connection with the larger problems of the prenatal death rate of the Chinese.

Observations along most of these lines have already begun to be made. In connection with questions of nutrition, famine, maternal syphilis and footbinding, we must not fail to make mention of the unique opportunity afforded by the large work of Drs. Jean I. Dow and Isabelle McTavish of Changteh, Honan, during which they delivered and cared for nearly 500 babies from among the women of the famine district last winter, to investigate the effects of the above-named factors in their remarkable series of cases. It is to be hoped that complete reports of this unique service will soon be available, not only for the general human interest that they will contain but also in the interests of some of the problems that we have been discussing in this paper.

The general trend of this paper has purposely been almost entirely suggestive in nature. The work which we have ventured to bring to your attention is not of a type which can be carried on by any one single investigator or by any one isolated laboratory. Most of the questions suggested await for their solution the gathering of a very much larger number of specimens, and the studies of many more investigators working on the material in this and other collections and on the records thereof. It is to be hoped that an increasing number of medical men and women of China will find an opportunity to spend longer or shorter periods of time in laboratories of this or other institutions working on some of these problems and making definite contributions to our knowledge and literature of the subject. Such work, as suggested in the preliminary report referred to above, ought to provide not only a pleasant vacation to the workers from his regular duties, but at the same time furnish a distinct contribution to the scientific study of conditions among the Chinese people.

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ECLAMPSIA AND ECLAMPSISM.*

By Sir William Smyly, Dublin.

Eclampsia has been described as the disease of theories, but in the following remarks, I shall limit myself to what I believe to be well ascertained facts.

Eclampsia is synonymous with convulsions, and puerperal eclampsia, convulsions of all kinds occurring in a woman before, during, or after labor. It is an unsatisfactory term because it includes cases which are essentially different, and the same objection applies to toxemia, and to speak of eclampsia without convulsions comes very near a contradiction in terms. We must, therefore, scrap our present nomenclature and discover some name which will include all those cases which are essentially similar, whilst excluding those which are not.

Schmorl in 1893 published the results of his investigations into the pathological anatomy of puerperal eclampsia, confirmed by Lubarsch in 1895. The conditions described by Schmorl were chiefly characterized by thrombosis of the small blood vessels, necrosis of the cellular elements of the tissues, and hemorrhages.

These conditions were found by him in all the autopsies which he made upon nearly 100 women who had died from eclampsia, and were present in the kidneys, liver, brain, heart, lungs, and indeed in every part of the body; and, as they were not found to the same extent in any other disease, he felt himself justified in concluding that here was a disease peculiar to lying-in women, and their new born children, and characterized by certain definite anatomical conditions which were considered by him to be essential to and characteristic of the disease; therefore, when they were present, the case was one of eclampsia, when they were absent, it was not.

*An address delivered to the Obstetric and Gynecological Section on the occasion of the opening of the Union Medical College, Peking, September 1921.
The blood in eclamptic women is thicker than normal, of higher specific gravity and contains, as Kollman discovered in 1897, an abnormal amount of fibrin and, as Schmorl pointed out, a special tendency to coagulate in the blood vessels. The anatomical changes found throughout the body after death, by him and by Lubarsh, appear to have been caused chiefly by this coagulation in the small vessels, and the consequent necrosis of and haemorrhages into the tissues supplied by them. In a subsequent paper he described the post-mortem examination of some cases which had died in coma without any convulsions, in which the same pathological conditions were found; therefore they were cases of eclampsia though without convulsions.

It has for long been known that, as a rule, convulsions are preceded by a complex of symptoms which we have been accustomed to call the pre-eclamptic state. Most of these cases, however, do not have convulsions, but whether they do or not the disease is evidently the same. It has already been stated that one of the essential characteristics of this disease is haemorrhage, most commonly minute petechial haemorrhages, but occasionally very extensive, serious and even fatal in amount.

Anyone who has had much experience of eclampsia must have met with such cases, where the bleeding occurred into the brain, into the eye, into the peritoneal cavity, or under the skin, but it is only recently that our attention has been called to the fact that intrauterine haemorrhage also may be caused in the same way.

Since then all these conditions, viz., pre-eclamptic toxemia, eclampsia, eclampsia without convulsions, and accidental haemorrhage are generally symptomatic of one and the same disease, it is desirable that they should be grouped under one name, and I think the suggestion made by Dr. Bar of Paris an excellent one that, whilst retaining the term eclampsia for those cases in which there are convulsions, we should employ the word eclampsism for those in which there are none.

In the treatment of eclampsism Obstetricians have been influenced chiefly by their views as to its causation being ovular or maternal. Those who consider that the disease is due to the ovum, maintaining that its removal, at the earliest possible moment, is the only rational procedure; whilst those who look upon the disease as the result of faulty metabolism on the part of the mother, direct their efforts towards combating her toxemic condition. The extreme members of the former group resorting to Caesarian Section, in every case, after a single convulsion. Those of the other leaving the delivery altogether.
to nature. Neither of these methods have fulfilled the expectations of their advocates. I think there can be no doubt that both the ovum and the mother participate in the productions of the eclamptic condition. The fact that it occurs only in connection with pregnancy being sufficient proof of the former; and the good results obtained by limiting the mother's food the latter. We know that in digestion a very important part takes place in and by the blood, that this digestive power is far in excess of normal requirements but not to an unlimited extent as we learn by experience when we eat too much and do too little. During pregnancy the maternal blood is called upon, in addition, to deal with material poured into it from the ovum, and the occurrence or not of toxemic symptoms depends upon whether it is equal to that task.

Some years ago, Doctor Tweedy when Master of the Rotunda formulated a system of treatment which Obstetricians in Dublin, and in other places, have since adopted with remarkable success, the most important feature in which is the restriction of the patient to water, or, in other words, starvation. A remarkable confirmation of the advantages of this method of treatment has been furnished by what has occurred in Germany during the late war where, consequent upon the lack of food there, due to the blockade, the proportion of cases of eclampsia to the births sank, according to Warnekros and Schülein, to one-half, and was estimated by Ruge at one-third the normal pre-war rate; and further, that the cases were of a milder type, as shown by the reduction of the death rate from 20% - 8%.

In describing the treatment of eclampsism in the Rotunda Hospital I shall do so under three divisions:

1. Treatment of pre-eclamptic toxemia.
2. ,, ,, eclampsia.
3. ,, ,, accidental haemorrhage.

In pre-eclamptic toxemia treatment should commence at the earliest moment possible, hence the importance of prenatal clinics. She should be put to bed and given water only with some laxative medicine. If improvement follows, some light food, such as milk, may be given, noting carefully the result; if she continues to improve she may have more food, but if a relapse follows any addition then labor must be induced. The benefits to eclamptics which have been claimed for a milk diet are only comparative. It is only better than other foods.

When a patient first comes under treatment after one or more convulsions she is given ½ grain morphia hypodermically. Her stomach
and rectum are thoroughly washed out by means of a stomach tube until the fluid returns quite colourless, requiring, as a rule, several gallons of water; about half an ounce of Epsom Salts is passed into the stomach through the tube before it is withdrawn. If the patient is conscious she is encouraged to drink as much water, to which bicarbonate of soda is added, as she will take. If unconscious it is infused into her cellular tissue, under the breasts or elsewhere. As regards complications, precautions must of course be taken to prevent the patient biting her tongue, or otherwise injuring herself. But a common cause of death, and one easily prevented, arises from allowing an unconscious patient to lie upon her back. In such cases an enormous amount of mucus is liable to collect in the nasopharynx, and in that position will be drawn into the lungs, drowning her in her own secretion, or causing a septic pneumonia which subsequently proves fatal. It is therefore of very great importance that these patients should be kept in a semi-prone position; and should any symptom of impeded respiration occur, her head should be drawn over the side of the bed, well down to the floor, when usually a large quantity of mucus pours out of the mouth and nostrils and respiration is restored.

We never sweat our patients now, as we believe that it does more harm than good. Chlorides in any form are injurious, and therefore we employ the bicarbonate instead of the chloride of sodium for infusions, and chloroform is employed under exceptional circumstances only.

As regards the delivery of the patient; it is completed as quickly as the special circumstances of each case will permit, without increasing the risk to the patient. Accouchement forcé, by which I understand version and extraction through an undilated cervix, does not fulfil these conditions, because it materially increases the danger to the mother, and should be abandoned.

**Accidental Hæmorrhage.**—The treatment of concealed accidental hæmorrhage by abdominal section and hysterectomy, originated with Doctor William Bagot, now of Denver, Colorado, when my assistant in the Rotunda Hospital, and was successfully carried out by him upon a patient in the Extern Maternity. But it was several years before any other operator ventured to follow his example; and when in 1910, Dr. Amand Routh published a report upon 1,280 cases of Caesarian Section collected from Obstetricians living in Great Britain and Ireland, only three had been performed on account of Accidental Hæmorrhage.
Since then, however, it has been resorted to more frequently, and is now, I believe, generally recognized as advisable, at least in those cases in which the patient is not in labor and the hæmorrhage is concealed. Since the introduction of this line of treatment, which in my opinion marks a distinct epoch in obstetric history, we have learned that the actual conditions are very different from what we had imagined them to be. We knew, of course, that the placenta was detached, and that the uterus was distended with blood, and assumed that, because this effused blood was not expelled, there must have been a weakening or paralysis of its walls, but we had no idea, or a wrong one, as to its cause. Now we know that the blood is poured, not into the uterine cavity alone, but also into its muscular wall, which is suffused with blood, separating and no doubt injuring its muscle cells; and sufficiently accounting, not only for the yielding of the walls to the pressure of the blood, but also for the extreme difficulty which has sometimes been experienced in controlling postpartum hæmorrhage.

In many of the reported cases there was hæmorrhage also into the pelvic cellular tissue, especially between the folds of the broad ligaments, and into the peritoneal cavity. In two cases, reported by Whitridge Williams in 1915, in which the uterus had to be removed, the microscopic examination showed that the hæmorrhages had spread apart the individual muscle fibres and bands and in places was associated with considerable oedema, apparently it was not connected with the larger vessels. Section through the placental site showed similar changes in the muscular wall; but the deciduae were normal, except for small hæmorrhagic areas. In this region many of the larger veins were almost completely filled with large thrombi. The large arteries were normal, but many of the smaller ones presented changes in the intima, and in many places defects were observable in it.

