Diseases and remedies : a concise survey of the most modern methods of medicine / written expressly for the drug trade by physicians and pharmacists.

Contributors

Chemist and Druggist.

Publication/Creation

London : Chemist and Druggist, 1910.

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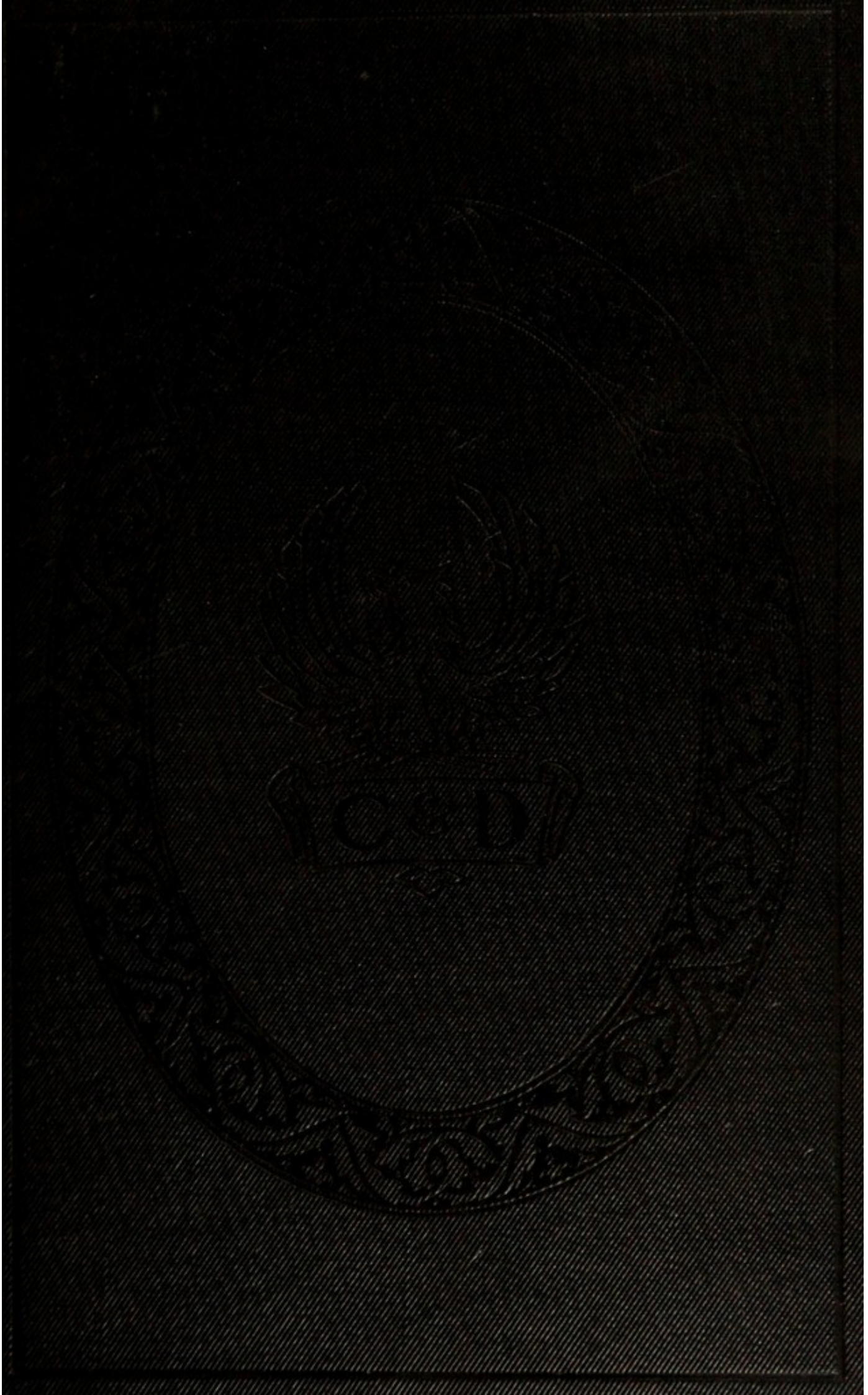


DISEASES AND REMEDIES

PRINTED BY
SPOTTISWOODE AND CO. LTD., LONDON
COLCHESTER AND ETON

DISEASES AND REMEDIES

A CONCISE SURVEY OF THE MOST MODERN METHODS OF MEDICINE

WRITTEN EXPRESSLY FOR THE DRUG TRADE

BY

PHYSICIANS AND PHARMACISTS

FOURTH EDITION

Published at the Offices of

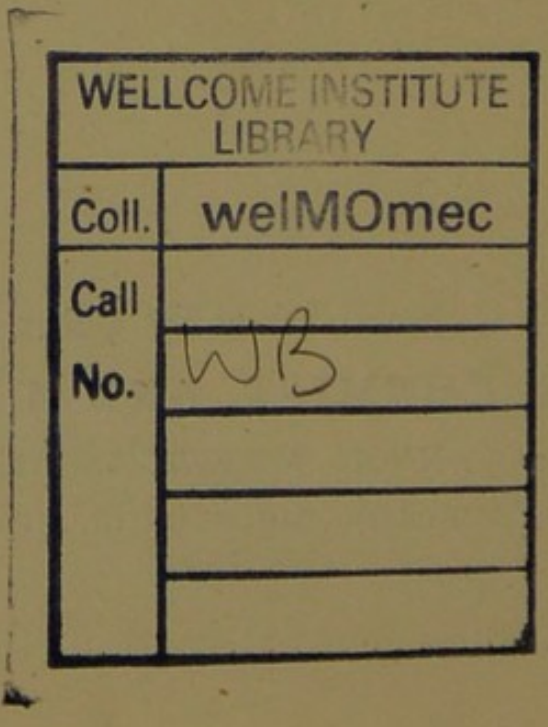
THE CHEMIST AND DRUGGIST

42 CANNON STREET, LONDON, E.C.

BRANCH OFFICES: ADELAIDE, MELBOURNE, & SYDNEY, AUSTRALASIA

1910

First Edition published August 16, 1898.
Second Edition published October 31, 1898.
Reprinted May 1901.
Third Edition published October 31, 1905.
Fourth Edition published November 30, 1910.



EDITORIAL NOTE

THIS TREATISE is offered to chemists and druggists under the conviction that it is of the utmost importance that they should be acquainted with diseases as well as with remedies; that, indeed, they cannot duly understand the latter without a knowledge of the former; in other words, that they fail to occupy the position they are often called on to hold in their relation to the public, and as an intermediary between them and the medical man, unless they have an intelligent acquaintance not only with the medicine but also with the cases in which it is used. With regard to the bearing of this view on the much vexed question of counter-prescribing, it may be said, first, that there is counter-prescribing and counter-prescribing—that there is an illegitimate form of it which should never be practised, and which it is believed that those who do practise it know to be illegitimate, but that there is another form which is not only legitimate but necessary and inevitable, and which is conducive to the best interests of all concerned. But it may also be affirmed with confidence—and this is really the justification of this treatise—that the more the pharmacist knows of disease, of its symptoms and issues, the less eager will he be to assume lightly the functions of the medical man.