The principal pathological changes present therefore were thrombosis of the veins, necrosis of the intima of the small arteries, and hæmorrhages into, and oedema of, the uterine walls. This remarkable condition of the uterus has, during the past few years, been frequently noted by other observers, in connection with accidental hæmorrhage, and at a single meeting of the Obstetrical section of the Royal Society of Medicine in London, in November 1916, no fewer than eight cases were reported. This condition has been described by Couvelaire as uteroplacental apoplexy, and although he considers it to be a constant feature in accidental hæmorrhage, yet he regarded it as merely the result of over-distension of the uterus. That in my opinion is a most important question, because if the effusion of blood into the muscular
tissue were merely the result of over-distension, then its connection
with eclampsia is not so obvious as I suppose it to be. But if, on the
other hand, it can be proved that this condition is not caused by over-
distension, that it occurs only in patients with symptoms of toxemia,
and that the anatomical conditions associated with it closely resemble
those which cause haemorrhages in other parts of the body in
 eclampsia, then it would seem to me a justifiable conclusion that it is
due to the same cause. As regards the theory that the remarkable
condition of the uterus is merely the result of its over-distension, I
may refer to some experiments carried out by Dr. Arthur H. Morse in
Yale University Medical School, and published in Surgery, Gynecology,
and Obstetrics, February 1918.

He was prompted to make those experiments by two cases of
concealed accidental hæmorrhage, in which he was struck by the
resemblance between the conditions there found and those which are
met with in cases of ovarian tumours with twisted pedicles. His first
endeavour was to discover whether sudden over-distension could, as
had been affirmed, produce such phenomena. With that object he
exposed, by abdominal section, the uterus of a pregnant bitch, inserted
a canula into it, and injected saline solution until it was distended
almost to bursting.

No ill-effects, excepting abortion, followed; and when the abdomen
was again opened, after 48 hours, the previously distended horn
was found to be entirely normal, without any sign of injury. That
experiment showed that even extreme and acute increase in intra-
uterine pressure did not cause extravasation of blood into the myome-
trium. Some time after, he made a further series of experiments
upon the rabbits, with a view to ascertain what the results of venous
obstruction in a pregnant uterus would be. He discovered that,
when all the veins returning blood from a pregnant horn had been
ligated, it became deeply cyanosed and distended at first but ultimately
firm, tense and resistant to pressure. After from two to four hours
it was found enlarged to about twice its former size, and was quiescent,
 muscular action having ceased. When incised the uterine cavity was
found filled with blood, which surrounded the unruptured foetal sacs;
the placentæ were partially or completely separated from their attach-
ment and minute extravasations of blood were visible in the myome-
trium. The microscope showed numerous extravasations in the
decidua and into the uterine wall, as well as dissociation of the muscle
fibres; in fact, in every particular, an exact reproduction of the
conditions found in cases of accidental hæmorrhage.
The following cases, of which I shall give a very brief summary, illustrate very clearly the connection between eclampsism and accidental hæmorrhage.

(Case I.)

Was admitted to the Rotunda Hospital in 1915 under Dr. Tweedy's care. She was pregnant about seven months. Her face, legs and thighs were œdematous. She complained of intense headache, dimness of vision and vomiting, secreted very little urine, which contained numerous tube casts, and became almost solid when boiled. Her blood pressure very high. A typical example of the pre-eclamptic state. She was restricted to water and the usual treatment adopted. She improved for a time but a week later suddenly complained of violent abdominal pain; a bloody discharge, which gradually increased to a considerable hæmorrhage, escaped from the vulva; it was apparently controlled by a vaginal plug, but her general condition grew steadily worse. The face became blanched and cold, the features pinched, her pulse more rapid and weaker. The diagnosis was internal hæmorrhage. On opening the abdomen a considerable quantity of free blood was found in its cavity, the source of which was discovered in the right broad ligament, and was controlled by a ligature thrown ground the ovarian vessels on that side. The uterus also contained a large quantity of blood, the placenta was completely detached and the foetus dead. The operation was completed without removing the uterus which contracted well, there was no postpartum hæmorrhage, she made a good recovery.

(Case II.)

I was asked to see this lady in November of the same year (1915) by her family physician who had diagnosed toxemia ten days before, and had restricted her to a milk diet, but without any improvement resulting. When I saw her there was general anasarca, with puffy face and swollen eyelids; the urine was scanty and contained a large quantity of albumen. I stopped the milk and gave nothing but water, under which treatment she improved so much that at the end of a week she could take milk; and I discontinued my visits. Ten days later, however, she was seized with violent abdominal pain and fainted.

On my arrival I found her in a critical condition with all the symptoms of severe internal hæmorrhage; the uterus was firm and hard, and no foetal parts could be felt. Fortunately labor came on immediately and after a few pains a dead infant, the placenta, and a
large quantity of blood and clots were all expelled together. She was very collapsed for a time but made a good recovery.

(Case III.)

This patient was admitted to the Rotunda under my care in September 1917. Her two previous pregnancies had terminated normally at full time. On this occasion she had noticed nothing abnormal until the evening previous to her admission when she was seized with violent abdominal pain and a feeling of distension, and she noticed an increase in the size of her abdomen. When admitted to the hospital she was in a collapsed condition, blanched, cold, temperature 95.4°F., pulse hardly to be felt. Uterus very hard and tender, no foetal parts could be felt. There was no external haemorrhage, urine scanty loaded with albumen casts in large number, and some blood cells. When the abdomen was opened the uterus presented a remarkable appearance; dark almost blue in color with blood extravasations in patches over its surface, the peritoneal covering being in places raised in large blebs filled with blood, one of which upon the posterior surface had burst, the rent being about an inch long, and there was free blood in the peritoneal cavity. When cut through the uterine wall showed blood extravasations throughout, the cavity was filled with blood, the placenta completely detached, and the child of course dead.

After the uterus had been emptied and the wound closed it contracted well with pituitrine, and therefore I did not remove it.

(Case IV.)

Aged 39, 9-para; 36 weeks pregnant. Was admitted to the Rotunda Hospital on 7th December, 1917.

Twelve years previously, her first pregnancy terminated prematurely at the eighth month, in consequence of eclampsia, preceded by headaches and disordered vision, and ever since the sight in her left eye had been impaired; she was unconscious for a week and the child was stillborn. The four succeeding pregnancies were normal, and the children living. But after the birth of the last, four and a half years previously, she did not make a satisfactory convalescence; had three abortions subsequently, was curetted in 1916.

On admission she said she had been ill for about three weeks, suffering from headaches and impaired vision. There was a large ecchymosis on the left buttock. The urine was scanty, and of a bright red color, and contained a large quantity of blood and tube casts.
The child could be easily palpated, the head presenting in the first position. The diagnosis was pre-eclamptic toxemia, and she was treated in the routine manner, introduced by Dr. Tweedy, getting nothing by the mouth but sodium bicarbonate and water. She got little sleep in spite of a hypodermic injection of morphine, and the total quantity of urine passed in the first 24 hours was 20 ozs. The blood pressure was 260 mm.

The following day there was no improvement, and some twitching in the muscles of her arms. She was given ½ gr. morphine hypodermically. During the following days there was no marked change in her condition; but on the sixth day she seemed to be rather better, and had passed 31 ozs. of urine during the previous 24 hours, but in quality it was the same as upon admission, and the blood pressure was still 250 mm.

Considering that she had been restricted to soda and water for five days, since her admission to hospital, and that she said that she had eaten nothing for two days before then, I thought it advisable to give her some nourishment. Accordingly, at 12.30 p.m. she took four ounces of milk with an equal quantity of barley water. At ten minutes past one she complained of a violent pain in her abdomen, and said that she could see nothing. She looked pale and collapsed; her skin felt cold, clammy and bathed in perspiration; her temperature below normal, and a little reddish discharge flowed from the vulva. Her abdomen was evidently larger, the uterus swollen, hard and tender, and the foetus no longer palpable. Her condition, indeed, appeared desperate, but being persuaded that her life could be saved in no other way, I determined to operate immediately. The abdomen having been opened, the uterus presented the same remarkable appearance which I have already described, being much distended, of a dark, bluish purple color, with numerous patches of ecchymosis on its surface. The wall when cut through showed blood extravasated throughout its substance. The placenta was completely detached, the cavity full of blood and clots, and the foetus dead. To save time, which was of vital importance, I closed the uterine incision with a running suture of Van Horn's catgut, otherwise the operation was carried out in the usual manner. Towards its close the patient appeared to be dead, but gradually revived, and was removed to bed. She made a good recovery, though, owing to her toxemic condition, she was still restricted to soda and water for the three succeeding days. Her urine improved rapidly both in quantity and quality, so that on the fourth day it was normal in colour and free from albumen.
I believe that a consideration of these cases, together with others published by other Obstetricians, is sufficient to prove that many, if not most, of the cases of severe accidental haemorrhage are due to conditions closely allied to, if not identical with, eclampsism. Although in all the cases, one operated upon by Dr. Tweedy, and two by myself, the uterus was not removed, yet from a consideration of the cases published by others, I have no doubt that in some the uterus will not contract, and its removal is necessary to save life.

MATERNITY FAMINE RELIEF.*

By Dr. Jean I. Dow, Changteh, Honan.

1.—In normal times midwifery has occupied a small place on the program of the Women's Hospital at Changteh. One feels ashamed to make this confession for it would be a platitude to say that a hospital conducted by women could find no finer scope and could exercise no more useful function, in the physical realm, than by leading the way in the liberation of fellow women from the meddlesome though well-meant atrocities of the self-taught midwife of Inland China. The city in the suburb of which we are situated is conservative, and on the other hand the limitation of a one-doctor staff during a period of 15 years discouraged the uncertainties of out-practice so that our record of only a few obstetric cases per year has brought us little fame in the eyes of the Chinese community.

But one cannot conduct a general clinic for women and children without receiving convincing demonstration of the urgent call for preventive gynaecology, not to speak of saving of life and prevention of cruelty.

When other forces were lining up last autumn to face the task of life-saving, while we were faced with vanishing clinics and sparsely occupied wards, we began to cast about with anxiety for a fitting part to play, a place from which we might reach not those within the radius of Church connection whose help could come by other routes, or those who by proximity to a distributing centre might gain notice through personal appeal, but some of those on the other rim too far away to be anybody but one of the crowd.

Then some unknown person also in search of possible avenues of relief conceived the thought of an allowance for the nursing mother.

* Paper delivered to the Obstetric and Gynecological Section on the occasion of the opening of the new Union Medical College, Peking, Sept. 1921.
The press mentioned it, and the solution of our problem came into focus. A free maternity service with a subsequent monthly allowance for mother and child to the end of the famine period.

2.—Plan. The plan was approved by the local committee, the maximum grant fixed at $2.50 per month conditional upon presentation before the inspector of both mother and child wearing their identification mark, the inspector to be made responsible for the *bona fide* character of the applicant's claim.

For purpose of general investigation and distribution, the local Christian Chinese Foreign Famine Relief Society had already put into operation a card system for use through investigators selected from the Elders, Deacons, Evangelists or Church members in the various areas. These men performed the same service for us.

*Proclamations* were issued announcing the terms of the offer and the name and address of the inspector in each locality to whom application should be made. *Tickets* bore the Hospital Seal and were made out in sets of three. The *applicant* received one, her admission slip, on which the inspector filled in number, name, age, residence, family head, occupation and guarantor. On the opposite face were columns for recording month by month the amounts actually paid. The *inspector* filed a larger ticket giving the same facts with additional columns for date to be transcribed from the hospital copy such as dates of admission, confinement, discharge, sex of child and amount of grant. The *hospital* copy recorded, in addition, notes on special circumstances of the patient.

*Misappropriation by the family* was guarded against by the regulation that unless the child was presented for inspection the allowance would be withdrawn. In actual practice, however, it was found that where the death of the child was reported, the family was in sore straits. Help was therefore continued at a minimum rate of $1.00 per month, and where a motherless infant was adopted, the full amount was given. If the mother engaged in a self-supporting family as wet nurse, her name was deleted from the pay-list. In some instances, there were blind or dependent parents, in others sick husbands, and in most other little children, and in view of such notes from the records as the following, one feels little surprise that out of a total of 489 births under the scheme, 25 babies and 5 mothers succumbed at home.

No. 192. Husband, two children and self fled to Shansi. Sold their quilts to raise money to come home. Have sold even the wheelbarrow (the sole equipment of the breadwinner). Mother-in-law ill, unable to rise for want of food.
Maternity Famine Relief.

No. 222. Widow, three children, family left home. Husband for a time found occasional work in South Suburb. Finally lived in Beggar's Refuge. Little girl died there. Husband died there 10 days ago. Two boys in ragged clothes, one looks ill. Child born on the road, east of Mission Compound gate.

No. 150 (Mrs. Hwang). Mother and baby normal when discharged. Six weeks later appeared in out-clinic, baby emaciated, mother unable to walk without assistance. Boy of 5, characteristic famine appearance. Husband's brother appropriated part of her grant to pay debt.

Husband had been ill and took part for travelling expenses. Woman and baby readmitted, child of 5 fed from Hospital kitchen. Baby died. Mother redischarged after a fortnight. Full allowance continued. Money again confiscated to pay debts. Mother died of insufficient nourishment.

3.—Finance and Supplies. Anxiety regarding finances was removed at the outset by an immediate appropriation of $4,500.00 from the Chinese Foreign Famine Relief Society of Shanghai, a further $1,000.00 following later, with the addition of $700.00 from other sources, and the question of equipment was greatly simplified by the timely grant from the American Red Cross of goods which had just been opened up. These were rolls of flannelette and flannelette blanketing, thousands of yards of gauze, three cases of large pads, besides layettes, babies' blankets, adhesive plaster and many other nursery requisites which, inasmuch as we had not sent in a requisition, created a comfortable sense of the presence of a co-operator behind the scenes who had planned in advance.

When the day of discharge of the first cases arrived, it was found that families had made, and could make, no provision for even the irreducible minimum of clothing for the new members. It was unthinkable with one fell stroke to cut off a baby of 7 or 8 days from comfort and warmth and turn it adrift. Material was therefore given to each waiting mother with a promise that the completed garments would be hers against going home day. And presently the Shanghai Women's Famine Relief Committee, as well as interested Chinese and foreign friends in Manchuria and Hangchow came grandly to the rescue with plenty of padded clothing and comforters so that every child had a going away suit, cap and comforter, while hundreds of suits too large for small babies were passed on for distribution to older children. Mothers with thin or ragged garments were outfitted and comforters were given to those in distress.
4. — Help to waiting cases. In order to check too early arrival no provision for food was promised during the antepartum period. Hostel space and facilities for cooking were provided. When spring opened, patients were permitted as a privilege to help themselves to alfalfa shoots from the mission grounds as a substitute for vegetables at prohibitive prices. Some earned their food by sewing, and always a certain number helped in the laundry, partly as a means of subsistence and partly for exercise. Numbers went regularly to the public food kitchen in the East Suburb. Exceptions of course were made from the first, e.g., a blind woman whose husband was a non-provider, was fed for over two months. One of the first cases, whose son had been sold for $5.00, proceeds already spent, and whose sister-in-law had starved, leaving an infant of a few days to be buried alive in the mother's grave, was sent in to save her from a similar fate. No. 596 was so emaciated that she was put to bed for a few days and in all was supplied work, food for over two months.

During the earlier months the nutrition of the babies at birth was so good that we wondered if homes were suffering as great privation as had been supposed, but in the later months when a large proportion of the pregnant period had been passed under unfavorable conditions, it became obvious that infants were being born with a handicap so serious that the object of the scheme might after all be defeated. It was then decided that a sufficient daily portion of grain or flour be allotted to every patient in the antepartum hostel. On the whole we were probably over-careful not to over-help, as a considerable number were admitted, and examined, who never passed through the delivery room. (Presumably they concluded they would take a chance at home.)

5. — Social Class and Home Circumstances.

Husbands 52.4% Labourers without land, including scavengers.
22.2% Small landowners. Amount 1-20 Chinese acres.
10.89% Small business—selling peanuts, brooms, cakes.
6.0% Non-providers, e.g., opium users, gamblers, mentally deficient, blind, dumb, beggars.

4.9% Artisans.
.94% Professional—3 teachers, 1 medicine man.
.79% Soldiers (3) recently enlisted.
1.89% Widows, shot (1), ill and B. Ref. (1), Starved (3), Cholera (1).

Sample Cases. Landowners—“Six in family, husband, four children and self. One mou land, irrigated, not sufficient for a family of six, at present prices. Non-Christian.”
Artisan—Harness maker, six in family. mother and father-in-law, husband and two children. Husband no work, gone to Shansi. Word just come that the grandmother of 94 years has been shot dead, one boy shot but not fatally, mother-in-law shot in the arm. House burned.

Labourer's—Wife told this story. There were two brothers in the family. They lived in a small house, partitioned by a wall reaching only part way to the ceiling. Every salable article had been sold. On the other side of the partition her sister-in-law had been recently delivered. The only dressings used were rags and earth, and these were never changed. Mother and baby died.

6.—Fate of Children—Information on this subject is confessedly incomplete and incidental. Of 1,691 births reported in the antepartum room, 790 children were still living—a mortality of 53%. Such causes of death as were investigated invariably fell under the head of disease, the most frequent single cause being, that is popularly known in Honan as "Chi Feng," and in no case did the mother's manner excite suspicion of wilful neglect.

History Liu act 37.
1. Difficult labor mutilated.
2. Died 2nd day.
3. Still birth (?)
4. Died 6th day (Chi Feng).
5. Died one day's illness, abdomen cramps.
6. Cried, but died shortly.
7. Did not outlive 1st month.
8. Living.

In these families during the famine period reports show:

Given away—Five boys and two girls sent to mother-in-law's home. Two unclassified.

Sold—Two boys and four girls. (One boy returned not wanted because he was deaf). One unclassified.

Starved—Two boys and four girls.

Notes indicating circumstances under which the children were disposed of:

90—Two girls sold for $10.00 and $6.00. Family exceedingly poor, children no clothes. Four adults and four children left. Would have died without the money received for these girls.

123—Gave away two youngest boys for lack of food.
149—Sold eldest son, brought back because he was found to be deaf. Youngest very emaciated. Husband mentally deficient.

149—Six children in family. Youngest a boy of two years given away because there was nothing to eat, and he was too young to beg. Grandfather died of starvation while mother was in hospital.

201—Sold one daughter. No home. Husband and four children.

410—Husband wanted to sell girl of two years. Wife not willing. Husband left mother and child to beg, and left home.

582—Sent daughter of eight years to mother-in-law. Sold daughter of five years to child dealer. Would not have sold her if they had had any other means of subsistence. Did not know danger of ultimate destination.

629—Daughter forced on mother-in-law rather than sell.

658—Widow maintaining orphan niece in addition to her own two children, though husband died of starvation.

723—Two nieces included in family.

The impression left on the mind was that either girls or boys were parted with only as a last resort and that mothers were not informed of the magnitude of the white slave menace.

7—Physique of Mothers.

1. All women had moderately bound feet and wore bandages if they could afford them. With few exceptions the journey was made on foot, even to distances of 30 or 35 English miles. It was not to be wondered at that 19 births occurred on the way, one mother having been reduced to sundering the cord with her teeth. One more fortunate arrived safely, but armed for emergency with a pair of scissors.

2. To say that we observed no abnormality of the pelvis and at the same time to admit that the pelvimeter was not used as a routine part of the antepartum examination may be to court criticism. Safer to say that no case occurred of dystocia from disproportion between pelvic and foetal measurements. Internal antepartum examination was made as a routine. We were pressed for time, and unless there arose a suspicion of contraction, as existed in one case only, the use of the pelvimeter was dispensed with. In this case of the external measurements, were slightly below average but labor presented no difficulty.

3. No case of venereal disease was noted. In our experience the classes that supply most of the material for this clinic are wives of soldiers, railway employees, merchants and coolies who are often
absent from home. In the above list these classes are conspicuously absent.

4. The nipples were well formed and hardy. No case of cracked nipple occurred and no mastitis.

5. There were no cases of toxemia.

8—Labour was undoubtedly marked by less suffering than is experienced by Western women of the working class. As a rule, in multiparae the second stage was brief, sometimes almost to vanishing point. Perineal tissues offered less resistance than in the average Western patient and rupture of the membranes was followed rapidly, if not preceded, by presentation at the outlet. Of 32 primiparae the average age was 21. 72% were 22 or under. 50% 20 and under. Youngest (2) 17, oldest 33. Slight perineal laceration occurred in 1% of all cases and in one or two of these might have been prevented by more liberal use of the anaesthetic.

The strength and frequency of the contractions was strikingly influenced by posture. So often did a marked slowing up follow assumption of the horizontal position that it became a habit when the patient was placed on the table to observe the effect before draping so that if expedient she could be raised to a sitting posture.

The value of a bowl of hot food in muscular insufficiency was amply demonstrated.


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In O.P. and Face presentations delivery was spontaneous. In the majority of the breech and footling cases assistance was given with the after-coming head by the "jaw and shoulder traction" method, while resuscitation of the child when necessary was effected by alternate immersion in hot and cold water.

In the shoulder and hand cases internal Podalic Version was performed.

There were two cases of multiple pregnancy in the series, but one pair were born before the mother could leave home. In our case one child presented by the occiput, the other by the breech.

There were two still births, one due to prolapse of the cord, the other case unknown.

Adherent placenta of which there were four cases, and retained membranes were removed without known exception, normal convalescence following.

Postpartum relaxation yielded to massage and pituitrin or Ernutin.
9—Puerperium.