It only remains to add that, with the view to giving effect to these opinions, the services of two experts, one on each of the two departments of the subject—diseases and remedies—have been called into requisition in getting up the work.

PREFACE

TO

THE FOURTH EDITION

THE note which precedes this savours of apology, but none is needed in introducing the fourth edition of a work which has commended itself so well to chemists and druggists. The book is peculiar among books devoted to the treatment of the ailing, in so far as it is unlike popular works on domestic medicine, and it does not pretend to be so exhaustive as are books written by physicians. The basis of 'Diseases and Remedies' was provided by physicians of repute, whose intimate acquaintance with chemists and druggists enabled them to discuss the subjects in that friendly manner which is not uncommon when physicians and pharmacists converse on difficulties of treatment. The present edition has been carefully revised by a general medical practitioner, and certain parts of the book have been entirely rewritten.

42 CANNON STREET, LONDON, E.C.
November 15, 1910.

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DISEASES AND REMEDIES.

ABSCESS.

A LOCALISED formation of pus or matter in an organ or tissue of the body is called an abscess. It is the result of intense inflammatory action, and may be caused by injuries or by an unhealthy state of the blood or constitution. An abscess may be acute or chronic. The former develops quickly, with great pain, heat, and swelling, and is likely to extend into neighbouring parts. If it be not attended to at once by a skilled surgeon, widespread mischief may be the result. A chronic abscess is slow to mature, and the signs of acute inflammation are not marked. It is frequent among the tuberculous. In acute abscesses the temperature is higher than usual—sometimes very high indeed—while in chronic forms it is generally normal. This is indicated by the clinical thermometer, an instrument now in universal use and invaluable in the diagnosis of disease. When retained beneath the tongue or in the armpit for a shorter or longer time, it indicates the true temperature of the body. This under normal conditions is 98·4° F., a higher temperature being a sure indication of serious constitutional disturbance. It should never be forgotten that all abscesses are the result of the invasion of the tissues by living microbes; the tissue resistance may have been reduced by injury, ill-health, or chill. The most common invading microbe in acute abscess is *Staphylococcus aureus*, which is a common inhabitant of the skin. Chronic abscess is generally caused by *Bacillus tuberculosis*, and this usually reaches the part by the blood-stream, having a special predilection for the ends of long bones, and joints, in the young. The rise of temperature is caused by the toxins, from the growing bacteria,

circulating in the blood, and affecting the heat-regulating centre in the brain.

Treatment.

When there is no doubt that an abscess is formed—that is, that there is a cavity containing pus—the only rational treatment is to evacuate the pus by incision, the wound being afterwards dressed till healed with a mild antiseptic dressing, such as carbolic acid (1 in 40) or moist boric lint. The following treatment is useful before the formation of pus, or when there is doubt as to its presence—pus can only be diagnosed with certainty when a feeling of 'fluctuation' is conveyed to the palpating finger.

Fomentations.—Flannels wrung out of hot decoction of poppy (which may be conveniently made by boiling three or four poppy 'heads' in two pints of boiling water) relieve pain, swelling, and either prevent formation or promote maturation. Frequent bathing with hot water is also a recognised mode of treatment.

Fomentations of Ammonium Carbonate ʒj. to Oj. of hot water are employed to prevent threatened abscess of the breast.

Belladonna.—Oleate of atropine, or a paste composed of ext. belladon. ʒij. and glycerin. ℥j., applied to the affected part, is a valuable application to allay pain and prevent the formation of matter.

Oleate of Mercury and Morphine is applied locally to allay pain and prevent fresh formations. It is often used to stimulate cold abscesses, also to absorb after-indurations or swellings.

Quinine, in full doses—gr. iij. every four hours—has a marked effect in aborting abscesses, especially those implicating the breasts or gums. A good formula is :—

Quininæ sulphatis	gr. xx.
Acid. hydrobromic. dil. . . .	ʒiij.
Tinct. aurant.	℥ss.
Aquam ad	ʒviij.

ʒj. every four hours.

Iodine.—A tincture (ʒss. to ℥j.) painted over the parts at intervals in chronic abscesses is the usual treatment to promote absorption or to hasten maturation.

Iodides, such as ung. potass. iod. or cadmii iodidi or lin. potass. iodidi c. sap., are sometimes preferred to iodine on account of their not producing coloration of the skin.

Calcium Sulphide is especially beneficial in cases of small or multiple abscesses, such as boils or carbuncles. As an abortive, calcium-sulphide pills, $\frac{1}{10}$ gr. in each, are excellent.

Constitutional treatment—generally of a tonic nature—is always necessary in cases of abscess, especially when of the chronic description. Quinine and iron or compound syrup of hypophosphites will be found most suitable.

ACIDITY (OF THE STOMACH).

Hydrochloric acid is natural to the stomach, and does much of the work of digestion. It helps the pepsin to break up and liquefy the food. Whenever it is deficient, digestion is impaired, the nutriment ferments unduly, and rancid irritating acids are formed. This is one of the most common symptoms of indigestion, and with some people it is exceedingly troublesome, being accompanied by pain and flatulence and giving rise to an irritable state of mind and body.

Treatment.

(*See* 'Dyspepsia.')

ACNE

is most common during the years of puberty, and is met with in both sexes. It is caused by over-secretion of the oil-glands of the skin. These become blocked up, and pimples are produced with 'black-heads.' Hence their popular name. Acne is an ailment of by no means a serious nature, although it may last for a long time. Its disfiguring effect is what is most dreaded, as it generally occurs on the face and neck, where it cannot be concealed. The contents of the pimple can be squeezed out by pressure between the fingers, or by

using a tube such as the pipe of a small key, which should be pressed over the pimple. Acne rosacea is the name given to the condition of the nose when it becomes swollen and purple. It is frequently associated with the excessive use of alcoholic beverages.

Treatment.

Exercise should be of a brisk or active kind. Open-air exercise by cycling, boating, tennis, or the like will give the necessary muscular play.

Cold Baths taken daily are merely a form of active exercise. By reducing bodily heat they help to use up excess of fat. They impart tone to the skin, and are the best known preventive and cure for acne. Rain or soft water is best for ablutionary purposes, or an ounce of sodium carbonate may be added to the bath-water, and a rough towel with considerable friction should be used. Hot baths or Turkish baths generally have a bad effect in relaxing the sweat and oil glands, and so promoting fresh crops of pimples.

Soap.—Coal-tar or Stockholm-tar soaps are best. Employed in conjunction with very hot water, for steaming the face at bedtime, they are excellent in some cases, but not in all.

Diet should be plain and wholesome ; greasy, rich foods should be avoided.

Alcohol in strict moderation exerts a specific effect in many cases. Pure draught beer is best, taken with meals. Spirits come next. Wines, especially weak clarets, are of very little service.

Calcium Sulphide, gr. $\frac{1}{10}$ or more t.d., may be given with good effect where the eruption has a tendency to become pustular.

Hydrarg. Perchlor. gr. j. to rose-water ℥iv. is a useful outward application. It is one of the ingredients of a popular cosmetic. Oleate of mercury (20 per cent.) is a valuable application, but if sulphur has been used must not be applied till all the sulphur has been removed, otherwise the face may be stained black.

Sulphur and Calamine.—Where the condition is chronic, and especially if there is pustulation, the following lotion should be painted on with a camel-hair brush after well washing the parts with soap and warm water :—

Sulphur. præcip.	ʒj.
Calaminæ præp.	ʒij.
Zinci oxidi	ʒi.
Glycerini	ʒj.
Aquam ad	℥iv.

M.

If there is much redness, which occurs in rosacea, or where irritating applications have been used, the sulphur should be omitted until all inflammation has subsided.

Aperients, when constipation is present : small liver-pills, such as—

'Pharm. Form.' II. No. 9.

Aloin.	gr. $\frac{1}{5}$
Ext. bellad. . . .	gr. $\frac{1}{8}$
Strychninæ . . .	gr. $\frac{1}{120}$
Ext. cascara sag. . .	gr. ss.

M. Ft. pil. iv. ij. h.s.s.

'Pharm. Form.' II. No. 11.

Aloin.	gr. $\frac{1}{4}$
Ext. bellad. . . .	gr. $\frac{1}{8}$
Strychninæ . . .	gr. $\frac{1}{60}$
P. ipecac. . . .	gr. $\frac{1}{10}$

M. Ft. pil. h.s.s.

Alkalies, especially in rosaceous forms, or where urticaria is an additional complication. The following are good formulas :—

Alkaline Mixtures.

'Pharm. Form.' II. No. 52.

Sodii bicarb. . . .	ʒiss.
Spt. amm. arom. . .	ʒij.
Tr. zingiberis . . .	ʒiss.
Tr. nucis vom. . .	♏xl.
Liq. bismuthi . . .	ʒij.
Inf. gent. co. ad . .	℥iv.

M. ℥ss. t.d.s.

'Pharm. Form.' II. No. 50.

Sod. bicarb. . . .	ʒj.
Liq. bismuth. . . .	ʒxij.
Tr. nucis vom. . .	ʒj.
Inf. gent. co. ad . .	℥vj.

M. ℥ss. t.d.s.

Guaiacum, taken in the form of lozenges, or the following mixture :—

Tr. guaiaci amm.	ʒvj.
Tr. cinchonæ	ʒvj.
Mucil. acaciæ	ʒvj.
Aquam ad	℥vj.

℥ss. t.d.s.

It stimulates the healthy activity of the excretory organs, especially the bowels and the skin.

For acne rosacea :—

Tar capsules, j. ter die sd. p.c.

Mag. carb.	gr. xx.
Sulph. præcip.	gr. xx.
Sodii bicarb.	gr. x.
P. zingib.	gr. iij.

M. F. pulv.

Sig. : To be taken in milk at bedtime.

Lot. calamin. sine sulphur.

ADENOID GROWTHS.

Adenoids are enlargements of the lymphatic tissue in the naso-pharynx. Many children suffer from them, and to their effects may be ascribed a large proportion of the dull, slow-witted, and even imbecile among our population. When large they cause an obstruction so that breathing through the nostrils is not possible, and a common symptom of adenoids is the open, gaping mouth and vacuous look of the sufferer, who is also often afflicted with deafness and sore throat. Adenoids may shrivel up and disappear naturally by the time the child reaches puberty ; but if the growth be extensive, it must be removed by surgical means, and this should be seen to before the child has reached its twelfth year, if not earlier. No medical treatment can be suggested for adenoids, though painting the enlarged glands with a weak solution of silver nitrate may sometimes be useful. It is advisable that chemists should familiarise themselves with the appearance of these sufferers, as a timely word of advice to the parents would in many cases be an act of mercy. In mild cases much can be done towards a natural cure by teaching the child to take simple breathing exercises while keeping the mouth closed, and using the following nose-wash :—

Sodii bibor.	ʒiij.
Glycerini	ʒiij.
Liq. cocci	q.s.
Aquam ad	℥viij.

To each bottle add fifteen drops of—

Thymol.	℥ss.
Ol. gaulther.	℥ss.
Ol. eucalypt.	℥ss.
Ol. menth. pip.	℥ss.
S.V.R. ad	℥ij.

Equal parts of this nose-wash and warm water to be sniffed through each nostril into the back of the throat twice daily.

This washes away all muco-purulent secretion from the nose, naso-pharynx, and orifices of the Eustachian tubes, and prevents the recurrent attacks of naso-pharyngeal and Eustachian catarrh ; it is simpler and safer than douching.

AGUE.

This is the popular name for malaria or malarial fever, a disease common in tropical and sub-tropical countries where mosquitos of the genus *Anopheles* are found. It is caused by a blood parasite (one of the *Sporozoa*) known as *Hæmamœba*, which, in order to complete its life cycle, has to pass through three stages, two of which are passed in the stomach and tissues of the mosquito, and one in the blood corpuscles of man. Two types of parasite have been isolated, one responsible for 'tertian' fever, and the other for 'quartan,' so called because the paroxysms occur regularly every third or fourth day. 'Quotidian' is said to be due to a tertian infection in which the parasites are present in two groups reaching maturity on alternate days. Each paroxysm consists of three stages—a cold stage, with shivering, followed by a hot stage, which ends in the third—profuse sweating.

Since the discovery of the malaria parasite by Laveran, and the brilliant researches of Ross and others culminating in the working-out of its life history, and the establishment of the fact that it is only by means of mosquitoes of the genus *Anopheles* that the disease can be spread, the method of stamping it out has become obvious. The plan adopted has been to destroy the breeding places of the mosquitos (shallow pools), and the crusade has been so successful that

(to take one example only) the making of a canal through the Isthmus of Panama has become a possible undertaking, whereas before the researches referred to the loss of life from malaria was so enormous that the work had to be abandoned.

Treatment.

Quinine.—In mild forms of ague, or as a preventive, quinine undoubtedly gives the best results in small doses, gr. j. to gr. iij. t.d. In severe paroxysms one large dose is better—gr. x. to gr. xx., shortly before an attack is expected, or gr. v. t.d. As quinine acts better when the bowels are lax, calomel or podophyllin should precede it by several hours.