Maternal—Two deaths occurred from Sepsis. Whether the source of infection lay in faulty technique or in internal manipulation by the patient herself during the first stage of labour we have no means of knowing. One woman confessed to having palpated the descending occiput and it is a fact that self-manipulation for investigation is not uncommon, but for the result in these two fatal cases we are safer to carry the odium ourselves.

Procidentia observed in one whose child who was about to be thrown away when the hospital's offer of help reached her. Walked in 10 miles.

The child—In all, seven babies died, during the puerperium, including four very small at birth, one premature, and one having a widely separated cleft palate. (Cause of premature labor, a blow from a man who observed her stealing his vegetables.) We had not the staff nor equipment nor space to set aside for a large nursery and in any case separation from the mother would almost certainly have created undesirable suspicion regarding identity and treatment. But the system cost us two babies accidentally smothered. 148 returned for vaccination.

10.—Relapsing Fever. Four cases were met within the maternity cervix.


Case 2. Child born on main street Changte City near an official home. Given 120 coppers and a bowl of flour and sent in ricksha to the hospital. Temperature on admission 103.6 deg. Person swarming with lice. Clothed in filthy rags which were carried out on the end of a pole and burned. Patient was bathed and kerosened. Blood examination showed overwhelming numbers of spirochaetes.

Case 3. Had been living in Beggar's Refuge. Developed attack in convalescent ward. Clothes burned (?) or disinfected. Blood examination positive.

Case 4. Had been in waiting ward eleven days under no restrictions to going out. Did not complain until the onset of labour when temperature was 103 deg. Her stool was examined and ova of ascaris lumbricoides found. Passed two ascaris L. and temperature fell to normal. Blood examination omitted by default.

On 9th day temperature began to rise. Blood examination showed the spirillum. Of the modification of Salvarsan sold by Allen and
Hanburys Limited, we used a dose and found that 30-34 hours elapsed before the temperature returned to normal, while in children ten years or less a dose of .15 produced the effect in half the time. Of all adults treated two or three showed a secondary rise seven or eight days later not exceeding 100.5 deg., which subsided spontaneously in a day or so.

In concluding I venture to hope that in the discussion this morning some light may be shed on the problem not only of training midwives but of inspiring those who are trained with the ambition for love of humanity, to serve their fellows in regions far afield.

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DEPARTMENT OF PARASITOLOGY.

BRONCHO-SPIROCHAETOSIS IN CHINA.

ABSTRACT OF SYMPOSIUM.

(Joint meeting of Peking Branch of the C. M. M. A. and the Faculty Medical Club, Peking Union Medical College, November 23, 1921.)

Dr. E. C. Faust spoke as follows:

The causative organism of broncho-spirochaetosis was first described by Castellani in 1905 from Ceylon and again in 1907. It is technically known as *Spironema bronchiale*. The parasite has been reported from various centers in Europe, North America and Asia (Ceylon, the Philippines and Siam), but up to this time only one report of record has been made for China (Dr. Lee, Wusih, 1918).

The parasite is polymorphic and occurs in the sputum. It usually has attenuate ends and four or five undulations, with a length of 5 to 25 microns and a width of 0.2 to 0.3 microns. It is, therefore, larger than the buccal spirochetes associated with Vincent’s angina (compare figs. 1 and 2). The division forms (coccoid bodies) have been found to be the infective stage. Transmission is direct through droplet spray.
Broncho-spirochaetosis may be simple or complicated with other infections. In China it is frequently complicated with tuberculosis. The disease may manifest itself as an acute attack, or may be chronic or subacute. In the latter cases there is usually a history of cough and haemoptysis and a mucopurulent sputum, which, in chronic cases, is usually blood-tinged. The typical Chinese case is usually found to show symptoms similar to pulmonary tuberculosis, but on staining sputum smears with Gentian violet or other aniline dyes spirochaetes are demonstrated. Arsenicals administered intravenously are specific spirochaeticides and bring about rapid recovery in cases uncomplicated with pulmonary tuberculosis.

Dr. Faust reported the known presence of this disease in the following centers:

1. Amoy, Fukien. Three cases; two of these Northern soldiers, one a native of the province. Data fide Dr. J. P. Maxwell.

2. Nanking, Kiangsu. Several cases; some simple, chronic, others complicated with pulmonary tuberculosis. Data fide Dr. Hutcheson and Miss Grace Bauer.

3. Wusih, Kiangsu. One case, simple, chronic, reported by Dr. Lee in China Medical Journal (1918).

4. Paotingfu, Chihli. Two cases; one subacute and one chronic, uncomplicated. Data fide Dr. J. H. Wylie.

5. Wuchang, Hupeh. Several cases, including three simple, chronic, and two in which pulmonary tuberculosis was the primary infection. These cases were studied by Dr. Faust in co-operation with Dr. C. McA. Wassell, through whose kindness briefs of these five cases were presented at the meeting.

Administration of neoarphenamin in doses ranging from 0.3 to 0.6 gram were uniformly successful in eliminating the organism and reducing the syndrome. Cumulative effect of two or more dosages of the arsenical is thought to be necessary for destroying the spirochaete.

Simple cases from Wuchang showed a high eosinophilia (12 to 20 per cent), while cases complicated with pulmonary tuberculosis had
less than one per cent eosinophils. The eosinophilia of simple cases was reduced by the arsenical. This is suggestive of a causal relation of high eosinophilia to broncho-spirochætosis.

Dr. J. H. Korns remarked that the condition of the gums should always be noted in cases of suspected hemoptysis, since slight lesions of the gums sometimes caused the sputum to be streaked with red.

Dr. C. Ten Broeck inquired if the causal relationship of *S. bronchiale* to the disease had actually been established, to which Dr. Faust replied that experimental infection had been obtained by Chalmers and O'Farrell (1913), while Dr. F. Peabody suggested that the clinical and therapeutic evidence was corroborative.

Dr. J. P. Maxwell inquired if the presence of helminths in the intestine might not account for the high eosinophil count, to which Dr. R. G. Mills replied that the reduction in eosinophils on administration of a specific spirochaeticide was evidence to the contrary.

Dr. A. Taylor commented on Mason's case with empyema involvement in the Johns Hopkins Hospital. He had assisted surgically in this case and stated that the condition of the patient was very serious until an arsenical was administered, whereupon recovery was effected rapidly.

DESCRIPTION OF FIGURES.

1. Camera lucida drawing of typical specimens of *Spirocomma bronchiale*. X 1750. (Zeiss comp. ocular and apochromatic objective.)

2. Camera lucida drawing of buccal spirochætes and fusiform bacilli of Vincent's angina. X 1750. (Zeiss comp. ocular and apochromatic objective.)

DEPARTMENT OF PARASITOLOGY.

REVIEWS.


This report from the Public Health Laboratory and Ancon Hospital is a summary of the work done in March and April 1921 to show that the human tick, *Ornithodoros talaje* is the transmitting agent of relapsing fever of the Canal Zone. It is based (1) on 6 cases of fever among white boys of Ancon. Investigation showed that they had been at Arraiyan, a native village, and had slept in the hut of a Chinaman, where they had probably contracted the infection. (2) Hu-
man ticks secured from a bamboo bed in the hut were suspected as the transmitting agents. Solutions of these ticks were injected into white rats which developed the syndrome of relapsing fever and were positive for the spirochaetes in the blood. (3) Three human experiments were performed on white military police. (a) One man was inoculated with a strain of spirochaetes from the blood of a rat that had been infected. (b) A second man was infected with a solution of macerated body of several ticks collected from the Chinaman's hut. (c) A third man was allowed to be bitten by 25 ticks from the same hut. All three subjects came down with the disease and demonstrated spirochaetes in the blood, the first patient after 5 days, the other two after 11 and 16 days respectively, showed the typical syndrome and later had a recurrence of the fever. Each patient had an uneventful recovery after the second paroxysm, when an injection of 0.4 gram arsphenamin was given.

Monkeys, white mice and wild rats (two kinds) were also infected but guinea pigs and rabbits resisted the infection.—E. C. F.


The writer has succeeded in cultivating strains of Trichomonas hominis (the common intestinal flagellate) in (1) a medium of hen's egg and Locke's solution and also (2) an ovamucoid medium consisting of white of hen's egg and 0.7 per cent NaCl.—E. C. F.


The writer describes the flagellate common in diarrheic stool in China, with particular reference to its morphology. The frequent presence of the organism in amoebic dysentery is suggested as possibly constituting a diagnostic and symbiotic relationship.


This is a report of eight cases of schistosomiasis japonica contracted by sailors from the British gunboat Hawkins while wading in Yangtze marshes. Eosinophilia in these cases amounted to from 50 to 65 per cent. Novarseuobillon was used on three cases without effect but one case apparently improved with intravenous treatment of antimony tartrate.—E. C. F.

This third paper in the series takes up the structure of the fluke causing endemic hemoptysis. Paper I (1918) discussed the embryo within the egg, method of infecting the snail (Melania), and the species of second intermediate host involved, i.e., the crab (Potamon); also the structure of the adult worm. Paper II (1919) took up in detail the structure of the adult worm. In this the writer argues that there is no fundamental difference between the Asiatic and American lung-flukes. In the third paper Kabayashi described how the larva (miracidium) after entering the snail (Melania) metamorphoses into a sporocyst, within which first and second generation rediae are produced. The cercaria is a microcercous larva with a simple stylet inserted in the dorsum of the oral sucker. The infection in man occurs either by (1) eating raw crabs or crayfishes which are infected with encysted larvae, or (2) drinking unboiled water containing free cysts. Experimentally the worm may be acquired (1) by subcutaneous injection of cysts, or (2) by taking young free worms orally.—E.C.F.

HOOKWORMS.*

The writer was asked to speak on the subject of hookworms, but since you already know more about hookworms than I, and since I have not a great deal of literature on hand, and since the treatment that we have followed requires the patient under constant observation, all those taking treatment were required to be in-patients, and since the greater proportion of those who are infected with ankylostoma duodenale are of the poorest class, those under my observation have only numbered about ninety.

This paper is intended merely to bring before you a few points for discussion, principally from observations which I have made during the past year.

Roughly speaking, patients infected with hookworm constitute about 5% of our clinic and over 50% of the in-patients.

We have continued the method of treatment started by Dr. Dickson. One which was suggested by some honorable fellow worker,

*Paper written by Dr. M. E. Wallace and read by Dr. Hofmann (in her absence) at the meeting of the South China Branch of the C.M.M.A., November 4, 1921.
who saw fit to publish it in one of the well known magazines. That is the use of the Oil of Chenopodium administered as follows:

Cathartic at night. The following morning.
- 7 a.m., 15 drops Oil of Chenopodium
- 9 a.m., 15 ",
- 11 a.m., 15 ",
- 1 p.m., dose castor oil with 15 to 20 drops chloroform
- 1:30 p.m., another dose castor oil.