Arsenic is especially valuable in chronic cases—mv. of the solution t.d. after food, mj. t.d. as a preventive.

Sulphur.—In the form of sulphur lozenges, sulphur fumigations, or calcium sulphide pills, gr. $\frac{1}{10}$ doses. Those who work in the Sicilian sulphur-mines are free from ague, although it rages in the vicinity. Sometimes sulphurous acid, mxx. every four hours or oftener, and sodium hyposulphite gr. xv. to gr. xxx. in water, act better from their ready solubility.

Warburg's Tincture has been greatly praised and its utility endorsed by specialists in tropical diseases.

Change of Climate.—If a sufferer is residing in a malarial district he must be ordered to a suitable healthy climate.

Cold Plunge.—Shortly before chill is expected a brisk walk and a cold plunge, afterwards a good rub and a drink of cold water, and then a brisk walk home. This is an heroic plan, but it often succeeds.

ALCOHOLISM.

Alcohol, taken to excess, hardens, destroys, or renders useless every organ of the body.

Intemperance is most pronounced in persons of an active, excitable temperament, and obtains on them a greater hold. Idleness, great trouble or grief, an irritable brain, the thoughtless recommendation by a doctor of wine to a susceptible

patient, are common starting-points of excess—and there can be no doubt of the baneful influence of heredity in many cases, and those the most hopeless. It is generally agreed that alcohol in any form is bad for children.

Treatment.

Entire Abstinence from all intoxicants is the only real cure for those who, possessing an unstable brain, drink to excess. Unfortunately it is generally most difficult, often indeed impossible, to enforce it, yet it should always be insisted on.

The Swedish Cure consists in isolating the patient and saturating all his food with alcohol until he absolutely loathes the sight and smell of the poison. Cures are often permanent. The ordeal is much dreaded by those drunkards who have once tried it.

Diet Cures.—Many articles of food have been recommended from time to time. Copious water-drinking allays thirst and washes out the alcohol from the blood. Sufferers who have been induced to drink skimmed milk or buttermilk sometimes continue taking it and avoid the spirit. Milk repairs alcohol-damaged organs, and is a wholesome nutritious substitute. Strong coffee, without sugar or milk, will sometimes appease the dreadful craving. Apples, almonds, raisins, lump sugar, or pure sweets are not merely nutriment, but in a measure quench thirst and diminish desire. Such articles can be carried in the pocket and eaten to dull the appetite.

Liq. Ammon. Acet., taken in a large dose (say, 1 to 2 oz.), has the reputation of steadying a drunken person.

Liq. Ammoniæ is a very old remedy for alcoholism, and a very good one—7 to 8 drops in half a wineglassful of water. It modifies the sensibility of the stomach and so acts on the nervous system.

Potassium Bromide.—Chemists are often applied to by persons who have been indulging in stimulants to excess for days and have brought on a condition of extreme restlessness and sleeplessness. Such persons will solicit laudanum or morphine,

but it is the chemist's duty to refuse it. The proper remedy will be found in one of the bromides—40, 50, or even 60 gr. of pot. brom. in one dose. Specialists now treat dipsomaniacs by keeping them asleep for several days with bromides, so that alcohol and its immediate effects are got rid of. Then, in convalescence, the patient is treated with good food, sound advice, and tonics. Strict abstinence should be sternly enjoined, and also a strong effort on the part of the patient to keep himself absolutely quiet.

Capsicum.—Of the tincture ɱx., combined with other hot camphoraceous drugs, is useful to allay sinking feeling and the morning nausea and sickness. It should be given in small draughts of aërated water. The carbonic acid is itself an excellent remedy for these symptoms.

Morphine.—As a rule morphine and all narcotics should be avoided in treating dipsomaniacs. They may become necessary, but that should be left to the judgment of the medical man.

Iron has been recommended. The following formula will be recognised by many chemists as having been in print, associated with the name of a public man, in whose case, it is asserted, it effected the cure of dipsomania. He took the whole as a draught when the craving became intolerable :—

Ferri sulph.	gr. v.
Magnesiæ	gr. x.
Spt. myrist.	ʒj.
Aq. menth. pip. ad. . . .	℥iss.

Ft. haust. p.r.n. sum.

Ext. Cinchonæ Fluid. (ʒj. t.d.) has been strongly recommended, and is serviceable in mild or recent cases.

Gold Cures.—The so-called 'gold cures' for dipsomania are composed mainly of chloride of gold, strychnine, atropine, with cinchona and possibly coca. For females, fluid extract of viburnum prunifolium is largely used as a sedative for the sexual disturbances that periodically cause nervous females to fly to drink to drown their troubles or ease their pains Atropine is regarded by many medical men as a specific in the

treatment of alcoholism, but the addition of strychnine is a great aid. The following is a genuine American gold cure, the use of which has rescued many men from alcoholism ; but its effect is not permanent unless the victim is an absolutely total abstainer from strong drink :—

Auri et sodii chlorid. . . .	gr. xv.
Liq. strychnin.	℥ij.
Liq. atropinæ sulph. . . .	℥j.
Ext. cinchonæ liq.	℥iij.
Ext. cocæ liq.	℥ss.
Glycerini	℥j.
Aquam ad	℥viij.

M. ℥j. ex aq. t.d.s.

AMENORRHŒA.

Arrested menstruation arises from many causes, the most frequent being pregnancy. The possibility of conception must always be taken into consideration before any treatment is thought of. To tamper with this is felony.

Amenorrhœa is common among young girls who are bloodless and lacking in stamina, whose functional development has been retarded by any excessive strain on the physical or mental powers. Exposure to cold, getting wet, nervous excitement, and change of air from country to town will induce it at times. It should not be forgotten that it is sometimes one of the symptoms of phthisis, and is in such cases of grave significance.

Treatment.

Liq. Ammon. Acetatis ℥j. every four hours if the arrested flow is accompanied by signs of fever and caused by chill or getting wet. Putting the feet in hot water is a useful adjunct to the treatment.

Mustard.—A mustard sitz-bath is good for acute stoppage, or used daily a short time previous to the usual date of the periods. In chronic cases it is preferable to resort to sitz-baths in conjunction with other treatment.

Permanganate of Potassium (gr. ij. t.d. in pill) is one of the best remedies we possess. It should be given continuously until menstruation takes place.

Iron is invaluable in anæmic cases or where ill-health is marked. Blaud's pills or pil. aloes et ferri are best. In strumous subjects, cod liver oil and Parrish's food build up the system, and so remove an obstruction.

Aloes, given at or shortly before a period is expected, in full doses, either in the form of mixture as dec. aloes co., or as pills. Uterine functions are stimulated indirectly by its action on the lower bowel.

Iodide of Potassium gr. v. to gr. x. t.d. in chronic cases with functional engorgement and headache. The bromide of potassium ʒss. n.m.que and the chlorate are equally serviceable.

Cold Sponging or cold sitz-baths are resorted to when stoppage is due to debility and laxness of tissue.

Emmenagogues.—Ext. ergot. liquid., savin, and pennyroyal act as emmenagogues, but require caution in their administration. Liquor sedans, a preparation of viburnum, hydrastis, and Jamaica dogwood, is a specific in amenorrhœa, a teaspoonful twice a day before the periods having a marvellous effect.

Valerianate of Quinine gr. ij. t.d. and valerianate of iron gr. ij. t.d. are invaluable in the amenorrhœa of debility, hysteria, or want of nerve tone.

Aperients.—The bowels must always be attended to, and kept open, if necessary, by aperients.

Change of Air is desirable in cases where climate or mode of living has had to do with the disorder.

Mental Rest is essential in cases caused by brain overstrain.

ANÆMIA OR BLOODLESSNESS.

When the girl develops into womanhood, or the boy takes on the functions of a man, the system is greatly taxed. The muscles want plenty of play in the open air, and the

appetite requires to be satisfied with a liberal supply of wholesome food. Modern styles of living—want of exercise, and neglect of elementary laws of health—are not conducive to the due development of the frame or to richness of blood. The blood becomes poor and watery, bereft of red corpuscles, lacking iron. This is called anæmia, and, if complicated with perverted uterine functions, chloro-anæmia or chlorosis. The skin is pale and clear, with sometimes a greenish tint, the lips and eyes are blanched, shortness of breath occurs on slight exertion; headache, backache, giddiness, even fainting, and great lassitude, are its common symptoms.

Treatment.

Aperients.—The late Sir Andrew Clark believed that the most potent cause of anæmia is constipation. Fæcal poisons are absorbed from the bowels, he said, and enter the blood, destroying the red blood-corpuscles. An aperient iron mixture, such as mist. ferri salina, is excellent:—

Ferri sulph.	gr. xvj.
Magnes. sulph.	℥iv.
Acid. sulphuric. dil. . . .	℥j.
Aq. menth. pip. ad . . .	℥viij.

℥j. t.d.s.

Food not to be too nourishing, but such as forms bulk rather than concentrated nutriment—a full vegetarian diet, with a fair supply of meat. This forms substance, and so enables the bowels to act regularly.

Rest and Massage should be had recourse to when the patient has shortness of breath and palpitation. If able to be about, exercise that fills the lungs with air and oxygenates the blood is of importance.

Dress should not be too heavy or tight-fitting. Tight-lacing must be strictly forbidden, and skirts should be fastened so that the weight is borne by the shoulders, and not by the waist.

Iron forms an essential constituent of the blood, and, when given in anæmia, almost invariably cures. It must be continued for a length of time. The aperient mixture

mentioned above is one of the best forms of giving it. Blaud's pills (gr. x. t.d.) continued for a month regularly, tinct. ferri perchlor. (♏x.), vin. ferri (ʒj.–ʒij.), pil. ferri c. myrrh., or pil. aloes et ferri may be administered to suit individual requirements. When the tinct. ferri perchlor. is given in sweetened milk it does not affect the teeth.

Alkalies are sometimes required, but should always be combined with iron to prevent their lowering tendency. The following is a favourite form :—

Ferri et ammon. cit.	ʒij.
Potass. bicarb.	ʒiij.
Syr. aurant.	ʒiv.
Aquam ad	℥iij.

S. et M. ʒj. t.i.d. post cibos.

Arsenic is of great value. It can be combined with iron in mixture form, or may be given as a pill, gr. $\frac{1}{100}$ to $\frac{1}{50}$ arsenious acid with gr. ij. ferr. redact. t.d., or in the form of Blaud's pill with arsenic. Arsenic is also the best known remedy for the peculiar and rare form of fatal anæmia called 'pernicious.'

ANGINA PECTORIS.

It is a terrible experience to be shut in a dark room with an unseen enemy. An aged person seized with suffocative breast-pang has this kind of feeling. There is a mysterious something within his chest, and he feels as if death were near. The attack is sudden, with severe pain which prevents freedom of breathing. The pain is grasping, crushing, stabbing—an awful pain. With it is a distressing feeling of sinking, of faintness, of impending dissolution. Angina pectoris is mostly a nervous disorder. There are nerves which regulate the functions of the heart and blood-vessels, which are also in touch with the lungs, liver, stomach, and kidneys. The heart is generally fat-diseased, and the small coronary arteries which supply the heart are rigid and bony. A slight perturbation or upset of the nervous machinery throws out of gear the heart's mechanism, and a paroxysm of angina results.

TREATMENT.

Quiet Living is essential. A sufferer from angina should rigorously avoid excitement, hurry, or worry, and his food should be as light and as well cooked as possible, so as to avoid the danger of overloading or distending the stomach.

Emp. Belladonnæ worn over the region of the heart is much appreciated by some sufferers.

Potassium Bromide gr. xx. combined with ♏v. succ. bellad. in water ℥j. will quiet the heart's action and often prevent or mitigate threatened attacks.

Nitrite of Amyl inhaled, or trinitrine tablets taken, are acknowledged to be the best palliatives for this disease during a paroxysm.

APHONIA OR LOSS OF VOICE.

This is generally one of the symptoms of a common cold. The vocal cords become relaxed like the strings of a violin when not screwed up, and, like them in that condition, refuse to give out a clear sound. Public speakers and singers, and the clergy, are prone to dysphonial attacks, which usually demand rest, change of air, and constitutional treatment.

TREATMENT.

The throat should be well protected, and cold and fog and night air should be avoided. The inhalation of steam at night is an excellent remedy. Lozenges of an acid or astringent nature should be used—black currant or tannin, or the latter with cayenne. Irritating external applications, such as lin. camph. co., to the throat may also be resorted to. Gargling the throat or pencilling it with glycerin of tannin will be useful in more persistent cases. Solution of adrenalin, 1 in 5,000, sprayed from a nebuliser, is an excellent remedy. Aphonia is sometimes, although rarely, a grave malady, arising from organic causes. Such cases must be referred to the throat or chest specialist.

APOPLEXY.

As years pass on and the system gets worn out the arteries lose their natural elasticity, become rigid and bony, and are liable to burst. This rupture occurs most frequently in the brain, and this is the most usual cause of apoplexy, partly because the brain is surrounded by fluid and is movable inside the skull, but chiefly on account of the circulation being forcible and free in that organ. It is the first part to bear the strain, and its vessels are the earliest to give way. In a severe form the patient is unconscious, his breathing is loud and stertorous, his eyes are insensible to light. He has coma. If he emerge from this, some form of local or general paralysis of one side of the body will be noticed. The amount of paralysis and its character depend on the particular portion of the brain that the blood-clot has usurped.