To be administered every 10 days until no hookworm eggs are found in the stool.

CASE I. Woman, age about 30 years. She came to the Hospital with the information that although she was suffering with terrific abdominal pain, there were no worms present for she had already eaten "Kom tsik saan" (a child's dose). An examination of the feces showed the presence of the ankylostoma duodenale. Oil of Chenopodium was administered with the following results. One stool containing 100 round worms by actual count and several hookworms besides.

CASE II. A man of 32 years, Hb. 70%. Practically all of the ordinary symptoms were present, such as abdominal pain, tired and all gone feeling, lazy, slow to answer, loss of appetite. No dropsy. Many eggs present in the stool. After 4 treatments within 16 days the eggs were present. The pain of course continued.

CASE III. Widow, age 16 years. She had all the regular symptoms plus marked ascites and a valvular lesion. Blood Hb. 60%. She was tapped three times and received the Oil of Chenopodium treatment 4 or 5 times at intervals of 10 days or more. She remained in the Hospital for three months, and was completely cured at the end of four months with the exception of a valvular lesion and anemia.

CASE IV and V. These two cases showed the presence of what was thought to be ankylostoma subtilis.

In both cases a chronic trouble also existed, one having aortic stenosis with a carotid anurism, and the other paraplegia, with paralysis of the sphincters, marked malnutrition and several bed sores besides. Each was given two treatments. Examination was made several times afterwards at varying intervals and all were negative. In both cases a decided improvement was noted in the chronic disease.

We noticed that in cases of extreme anemia with ascites, considerable discomfort resulted from weakness, dizziness of the head, and the rapid heart beat. For this reason the dosage in some cases was
Hookworms.

reduced to 9 or 10 drops and administered in capsule form. Occasionally repeated three times within 10 days.

The early cases all were cured by from 1 to 3 treatments of the 9 drop dosage.

Three cases were treated who were pregnant from two to four months. One of the three miscarried shortly after the administration of the third dose of the 9 drop dosage method. The other two were greatly improved.

Two or three cases returned (after receiving the full treatment and in which a negative specimen occurred 20 days later), complaining of a persistent abdominal pain. The question arises, Is it due to the presence still of the hookworms or is it due to the lesion caused by the ones which were there? In other words, is another treatment indicated?

In chronic cases with general anasarca and marked anemia, Hb 25% to 50%, age over 40 years, this treatment has not been found ten parts satisfactory. There is usually great improvement but not complete eradication of the hookworm. This may be due to the fact that the hookworm may exist in any organ of the body including the blood.

One case, a girl of 18 years, became almost deaf after the first treatment of the 15 drop dosage, which continued several weeks, then finally cleared up. (She had a very small pharyngeal cavity, however.) One other patient also complained of deafness but was not so marked.

One child was treated who had reached the stage of general anasarca. Age 8 years. Two doses, 5 drops each, were administered night and morning for three days, then followed by castor oil. Intervals of ten days. The child developed whooping-cough in the meantime; however, after the third treatment ten days later no eggs were found and the anasarca had all disappeared.

The mission of the hookworm, in one case at any rate.

The family in which this child was a member, were practically all found to be infected. The faith of the headman of the house was partially renewed and he became again a regular church attendant. He was greatly enlightened on the subject of hookworms by the use of the 26 charts on the subject, arranged by Dr. Peters and others of the Public Health Department in Shanghai.

Is the sun's rays sufficient in themselves to eradicate the worms and eggs from an infected field?

How is the best method to eradicate the hookworm from the community?

M. E. WALLACE, Loh Ting, South China.
AN UNUSUAL CASE OF MULTIPLE NEURO-FIBROMATA.

 Percy C. Leslie, M.D., L.R.C.S.

The patient, male, age thirty years, reported at the Clinic on September 26, 1921, complaining of difficulty in walking on account of left leg being beyond control, also left arm having similar symptoms.

On enquiry, patient states that five or six years previously he noticed a lump in left breast, this gradually grew until the entire breast was involved; one or two years later, other smaller growths appeared on inner surfaces of both thighs. None of these growths were painful, but indefinite recurring pains occurred, referred to various parts of the body.

About September 1920, patient was conscious of failing strength and lassitude; toward the end of this year numbness first appeared referred to left side, including trunk, arm and leg. Gradual loss of power in left arm and leg ensued, contractures occurring at intervals, sometimes at night patient would wake to find his leg drawn up in flexed position, while the arm would often be drawn back in extended position. Occasionally such contractures would occur during daytime, leg would be forceably flexed without warning and patient would fall. Loss of power has been progressive but never absolute.

The family and personal history elicit nothing that seems to bear on the case; no venereal history.

Present Condition. Patient is somewhat undersized but fairly well nourished, walks with hesitation and throws left leg slightly. The left arm is slightly wasted both above and below elbow, slight wrist drop and patient is unable to raise arm above level of shoulder.

Reflexes, normal.

Sensation answers unsatisfactory, there is no loss but a suggestion of increased tactile sensibility on right or unaffected side.

A growth involving the entire left breast is most conspicuous sign on inspection; this growth is firm, freely movable and not painful. Other growths smaller in size, varying from size of bean to that of hazelnut, are noticeable in various parts of the body, on both outer and inner surfaces of both thighs, while the right arm above the elbow has a series of these growths, suggesting enlarged glands but location of growths does not correspond with situations usually involved with glandular enlargements. Other scattered growths occur on trunk and limbs; these are not painful, but when growths on arms are held firmly between the fingers, marked contractions of arm takes
place, arm being drawn back in extended position and movements simulating a convulsive character occur.

Liver and spleen do not show enlargement.

Without any hope of improving patient's condition, we anaeasthetized him, and removed the large growth in left breast, and a small growth from inner surface of right arm. This with a view to Pathologist's report.

The breast tumor was found to be multilocular, imbedded in fibres of great pectoral, firm to touch, well circumscribed and no sign of invasion of surrounding tissues.

The arm growth was firmly attached to Ulnar nerve sheath which apparently split to enclose the growth, handling of the growth causing contraction of fourth and fifth fingers. Careful dissection enabled us to shell out the growth from between the sheath fibres.

PATHOLOGICAL REPORT FROM PEKING UNION MEDICAL COLLEGE.

Gross examination: Specimen consists of one large and several small irregular pieces of tissue resembling adherent Lymph Glands. The glands seem to be fairly discreet and held together by a delicate connective tissue veil, containing a moderate amount of fat. The glands are firm but elastic; they are dirty white in colour. On section they present a smooth homogeneous surface without degeneration. The tissue sinks in formalin.

Impression: Lympho-Sarcoma.

Microscope examination: The slide shows a very loose structure in which there are many small connective tissue nuclei fairly densely packed in a network of very fine collagen fibres.

Throughout there is moderate round celled infiltration. From a single slide it would be called a fibroma; from the gross and from the history the diagnosis is made as follows:

Diagnosis: Multiple Neuro-Fibromata of Ulnar Nerve and Mammary Region.
The China Medical Journal.

THE IRREDUCIBLE MINIMUM.

B. E. Read, Department of Pharmacology, Peking Union Medical College.

After the publication in this journal of the paper on "The New Viewpoint of Pharmacology," there was a request made for suggestions concerning the equipment of a small country dispensary. Knowing the universal interest among missionary doctors in the "irreducible minimum" for meeting village needs, the writer presumes to present further ideas upon this subject.

There has been recommended for our mission hospitals that attention be given to deletion of old remedies, the revaluation of others, the reservation for specific use of such drugs as quinine for malaria and above all greater simplification in prescribing. The working basis, as supported by the best authorities was to be the list of Materia Medica quoted in Cushny's Therapeutic Index with, further, logical deletions of considerable number and any specific additions required by the nature of some local disease, such as leprosy. The result is a list of drugs still much larger than can be taken care of in village work. For every obvious reason it would seem desirable to limit the stocks of small centers whilst the base hospital with its larger budget, its greater facilities for the use of certain drugs, and the accessibility of its stocks to the smaller centers, prepares everything that can be required in regular institutional and field work.

The list here given is put forward merely as a suggestion. Almost every item is open to argument, it may be replaced by another drug preferred by the reader, yet it will be seen an attempt has been made to include members of every class. Antiseptics have received particular emphasis; where no minor surgery is performed the number of these might be lessened. The devotion of certain persons to particular remedies will bring criticism of their omission from this list. This list is in no sense a final dogmatic statement of the "irreducible minimum," but is an attempt to classify our needs, and to help those who are striving to meet them.

It will be of profit to hear from the profession with regard to further additions or deletions.

For field work of ambulatory character a still smaller number of drugs is by the nature of the case desirable. For such purposes there are a number of good suggestive lists published in the catalogues of firms making first-aid cases and travelling kits. q.v.
MINIMUM DRUG EQUIPMENT SUGGESTED FOR COUNTRY DISPENSARY.

Iodine.
Cresol = Lysol or Izal.
Boric Acid.
Zinc Oxide.
Alcohol.
Tr. Ferric Chloride.
Cocaine HCl.
Lime (local).
Hydrochloric Acid.
Zinc Sulphate.
Potass. Bromide.
Sodi Bicarb.
Tr. Nux Vomica.
Tr. Zingib.
Calomel.
Mag. Sulpha.
Ol Ricini.
Tr. Opii.
Salol.
Tr. Digitalis.
Ext. Ergot Liq.
Liq. Atropine (or Hypod tablets).
Caffein Citrate.
Argyrol.
Potass. Permanganate.

Hexamina (Urotropin).
Capaiba Mixture.
Pot. Ferri or its modification.
Camphor.
Liquor Strychnin.
Potass. Iodid.
Hydrarg. Perchlor.
Vin. Ipecacuanha.
Emetin HCl.
Chloroform.
Acetanilide (or Phenacetin).
Acetyl Salicylic Acid (Aspirin).
Liquor Arsenicalis.
Quinine Bisulphas.
Neosalvarsan.
Liu. Album (cheap).
P. Ipecae Co.
Vaseline.
Hydrarg. Ammoniat.
Ol. Chenopodium.
Compound Rhubarb Mixture or tablet.
Tr. Quassia.
Tr. Gentian Co.

A CASE OF CEREBRAL ABSCESS.

W.M. G. LENNOX, Union Medical College, Peking.

Syphilis is a hydra-headed monster. One of the more unusual methods by which it kills is illustrated in the following case.

The patient was a coolie of 42. His family and past history were unimportant except that he had had a sore on his penis two years previously which was followed, in two months, by a rash. Sometime previous to his present symptoms he had had a swelling on the top of his head which had been opened at one of the non-missionary foreign hospitals in the city.