Apoplexy may also be caused by a clot forming in one of the vessels of the brain, the result of disease of the vessel wall (frequently caused by syphilis), or by a vessel becoming blocked by an embolus—that is, a clot carried from some other part (most usually one of the heart valves). It requires all the skill and experience of a trained physician to say which cause is at work, and even he may often be at fault. As the treatment in each case is entirely different, chemists should have nothing to do with it; for example, hæmorrhage requires elevation of the head, while thrombosis or clotting requires lowering of the head; hæmorrhage calls for purging, while thrombosis responds best to heart stimulation and perhaps sodium citrate. Syphilis is best treated with potassium iodide, and rheumatic disease of the heart valves with sodium salicylate.

APPENDICITIS.

The vermiform appendix is a rudimentary portion of bowel 4 to 6 inches long, and about the thickness of a large quill. One end of it is blind; the other is connected with the back part of the cæcum, which is situated in the right side of the abdomen above the groin. When this little piece of bowel is

inflamed the patient is said to be suffering from appendicitis. The symptoms are pain and tenderness in the right side of the abdomen and, in some cases, vomiting.

TREATMENT.

Hot Fomentations to the seat of the pain, and small doses of opium, with absolute rest, keeping the thighs well supported by pillows, a light diet, and careful administration of purgative enemata are required for mild cases. In severe cases a surgical operation is necessary, and as it is always difficult to say what should or should not be done, it is absolutely necessary at once to place all such cases in the care of the medical man.

ASTHMA.

Asthma is a peculiar form of nervous disorder, frequently hereditary. It is a spasm of the bronchial tubes which prevents the free entry and exit of air to and from the lungs and impedes the circulation and oxygenation of the pulmonary blood. In a typical case the patient wakes up suddenly in the middle of the night with a sense of tightness at the chest and inability to breathe freely. He has loud wheezing and a feeling of being stifled. If able to do so he makes for the window to inhale fresh air. Asthma is not dangerous to life unless complicated with heart disease or chronic bronchitis. It is a frequent complication of other diseases—such as diabetes, gout, and stomach disorders. To watch anyone in an attack is very distressing.

TREATMENT.

Residence.—This is a most important consideration for asthmatic patients when it can be attended to. Some places and some surroundings which are otherwise unhealthy suit them admirably—thus London fog and the air of a stableyard are often beneficial. Unfortunately, as in the treatment generally, no rule can be laid down, as what is suitable for one case may not suit another at all, and the right surroundings must be found out by experience.

Diet.—An asthmatic who is careful about his diet suffers much less in consequence. Light, easily-digested food is best. The principal meal should be taken in the middle of the day. The supper should consist of a cup of beef-tea and toast, arrowroot biscuits, or nutriment of a light character, such as experience will demonstrate to the sufferer to be best fitted to his case.

Exercise is of great importance. It should be of a light and unfatiguing kind, when it will promote digestion and be serviceable in the due preparation of the blood for the nourishment of the nervous system.

Caffeine, either in the form of strong coffee or the effervescent hydrobromide or citrate (ʒj. p.r.n.), is a useful drug to ward off an impending attack. Combined with antipyrin its action in many cases is wonderful :—

Antipyrin.	gr. xl.
Eff. caffein. hydrobromidi . .	ʒiv.

Mix and divide into six powders. One every four hours.

Potassium Iodide, plain or combined with spt. ammon. aromat. Pot. iod. seems to have a specific effect in many cases of asthma. It is given in large doses—gr. x. or more if it can be borne, twice or thrice a day. It is the principal component of a proprietary remedy for asthma, of considerable repute.

Tr. Lobeliæ Ætherea is perhaps the best and most curative remedy for true asthma. It acts well, combined with iodide of potassium or sodium, in the following mixture :—

'Pharm. Form.' II. No. 2.

Potass. iodidi . . .	ʒj.
Ammon. carb. . .	ʒiss.
Tinct. lobeliæ æther. .	ʒij.
Vin. ipecac. . . .	ʒiss.
Aquam chlorof. ad . .	ʒviij.

ʒss. every four hours.

Hare's Antiasthmatic Elixir.

'Pharm. Form.' II.

Sodii iodidi . . .	gr. xvj.
Sodii bromidi . .	gr. xvj.
Tr. lobeliæ . . .	♏xvj.
Ext. euphorb. pilulif. liq.	♏xxiv.
Nitroglycerin. . .	gr. 2/5
Glycerini et aquæ aa. q.s. ad	ʒj.

ʒj. v. ʒij. t.d.s.

Euphorbia Pilulifera is a favourite remedy in the Antipodes, where it is specially esteemed for the prompt and complete relief it affords to sufferers from asthma.

Grindelia Robusta.—The liquid extract given in doses of ♏xx. to ♏xxx. is a valuable remedy in many cases. This remedy may also be given with advantage for a length of time as a preventive in form of gr. iij. pills of the solid extract.

Inhalations are useful palliatives. Nitre paper burned below the nostrils often gives great relief by oxygenating the air breathed. Favourite burning powders are the following :—

Asthma Powders.

'Pharm. Form.' II. No. 1.		'Pharm. Form.' II. No. 2.	
Potass. nit. . . .	℥ss.	Pot. nit. . . .	℥ss.
Pulv. fol. stramon. .	℥j.	Pulv. stramon. . .	℥iss.
Pulv. sem. anisi . .	℥ss.	Pulv. lobeliæ . . .	℥ss.
Misce.		Misce.	

A thimbleful to be burned on a plate, and the fumes inhaled.

There are various proprietary articles which are probably of a similar composition. Stramonium—especially the Indian variety, the *Datura Tatula*—smoked as a cigar, or in a pipe, is also a favourite remedy.

Ether and other antispasmodics, such as ammonia and chloric ether, are used to relieve urgent symptoms :—

Sp. ætheris	♏xx, to ♏xl.
Tr. hyoscy.	♏xx.
Aquæ camph.	℥j.

P.r.n. sum.

Asthma Remedies in the form of sprays are legion. These appear to depend on the use of atropine or some other mydriatic alkaloid, with or without cocaine ; and some medical men have recommended solution of adrenalin, which, by reducing the bronchial congestion, frequently affords instantaneous relief.

BILIOUSNESS.

The liver is subject to various disorders. The one to which the name 'biliousness' is commonly applied is when it becomes sluggish and unable to fulfil its proper function. This happens from various causes—want of exercise, mental worry, some error or excess in diet. Sometimes it occurs without any apparent cause, and many persons are constitutionally subject to it.

The symptoms are bitter taste in the mouth in the morning, pale-coloured stools, headache or giddiness, pain under the right shoulder blade, depression of spirits or irritability, and general malaise.

Treatment.

Diet.—This should be of the simplest character, and, during an attack, in very small quantity. Also, as the function of the liver is to operate on fats and hydrocarbons, all such articles as cheese, pastry, and rich greasy dishes should be avoided. For drink, pure spirits, as whisky and brandy, well diluted, are to be preferred to wine and fermented liquors.

Cholagogues.—Mercury is the time-honoured antibilious remedy. Combined with pil. rhei co. or with pil. col. et hyos. it rarely fails in restoring the liver to its functional activity. Podophyllin and euonymin are also very efficient cholagogues. Most bilious people derive benefit from an occasional dose of such remedies. The following are approved formulæ :—

Liver Pills.

'Pharm. Form.' II. No. 10.

Podophyllin.	gr. ¼
Ext. hyoscy.	gr. ¼
Pil. col. co.	gr. j.

Misce.

Ft. pil. One every second or third night.

'Pharm. Form.' II. No. 7.

Pil. hydrarg.	gr. ij.
Pil. rhei co.	gr. ij.

Misce. Ft. pil. tales xij. Una h.s.s.

Dilute Nitro-hydrochloric Acid is good along with a tonic after the liver has had a thorough stir up with cholagogues as in the following :—

Acidulated Liver Mixture.

'Pharm. Form.' II. No. 1.		'Pharm. Form.' II. No. 12.	
Acid. nitro-hyd. dil. . .	℥ij.	Acid. nitro-hyd. dil. .	♏80
Tr. nuc. vom. . . .	℥j.	Magnes. sulphat. . .	ʒj.
Syr. aurantii . . .	℥iv.	Liq. taraxaci . . .	ʒj.
Aquam ad . . .	℥vj.	Inf. gent. co. ad . .	℥viij.
℥ss. t.d.s.		Misce. ℥ss. t.d.s.	

BOILS.

Many common ailments not in any way dangerous to life are frequently accompanied by pain severe out of all proportion to the extent of parts involved. This is so with the small, tense, pustular swelling called a boil. It is caused by the invasion of the deeper layer of the dermis by *Staphylococcus aureus*. Young healthy adults of full habit who live too well, are common sufferers. So also are those whose constitutions are debilitated by want of proper food or by unhealthy surroundings. Boils usually occur in crops or series, and are seldom accompanied by fever or constitutional disturbance. Still, they give rise to much general discomfort and broken rest until they break. This generally requires to be assisted and hastened by hot fomentations and poultices, and frequently incision and gentle squeezing must also be called into requisition. Carbuncles are boils, but in them the symptoms are much intensified, and they always have a constitutional significance. The pus formed in them is dead, and assumes a firm, cheeselike consistence, so is more difficult to come away. They are treated in the same way as ordinary boils, but this must always be supplemented by treatment directed to the constitutional cause producing them. If repeated attacks occur, be on the watch for diabetes.

Treatment.

It should be kept in view as a guiding principle that boils may proceed from one of two quite opposite causes—viz., from

the blood being either too rich or too poor—and that the treatment must vary accordingly. Sometimes it must be of a setting-up nature, and consist of full diet and of bracing tonic remedies such as acids and iron; at other times the diet must be spare and the remedy of an alkaline nature, and it may be difficult to know the proper treatment except by experience.

Sulphides exert a specific action on boils. They modify the peculiar condition of the blood that causes boils to appear. The sulphide of calcium is the salt generally employed, in doses of gr. $\frac{1}{10}$ t.d.

Quinine Sulphate in full doses (gr. iij. with ac. hydrobromic. dil. ℥xx.) is a good remedy when boils are caused by debility or malarial poison.

Guaiacum, in the form of mist. guaiaci ℥j. t.d., may cure boils when other remedies fail.

Diet should be simple, and the sufferer should partake largely of fruit and vegetables, which cool the blood and serve as gentle evacuants. As a general rule oatmeal and sugar should be avoided, as they are heating.

Abortive Treatment.

Camphorated Mercurial Ointment—that is, ung. hydrargyri co. B.P.—is a very serviceable preventive application rubbed into the part affected. A boil should never be allowed to form. In the initial stage the thumb-nail should be pressed deeply into it both vertically and horizontally, and the boil painted with collodion.

Emp. Galban. Co. is an old but a very effective remedy of this character. It should be spread on small round bits of leather—black kid leather by preference for appearance sake—sufficient fully to cover the boil, and be renewed every twelve hours. In an early stage this will drive the boil back, and in a later stage it is equally effective in bringing it forward. Even after the boil has burst, the plaster is a most effective means of evacuating it of the matter.

Antiseptic Treatment.

A piece of lint soaked in carbolic-acid lotion (1 in 20) is perhaps the most soothing of all applications, and it has the advantage of preventing fresh crops around the original site. The saturated lint should be covered with oiled silk or gutta-percha tissue to keep it moist. Even after the skin is broken the lotion softens and keeps sweet the core, and leads to its ultimate separation. If the skin is broken, a probe dipped in pure carbolic acid and stirred about in the core will lessen pain and lead to a much quicker cure.

BRONCHITIS.

The bronchial tubes are the passages through which air passes to the lungs, and by which we breathe. They are lined throughout by a delicate mucous membrane, which chills, cold air, and other irritants, in the extreme delicacy of baby structures or the inelasticity of advancing years, render prone to inflame and oversecrete its natural mucus.

Bronchial disease is partial to the extremes of life. It assumes the acute form in the young child struggling with its teeth or some infantile complaint, while the chronic form singles out the aged. Once established, the winter cough and chronic bronchitis in its severe forms return regularly every autumn. It is not difficult to alleviate the trouble, but it is hard to cure it.

Treatment.

Clothing.—More can be done by attention to clothing in cases of chronic bronchitis than by drugs alone. The advantages of wearing flannel are obvious. Above all, the feet should be warmly shod. House-slippers should be warm and fur-lined. By attention to these matters, not only can life be prolonged, but the patient's remaining days are rendered much more comfortable. Patients should be urged to sleep in blankets in preference to sheets.

Diet is an important item in treatment. As the cough and expectoration are most troublesome in the morning, a cup of warm tea or coffee, with toast or a biscuit, before rising, is useful. Sufferers require a little food at frequent intervals, and should never be overfed. A light nourishing supper promotes rest and sleep. Alcohol must be taken in great moderation, as it may increase the symptoms. Malt extract and cod-liver oil are helpful in weakly or strumous subjects.

Inunction.—The application, with friction, of warm oil to every portion of the body is invaluable in acute infantile cases. It promotes perspiration by bringing the blood to the surface, and it soothes a teething or restless child, so that it falls into a quiet refreshing sleep, and wakes with much diminution of the symptoms.