Three days before entrance he began to have headache and dizziness. That night his left side became suddenly paralyzed, following which he had convulsions. He was incontinent of urine. He came to the surgical dispensary but was immediately transferred to the medical department. Examination showed that he was rational. He had complete paralysis of left arm and leg but none of the face. Knee-jerks were not obtained, pupils reacted normally. He showed
an old scar of the penis and general adenopathy. The abscess of the scalp which had been incised showed no discharge. While being examined in the dispensary, he had two clonic generalized convulsions, regaining consciousness immediately after each. He was sent into the medical ward with a diagnosis of cerebral hemorrhage due to syphilitic endarteritis.

On admission his temperature was 99.6, but soon fell to normal. Pulse between 70 and 80. White count 10300. Blood pressure, systolic 100, diastolic 50. Blood Wassermann strongly positive. The day after admission spinal puncture was done. Spinal fluid pressure was 24 c.m. water in lying position, globulin test slightly positive, white cells 18 per c.m.m. Wassermann negative. He had no convulsions after entering the hospital. The positive serum Wassermann with increase of the cells in the spinal fluid seemed to confirm the diagnosis of cerebral hemorrhage due to syphilitic endarteritis; and he was put on anti-syphilitic treatment.

On the third day after admission, his temperature rose to 100.4. The next morning it was 101.2 and his white count had risen to 16500. He complained of headache and dizziness. His neck was slightly stiff, but reflexes of lower extremity were unchanged. The next day he became stuporous and a positive Kernig’s sign appeared. His systolic blood pressure rose to 138. Pulse 60, temp. 97. Because of the increasing cerebral signs, the hitherto rather neglected abscess of the scalp was washed out and preparations made to open it widely. Before this was done, however, the patient died suddenly.

Spinal fluid drawn after death was cloudy, globulin test positive, white cells 4960 per c.m.m. and culture yielded staphylococci. Autopsy performed by the writer fifty-four hours after death showed nothing of interest outside the cranium. On incising the scalp, it was found that below the abscess was a circular opening 1 c.m. in diameter, through the skull. The edges clean cut, the outer table surrounding the hole presented a worn, granular appearance. Below the opening in the skull was a perforation in the dura, just to the right of the longitudinal sinus. This led into a large ragged walled cavity in the substance of the right hemisphere. The cavity was filled with a thin, archovy saucelike pus, and communicated with the right ventricle. Other ventricles and the spinal canal were full of this same material. An interesting question is whether the first withdrawal of spinal fluid assisted the abscess to break into the ventricles and spinal canal.
TRUE AND FALSE KNOTS IN UMBILICAL CORD.

Mrs. J., age 44, 6 para, reported her pregnancy early, as is the rule in our service out here. Pregnancy was normal up to the thirty-eighth week, when the patient reported that there was absence of motion. Abdominal examination revealed motion and also heart sounds could be elicited with the stethoscope. The patient thought there was undue "settling" but otherwise all was normal. Up to this time the movements of the foetus had been more than usual, but they subsided now; however, the mother was satisfied that there was still movement.

Ten days later, I was called and after a normal labour, a male child was delivered, stillborn. The cord was around the neck twice, and had to be divided twice before the head could be delivered. No other interference was necessary, hence I call it a normal delivery.

There were four true knots, and six false ones in the cord, which was normally long, and of the usual size. The child had been dead possibly two or not more than three days, was perfectly formed, and normally developed. Save for the abnormality of the cord, the case was normal, and the mother made a normal recovery.

The case is of further interest, because the sister-in-law also lost a child the same way, not in this service. This is the second stillborn child of this parent, but we have no history of the former case.
A New Source for Ethyl Ester of Chaulmoogra Oil

W. W. Peter, M.D.

It will be remembered that at the Leprosy Conference in Peking in September 1921, two difficulties regarding the supply of this drug were mentioned: (1) the difficulty of securing sufficient quantities of the pure drug, and (2) the exceedingly high cost. One doctor said, "When we are called upon to pay Mex. $250 per liter and since lepers are usually charity patients, most of us hesitate before attempting the treatment.

At this same conference it was stated that there were perhaps as many as 400,000 lepers in China, most of them roaming at large in the absence of leper hospitals or colonies. The large attendance at this conference gave evidence that doctors all over China have to deal with this disease.

Since the drift of opinion among experts in the treatment of leprosy lies in the direction of the use of the esters of chaulmoogra oil, and since present indications are that the ethyl ester gives greater promise than anything used heretofore, our problem in China is to get a sufficient quantity of the pure drug at moderate cost.

While in Manila attending the fifth biennial conference of the Philippine Medical Association, I learned that it is the intention of the Government of the Philippine Islands to manufacture the ethyl ester in large quantities for use in their leper colony at
Culion which with five thousand lepers is the largest colony in the world. At present less than one-third are receiving the treatment. They already have purchased large quantities of the oil and have sufficient staff and laboratory facilities to manufacture the ethyl ester in quantity.

Upon being told of our difficulties in China, all those concerned, including the Governor General himself, expressed themselves as willing to make an additional supply for our use providing existing governmental regulations in the Islands at present standing in the way could be modified so as to make this service possible. To this end a special bill was prepared and submitted to the legislature. In a most satisfactory interview with the Governor General, Dr. Leonard Wood, he expressed himself as of the opinion that no insuperable obstacles would be encountered to prevent their government laboratory from making an additional supply for use in China. I was able to purchase ten liters. Drs. Todd and Fowler have taken over all of it but more is available.

The Director of the Bureau of Science has suggested that for the time being, the doctors in China clear through the Council on Health Education so that shipments and payments can be made in quantity. The cost of the ethyl ester at the government laboratory in Manila will be between pesos 25 and 30. Including packing, freight, customs and insurance, it will cost approximately $30 Mex. per liter laid down at Council headquarters, 4 Quinsan Gardens, Shanghai. It is suggested that those interested communicate with Dr. Fowler or myself at once indicating (1) how much of the drug they will require to December 31, 1922 and (2) how much of this total they wish ordered at once.

Those whose shipments would naturally clear through Hongkong had better write to the representative of the Council for South China, Dr. Frank Oldt, Canton Hospital.

Hygiene in the Colleges of China

Dr. John B. Grant, the head of the Department of Hygiene in the Union Medical College in Peking, who has recently come out from America to take up this important branch of work and to care for the health of the college students, has written a
circular letter to the members of the C.M.M.A. who are most closely allied with the principal missionary colleges.

In this letter he asks for, and makes some suggestions for the improvement of hygienic conditions in the colleges and schools, and pleads for a more hearty and general co-operation to improve health conditions and to establish the teaching of Hygiene on a more permanent basis.

Dr. Grant suggests the need and desire for some definite action and asks that the necessary machinery be set in motion through the Council on Public Health of the C.M.M.A., and that some standards of physical welfare and hygiene be adopted as a working basis in our mission institutions as well as in others throughout China.

That such action and standards are desirable there is no question. How may they best be attained? One way is to call a meeting of those who are or ought to be interested in the subject, at the next general meeting of the C.M.M.A., or earlier if necessary. Another line of approach would be through the Council on Public Health which, as we all know, is a very live and potent agent for the creation and nurture of a safe and sane public opinion along these lines.

The Physical Directors who supervise athletics in the various colleges in China should also meet, if possible, at the same time as the medical men, and should naturally at all times work in the closest co-operation with their medical associates.

It is probably true that there has not been sufficient activity in these lines among us and that our public conscience may be under-developed. Some of us received our training back in the pre-Renaissance days and, like the Cave Man and the Turk, it is time we moved on to the land where the fly, the mosquito and the louse are non-existent and the distinction between the Typhoid and the Paratyphoid bacillus is of no importance, leaving our younger, more energetic and better equipped men to carry on. However, the Old Guard is not unregenerate and though sometimes swamped by inertia and the passive resistance of native and foreign *laissez faire* it has done something in the past and is not altogether idle to-day.

Though it may now be getting to the point where it is difficult to remain in the ranks it can at least stand on roadside and bid
Godspeed to the host that will succeed it; the vanguard of which is even now advancing against the Powers of Darkness wherever and whenever they may be met.

C. S. F. L.

The National Medical Association

The Fourth Annual Meeting of the Association was held in Shanghai from February 1st to 4th and was of great interest.

The members present showed a thorough appreciation of the profession to which they are devoting the best years of their lives, and by the resolutions adopted for submission to the Chinese Government indicate that they fully realize the high standards and ideals which the Profession demands.

The personnel included men and women who had been educated in England, America and Japan as well as in the medical schools established in China.

With the foundation of the new medical profession in China in the hands of such men as we know most of them to be, we can look forward with hope and confidence to the day when the National Medical Association of China will measure up to that of any nation in intelligence and skill as well as in the character and devotion of its members.

C. S. F. L.

Reprints and Other Things

The Acting Editor would especially call the attention of contributors to the regulations to reprints to be found under THE CHINA MEDICAL JOURNAL on the last page of reading matter.

If a contributor desires more than the allowed number (16) free, it is best to indicate it on the margin of his manuscript and then there is no chance of it being overlooked; if the order for reprints is on a separate slip it should be attached to the paper by a pin or clip.

All money and cheques for subscriptions or advertisements should be sent to Dr. R. C. Beebe, 5 Quinsan Gardens, as the Acting Editor has nothing to do with the business side of the JOURNAL.

C. S. F. L.
Publication Committee

Please note the publication of **NEW CHINESE TERMS IN ANATOMY HISTOLOGY, EMBRYOLOGY.** These are the terms worked out by the Joint Committee on Medical Terms and approved by the Board of Education and hence are now the Standard Official Terms. The Publication Committee is using them in all its new publications. Every one should have this book.

New standard terms in Chemistry will be found in Macpherson and Henderson's Chemistry, Chinese translation, see advertisement pages. Lists of terms in Chemistry and Bacteriology will be issued soon.

As the new Gray's Anatomy will not be ready till summer, a limited edition is being issued in two volumes and volume one can be had now.

A number of copies of volumes five and six of Osler's Medicine have been bound and can be had by those who have the first four volumes but lack these two.

Only the physical examination part of clinical methods is being revised and reprinted. The laboratory work is being done from Stitt.

A valuable set of clinical charts, eight different kinds, will be found listed in the advertisement pages.

The Publication Committee would like to have a list of all ex-hospital assistants and students who are now in private practice, and the Committee will be obliged if each hospital will send in a list with addresses in Chinese. Our books are not as widely known as they should be.

Further, the Committee would like to hear of an English-speaking Chinese medical man to join its translation staff.

P. B. COUSLAND,
4 Quinsan Gardens, Shanghai.
Spinal Anæsthesia for Operations Above the Umbilicus.—René Bloch (Presse Médicale, April 20, 1921) refers to previous methods and describes modifications which, he claims, assure both safety and certainty. In a word, he withdraws enough cerebro-spinal fluid to prevent hypertension and to insure diffusion upwards of the anæsthetic, while relying on caffeine to counteract the effects, occasionally seen, of the anæsthetic on the medullary centres.

Method.—Half an hour beforehand give a hypodermic of morphia and, if thought desirable, of caffeine. With the patient in the sitting posture withdraw 30 mils of the spinal fluid, or more if there is hypertension. Inject vigorously (not gradually) 12 centigr. (1.85 grs.) of novocaine with or without ¼ milligr. (1/300 grain) of adrenalin.

The Trendelenburg position, if required, is not to be assumed until ten minutes after the injection. The headache and vomiting sometimes seen after any spinal anaesthesia are said to be rather due to hypertension than to any influence of the drug on the medulla, and are prevented by withdrawal of a large amount of fluid. This withdrawal reduces the tension of the spinal fluid to one-half, but in a few hours both the tension and the composition of the fluid become normal. The anaesthesia can be counted on to reach the level of the breasts but may even reach the trigeminal. In the dilution in which it reaches the medulla the vital centres continue to function as regularly as under general anaesthesia. However, according to the law of the "hierarchy of the centres" (Prof. Richet) any overaction of the drug on the bulb is first shown by the vomiting centre. The occurrence of nausea calls for caffeine hypodermically; this drug, being a true clinical antidote to novocaine, forestalls any toxic action on the other centres.

Comment.—Those who remember the claims put forward by Jonnesco and others will be cautious in trying this method. The body weight and the general condition of the patient need to be carefully considered when using maximum doses of novocaine, one and three-quarter grains of which sometimes produce symptoms of mild intoxication in the Chinese.

Intraspinal Medication in Shock, etc.—Several writers in American and French journals have cited experimental and clinical results in the treatment of profound shock from wounds, from anaesthesia, etc. The two drugs most favored are caffeine and, especially, camphorated oil. Besides, of course, avoiding the danger of cerebral embolism after intravenous oily injections, the intraspinal injection is said to have a much more prolonged effect on the nerve centres and to be without contraindications.

"Décalage" in Fractures of the Lower Extremity of the Radius.—Besides the usual displacement of the lower fragment backwards and to the radial side, there is sometimes another deformity,
long known but sometimes attributed to mistaken attempts at reduction. This deformity, the “décalage” of French writers, consists in a rotation inwards of the lower fragment of the radius on the long axis of that bone, such that when the upper part of the forearm is fully supinated the hand remains midway between pronation and supination. If both elbows are flexed to a right angle and the hands supported while the two forearms are completely supinated, the palm of the sound hand looks directly upwards while the other, if “décalage” is present, looks upwards and inwards or directly inwards. In rare cases, where there is neither radial deviation nor “dos de fourchette,” the presence of this sign alone may lead to the diagnosis of a fracture.

In a well illustrated article in *La Presse Médicale*, July 20/21, Pierre Mocquot points out the importance of adequately correcting this deformity. Loss of supination is a handicap in many trades. The fracture should be reduced under an anaesthetic and the limb put up in plaster in a position of complete supination of the hand with slight flexion at the wrist. After twelve days the cast is taken off each day while active movements are carried out, being left off altogether at the end of three weeks.

**Precautions to be Taken Before Operating.**—Georges Audain (*Presse Médicale*, June 20/21) points out that while some of the classical examinations of a patient before operation reveal little of value, other important examinations, equally simple, are often neglected. Apart from gross glycosuria or albuminuria, the presence of sugar or albumen in the urine need not be a contraindication against operating. On the other hand, the presence of urobilin, not to be accounted for by haemolysis or by absorption of a haematocele, etc., points to a lowered resistance of the hepatic cells. If the urine is treated with zinc chloride and ammonia, filtered and the filtrate found to be fluorescent, chloroform must be ruled out entirely and ether used guardedly or replaced by ethyl chloride, nitrous oxide or local or spinal anaesthesia.

Coming to the cardio-vascular system, while dyspnoea, cyanosis or oedema will of course signal danger, well compensated valvular lesions do not. There are, however, two conditions of arterial tension which call for treatment. (A) Hypotension. A patient whose systolic pressure is below 110, diastolic below 60 mm Hg. will not tolerate well the double shock of anaesthetic and operation. Here the use of adrenalin is indicated in doses of ten drops thrice daily by mouth for two or three days before and after operation. (B) A convergence of the systolic and diastolic tensions. The rule laid down by Lian is that in a case of hypertension the diastolic pressure should equal half the systolic tension in millimetres plus twenty (e.g., half of 200, plus 20, equals 120); in a case of hypotension the diastolic pressure should equal half the systolic pressure in millimetres, plus ten (e.g., half of 100, plus 10, equals 60). Where the difference between the two tensions is less than this the cardio-vascular equilibrium is at fault and cardiac tonics should be used before operating.

Finally, the leucocyte count indicates, to a certain extent, the state of defense of the organism against infection. A case with a white blood count below 6,000 should be regarded as one of leucopenia. Where the leucopenia is marked, treatment with nucleinate of soda should be instituted before operation.
Department of Public Health.

To sum up:—Presence of urobilin—no chloroform.
arterial hypotension—adrenalin.
convergence of tensions—cardiac tonics.
leucopenia—leucogenic medication.

Comment.—In the China Medical Journal of May 1921, Dr. Cadbury has reported the findings of the Research Committee on Blood Pressure in normal individuals in China. It is most instructive to be able to see for oneself in this invaluable report how far the above figures for hypotension and for convergence are likely to be applicable to the Chinese.

C. C. Elliott, Chengtu.

Department of Public Health.

"Health Education in Peking Colleges."—This movement is directed by a committee of the Peking Medical Association and is under the administration of the extension department of Peking University. The program includes the sending out during the summer of a number of student teams to lecture in the country on public health subjects. During the past summer, two of the Peking Union Medical College students lectured in the summer vacation schools on topics of hygiene and public health. They visited on an average of two or three schools a day and lectured on eight different topics. Each of the 42 schools was visited four times by these lecturers.

"The Peking Community Service Group."—The work of the Peking Community Service Group has enlarged this year through the opening of two new branches, one in the West City and one in the North-East. The work includes activities along the following lines, education, recreation and playground development, social clubs, social investigation, district health work, poor relief, moral reform. These groups have united in one budget of $15,000, most of which is to be secured from their Chinese constituency. A visiting nurse or health secretary has been secured who will work from a Child Welfare Station as a center.

"Governor Yen of Shansi to Undertake Health Program."—Governor Yen has just endorsed the program submitted to him by the Council on Health Education calling for an introduction of health education in the schools of the province, and also to this program he proposes to add the compulsory teaching of elementary health subjects in the school for police officers in Taiyuanfu. There are 220 cadets in this school. In this province, as in many others, all health regulations come under the jurisdiction of the police. A third plan under consideration calls for an attempt to eradicate endemic foci of relapsing fever in the Pinhtingchow district. To put this program into operation the Governor proposes to spend several thousand dollars a year.
Parasitology.

(Abstract.)

CRITERIA FOR THE DIFFERENTIATION OF SCHISTOSOMAL LARVA.—
Ernest Carroll Faust, Ph.D., Union Medical College, Peking. Recently the life histories of the three known species of human schistosomes have been demonstrated. The cercariae of these flukes have characters which differentiate them from the non-human species of schistosomes and, at the same time, allow them to be distinguished from one another. The characters most serviceable for the latter purpose are the unicellular mucin glands together with the ducts and duct-openings associated with the glands.

In the cercaria of Schistosoma japonicum there are five pairs of these glands with acidophilic cytoplasm and large nuclei with basophilic reaction. In the larva of S. haematobium there are three pairs of the glands with the same differential reaction. On the other hand, the cercaria of S. mansoni has two pairs of glands with acidophilic cytoplasm and four pairs with basophilic reaction. The duct-openings for these glands correspond in number to the glands. Moreover, the mouth of the cercaria of S. japonicum is further ventrad than that of either of the other species of larva.

The writer has employed this means to show that there are two species of blood flukes parasitic in man in Natal, South Africa. Application of this method should prove of value in differentiating larvae of related groups.

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Book Reviews


The brief title of this volume does not convey a complete idea of the comprehensive information contained in it. Here we find detailed descriptions of a great variety of procedures used to complete the diagnosis of a given case, ranging from making a simple blood smear, through venous puncture, extraction of the stomach contents, lumbar puncture, etc., to more highly specialized and complicated operations such as blood transfusion, esophagoscopy and catheterization of the ureters. Not only the diagnostic value of these procedures is considered, but also their usefulness in giving treatment. The succeeding steps in each method are described in detail and well illustrated by diagrams. The great value of the book would seem to lie in just this point, that all these different procedures, most of which are scattered around in special works usually not available to one working here in China with a limited library at his command, are collected into one volume, and are available for instant reference, with a very clear description of the technic, and a discussion of the findings.

H. H. M.

PRACTICAL CHEMICAL ANALYSIS OF BLOOD. Victor C. Myers, Ph.D. C. V. Mosby Co., St. Louis. $3.00.

This useful volume of 121 pages contains descriptions of the most up-to-date methods for the chemical analysis of the blood, together with a discussion of the significances of the findings in various disease conditions. The most practical methods are given in each case, and these can be made use of in any laboratory which is moderately well-equipped.
The book is a very useful one for those who wish to do this class of work but who are unable to have reference to the rather extensive literature which has appeared and is appearing on this subject.

H. H. M.


Correspondence.

Correspondents are requested to write on one side of the paper only, and always to send their real names and addresses. The Journal does not hold itself responsible for the opinions or assertions of correspondents.

To the Editor, C. M. J.

DEAR SIR:—This district being one in which kala-azar is endemic, I have been greatly interested in Dr. Sia's article in the September number of the C. M. J., on Ray's Haemolitic Test in kala-azar. So far all cases previously ascertained to be or suspected of kala-azar with the exception of one or two suspects have given positive results. I noticed that among the parasitic cases examined for a positive reaction in Dr. Sia's paper, schistosomiasis was absent, and as we get many cases from an endemic area to the south, around a large lake and marsh district, I tried the test on several cases, some untreated, some treated with tartar emetic by mouth or by vein, and in all cases so far have got positive results. Whether all these cases are free from kala-azar or not I have not proved, but the fact that we have never had a case of the latter disease from this southerly area, and that no clinical symptoms of the disease have shown themselves, makes me morally certain that they have had no kala-azar, but only the schistosome. Some are double or triple infections with ankylostomiasis and fasciolopsis, and with more experience it will be interesting to find if the test answers to schistosome only of these parasites. This is but a preliminary note, sent to you in order that others in schistosome areas may by their experience help in setting the limitations of the test.

Yours very truly,

J. L. E. H. Patterson.

To the Editor, C. M. J.

DEAR DOCTOR:—The above hospital was established in 1909 and up to the present has been conducted in the interests of the foreign community at Kuling as a private enterprise. In 1916 it was decided to associate others with the work and steps were taken which proceeded along the three following lines: Erection of a new and larger hospital building, formation of a Hospital Advisory Committee, and the throwing open of the wards to all regular qualified doctors who desired to treat their own patients. Difficulties unfortunately prevented the accomplishment of this scheme at that time, although a Committee was actually formed, and the prolongation of the Great War continued to make it impossible. Now, however, building operations have begun on the new hospital and it is hoped that the scheme as originally outlined in 1916 will be available for the season of 1922. The hospital is being erected on the premises formerly oc-
occupied by the China Inland Mission School which is both central and ideally located. Provision is made only for foreign patients and the nursing arrangements will be in the hands of a qualified Foreign Staff. It is hoped that the enlarged enterprise will serve your requirements in a more adequate manner than the original one. All enquiries should be addressed: The Secretary, Kuling General Hospital, Kuling.

Yours faithfully,

HOWARD G. BARRIR.

NEWS NOTES.

MEDICAL ETHICS.—The decision of the Supreme Court of Massachusetts declaring moral fitness to be a prerequisite to the proper practice of the medical profession is one that will generally commend itself. The written opinion of the court, given adversely in the case of a doctor who sought legal relief from a summons to appear before the State board of registration in medicine, and show cause why his certificate should not be revoked for alleged “gross misconduct in the practice of his profession” contains the following striking paragraph:

“Highly trained intelligence combined with disregard of the fundamental virtues is a menace. A physician, however skillful, who is guilty of deceit, malpractice or gross misconduct in the practice of his profession, even though not amounting to an offense against the criminal laws, well may be thought to be pernicious in relation to the health of the community.”

In laying down the further principle that mere intellectual power and scientific achievement without uprightness of character may be more harmful than ignorance, the court established a form of conduct which is a safeguard to the public and which, at the same time, no one will accept more readily than the great majority of physicians and surgeons themselves. They are the first to recognize that personal integrity is the solid basis on which the profession stands and that without it the greatest attainments deservedly count for nought. The decision will be a deterrent to the wrongdoer and will be a tower of strength to every reputable medical practitioner.—Washington Post (Ind.).

PROFESSIONAL MEDICAL SOCIETIES IN SOVIET RUSSIA.—The Editor. Dear Sir:—The last issue of the “International Journal of Public Health” (March-April, 1921), contains a communication from a physician of the Russian Red Cross “whom,” to use his own words, “fortune has permitted to communicate with the West.” This communication is mainly concerned with an account of the epidemic prevalence of Typhus Fever and Cholera throughout the land. Incidentally it throws some light upon medical organization under the Soviet system; and as the information is authentic the readers of our “Journal” will doubtless be interested with the following brief extract.

“The lamentable situation of the Russian medical and sanitary profession defies all description. ... The sanitary organizations of the Zemtvos and of the cities, which were created before or during the war, have been dissolved, and the professional medical societies prohibited or replaced by unions of ‘curers’ of which all hospital personnel, including the gravediggers, are entitled to become members. Such organizations might content themselves with regulating economic questions, but actually they are the governing bodies, and I have seen hospitals directed by laundresses, clerks, nurses’ aids, or pharmaceutical assistants. The Russian sanitary organization is powerless, under such conditions, to control the epidemics, in spite of the devotion of the medical personnel of which a high proportion has succumbed to Typhus.”

Yours faithfully,

W. WATKINS-PITCHFORD.

Johannesburg,
April 25, 1921.

WHAT THE WORKMAN SUFFERS.—To the Editor of the “North-China Daily News.” Sir:—It is gratifying to see that great interest is being shown by the Chinese people in the matter of public health not only by the so-called higher classes, but by the working people. The following letter written by workmen in one of the large industrial plants in Shanghai has been sent to the Young Men’s Christian Association with the request that influence be used to change...
the unsanitary conditions in the small Chinese restaurants. We give a translation of the letter, written originally in Chinese. What could be more pathetic than request No. 10? We are sure that the Shanghai people were greatly moved by your health exhibit which was held recently, especially, we the workmen, who have no home, and take both meals in any of the small Chinese restaurants. Even some of us have homes but owing to limit of time between working hours and financial difficulty, we cannot afford to go back.

"In view of the unsanitary conditions of these small Chinese restaurants, we are forced to open our mouths in protest. All the food that we take is very dirty. Sometimes, we find dead insects mixed with them and also the ashes of cigarettes. They do not wash the bowls after they have been used by others, but fill in the rice and serve one after another. We have called their attention to the fact many times but get no response. Since your Association is one of the organizations that interests itself in the welfare of the workmen and also the public, we beg to request you to inform the Municipal Council about these facts. We should be very much obliged if you will do this favour for us. Following please find a list of suggestions which we would make in this connection:

1. Do not store so much rice in the restaurant that it decays.
2. All the vegetables should be washed carefully.
3. All bowls and dishes, etc., should be thoroughly washed after they have been once used.
4. All foodstuff should be covered with wire-screens.
5. No toilets should be located near the eating place.
6. Clean oil should be used for cooking food.
7. No rubbish should be heaped up in the restaurant. It should be cleaned out every day.
8. They should not be allowed to use coal stoves. They should use gas stoves.
9. All utensils such as jars, etc., should be covered so as to prevent flies.
10. Floors should be washed, at least once a month. Enclosed you will find several packages of dirty things which were found in these restaurants.

In the envelope was enclosed an exhibit which was held recently, as an exhibit and the address of the restaurant.

I am, etc.,
W. W. Lockwood.

The facilities for the care of the sick at Kuling promise at an early date to be very materially increased. The Kuling General Hospital is to be accommodated in a modern up-to-date building which is now in course of construction. The wards are to be thrown open to all regularly qualified doctors who desire to treat their own patients. For the summer months there will be installed a complete dental outfit in charge of a first-class dental surgeon. The hospital will be open all the year and will be supplied with electric lights and an X-ray plant. This will be good news to all who may need medical and surgical treatment under the best conditions which are found in the salubrious mountains of Kuling.

The summer course in roentgenology, which was given in the summer of 1921 at the Peking Union Medical College, will be repeated this year. Work commences Monday, June 19th, and continues for six weeks. Instruction consists of lectures and laboratory work in X-ray physics, chemistry and biology, followed by practical work with the X-ray apparatus, and such lectures and demonstrations in diagnosis and treatment as can be given in the limited time. The work is primarily planned for graduate physicians who have had no previous experience in roentgenology.

Enrollment is limited to ten. Application should be made to the Director, Peking Union Medical College, as early as possible.—February 15, 1922.

The autumn term in the Hunan-Yale College of Medicine opened with 45 students in the regular medical classes. The Freshman class numbered 16, the largest on record. The entire pre-medical work is done in the Junior College of the Arts College of Yale in China, where there are nearly 50 pre-medical students enrolled at present.

The medical students come from a remarkably scattered group of provinces, there being men from ten provinces, including Chihli, Szechwan, Kwantung and Kiangsu.

The faculty has voted to admit women and as soon as this was announced two girls from the Union Girls' High School entered the pre-medical department and will be ready for first-year medical work in September 1923.

INDEX VOLUME FOR THE FIRST 35 VOLUMES OF THE CHINA MEDICAL JOURNAL.—Mr. George Y. C. Lu, a fifth year student in the Hunan-Yale College of Medicine has undertaken the prep-
The China Medical Journal.

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Manuscripts: It is desired that manuscripts should be typewritten, with wide margins, and double spaced, on one side of paper 8½ by 11 inches in size. Number the leaves consecutively, beginning with the title page. Put name and address on the manuscript. When romanised Chinese terms or phrases are used, the Chinese characters should also be given, to ensure appearance in a particular number of the Journal. MS. should reach the editor at least six weeks before date of publication. Medical contributions are solicited from all physicians and surgeons in the Far East.

Illustrations: Illustrations should be clear. Of photographs send a good print rather than a negative. Write title or short explanation on back of each picture or table. See that the text references and "figures" correspond.

Bibliographic References: References to authors in the text should be made in the following way:—"According to Smith" (1900) the spleen is enlarged, but Robinson" (1914) says the reverse." Authors quoted should be numbered in the order of citation and the bibliographic reference should be given the same number. Arrange references in a list at the end of the article in the order of the numbers.

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It is the intention of the editors of the China Medical Journal to supply to the members of the C.M.M.A. an author and subject index for the first 35 volumes of the CHINA MEDICAL JOURNAL.

The College will be glad to purchase from doctors early volumes of the JOURNAL, for years prior to 1905. Will older members kindly look through their shelves to see whether they have such, as they should be more useful to an institution than to individuals.

Shantung Christian University School of Medicine. — Three important appointments to the staff of the School of Medicine, Tsinan, have just been announced:

Dr. Henry W. S. Wright, M. S. (London), F. R. C. S. (Eng.), who held a captain's rank in the late war, and has filled a series of important surgical and urological appointments in London, and has recently been conducting research work at the Cancer Hospital has been appointed an associate in surgery, with special charge of the Urological Department.

Mrs. Henry W. S. Wright, M.B., B.S. (London), has the distinction of being the first woman doctor appointed to the staff of the School of Medicine, and will have the direction of the Department of Obstetrics and Gynecology. Mrs. Wright has had a somewhat unusual record of post-graduate experience in gynaecological practice and pediatrics including resident and clinical appointments at Hampstead General Hospital; the Children's Hospital, Great Ormond Street; Bethnal Green Military Hospital (where she was the only woman surgeon); Westminster Hospital; and the Elizabeth Garrett Anderson Hospital for Women; and in Maternity and Infant Welfare centres.

Dr. C. Titterton Maitland, B.Sc., M.B., B.S. (London), D.P.H., who recently secured the Gold Medal at the London School of Medicine, where he has held a somewhat unusual record of post-graduate experience in gynaecological practice and pediatrics including resident and clinical appointments at Hampstead General Hospital; the Children's Hospital, Great Ormond Street; Bethnal Green Military Hospital (where she was the only woman surgeon); Westminster Hospital; and the Elizabeth Garrett Anderson Hospital for Women; and in Maternity and Infant Welfare centres.

Dr. and Mrs. Wright have already arrived in China, in company with Dr. Harold Salme who has just returned from furlough. Dr. Maitland expects to follow within a few months.

Extract from Medical News Section of American Medical Journal, Nov. 5, 1921. CHAULMOOGRA PLANTATION.

To meet the demand for chaulmoogra oil the plantation in Honolulu has been enlarged by 4,000 trees so that an adequate supply may be furnished to be used in the treatment of leprosy in accordance with the methods evolved by Dr. Arthur L. Dean, president of the University of Hawaii.