Mustard, in the form of mustard leaves applied to the back, is useful as a counter-irritant. In severe forms of the malady large mustard poultices may be resorted to with great benefit. The leaves should be kept on as long as the patient can bear them.

Poultices, as a rule, should not be used in cases of bronchitis. If used at all, they should be applied as hot as can be borne, and changed quickly; but the patient is apt to catch cold in changing them, and the symptoms will then be greatly aggravated. The effect of poultices without this drawback may be obtained by applying flannel wrung out of hot water and covered with cotton wool and jaconette.

Inhalations, Fumigations, Sprays.—It is very doubtful whether the bronchitis-kettle, which used to be considered an essential adjunct in the treatment of acute bronchitis, does not work more harm than good in the majority of cases; the best medical opinion of the day is opposed to it, on the principle that when a patient is already in danger of being drowned in his own secretions it is folly to supply him with more moisture. On the other hand, if the medical attendant can satisfy himself by the physical signs that the bronchial tubes are dry and inflamed, it is quite likely that antiseptic steam from a kettle will promote the flow of mucus and thus relieve the irritation.

Great judgment is required in the handling of each case. Tinct. benzoini co. (℥j. to Oj. of boiling water) or acid. benzoic. (gr. x. to Oj.) may be used in the kettle. When a bronchitis-kettle is employed it is of great importance that the temperature of the room should not be allowed to fall by day or night, otherwise the patient may take a chill owing to the dampness of his surroundings. In the acute stage it should be as near 60° F. as possible.

Ammonia Salts act as stimulating expectorants, and are of great value. The carbonate is chiefly used, but the chloride has its advocates. They are suitable for the chronic stage, and are very generally given along with senega, as follows :—

Bronchitis Mixtures.

'Pharm. Form.' II. No. 2.	
Ammon. carb. . . .	℥j.
Vin. ipecac. . . .	℥ij.
Tr. scillæ	℥ij.
Spt. chlorof. . . .	℥ij.
Inf. senegæ ad . . .	ℨvj.
S. et M.	
ℨss. 3tiâ vel 4tâ hor. q.q. ex aq.	

'Pharm. Form.' II. No. 13.	
Ammon. chlor. . .	℥ij.
Vin. ipecac. . . .	♏xl.
Tr. camph. co. . .	℥ij.
Ext. glycyrrh. liq. . .	℥ss.
Aq. chlorof. ad . .	ℨviij.
Misce. ℨss. t.d.s.	

Chloretone, dissolved in liquid paraffin and sprayed from an atomiser, is very useful.

Liq. Ammon. Acet.—In acute forms of bronchitis, liq. ammon. acet., spt. ætheris nit., or potass. citras must be administered to act on the skin and allay feverish symptoms.

Potassium Iodide is a useful remedy when the phlegm is hard and difficult to raise. The iodide loosens and liquefies the mucus, so that it is readily expelled. If there is difficulty of breathing, the iodide may be combined with tinct. lobeliæ ætherea, as follows :—

Pot. iodid.	gr. xl.
Tinct. lobel. æth.	♏lxxx.
Aquam camph. ad	ℨviij.

℥j. quartâ quâque horâ.

Ipecacuanha and **Antimony** are both good expectorants. The wine of either—preferably the former—may be used as the essential ingredient of a cough-mixture. With this may be combined succ. conii, tinct. camph. co., syr. scillæ, spt. chloroform., to soothe and allay bronchial irritation. If there be much wheezing or loose expectoration, liq. arsenicalis ♏j. to ♏ij., according to the case, is a useful addition.

Opiates.—Cough-syrups containing morphine should be avoided as a general rule. If, however, the cough is violent out of all proportion to the attack, and there is very little real bronchial mischief, opium or morphine will have a very beneficial effect. Chloral hydrate, in doses of gr. ij. to gr. x., is also serviceable in such cases, and does not block the secretions. Opium acts by inspissating the secretion which it is the object of treatment to liquefy and get rid of; therefore when it is given it should be combined with a stimulant, such as ammonia or chloroform.

Tr. opii ammon. . .	ʒvj.
Tr. card. comp. . .	ʒij.
Syr. scillæ . . .	ʒiiss.
Aquæ menth. piperitæ .	ʒiiss.

Misce.

ʒij.-ʒss. nocte maneque ex aq.

'Pharm. Form.' II. No. 81.

Glycerin.	ʒj.
Tr. opii ammon. . .	ʒj.
Inf. senegæ conc. . .	ʒj.
Aq. chlorof. ad . . .	ʒx.

Misce. ʒij. t.d.s.

Acids.—Mineral or vegetable acids are effectual in lessening secretion and checking cough. Lemon-juice and glycerin is a good combination, or hydrobromic acid may be added to a cough-mixture.

Stimulating Liniments are much used in chronic bronchitic cases for rubbing the chest. The best are lin. opii ammon. (Bow's), lin. chloroformi, lin. camph. co.

BURNS.

Two chief factors determine the danger of a burn—the depth to which it has penetrated and the extent of surface involved. A *burn* results from the application of dry heat or a caustic to the surface of the body, and the term *scald* is

applied to such injuries as are caused by heated fluids or steam. The latter are, as a rule, more extensive and also more superficial than those due to a burn. If the injury extends deeply into the flesh, involving the true skin, dreadful scars result, and when more than one-half of the skin's surface is involved, the destruction of the cuticle throws more work on the kidneys and causes congestion, and in some cases inflammation, of the internal organs. Fortunately, severe burns or scalds of these types are rare. The majority of cases are of a simple and superficial character, and are easily treated.

Treatment.

The exclusion of air is the main object to be attained, as pain and shock are much increased by the action of air upon the raw surface. For this purpose,

Carron Oil (lin. calcis B.P.) is the universal remedy, and one which can always be relied on.

Cotton Wool.—It is an excellent plan to envelop the part thickly in ordinary cotton wool, and to allow it to remain undisturbed as long as possible. This treatment is applicable to all blistered surfaces.

Powders.—There is nothing more efficacious for recent burns than French chalk, kaolin, or fullers' earth in fine silken powder ; if not available, flour may be used, but it has the objection that it is liable to cake and decompose, causing irritation.

Sodium Bicarbonate.—A saturated solution is said markedly to relieve the pain and smarting of scalds, or the powder can be dusted over the injured part.

Iodoform promotes healing if sprinkled on the part. This drug should not be applied to recent burns, lest it should be absorbed.

Ung. Zinci.—To allay subsequent inflammation and promote healing no remedy is equal to zinc ointment applied freely on linen. Some medical men prefer ung. boric. for this purpose, and sometimes the two ointments are used, mixed in equal proportions. It is well to note that burns treated with

zinc ointment occasionally become gangrenous. This is really due to the ointment being old, rancid, and alive with pathogenic micro-organisms.

Carbolic Lotion or other carbolic preparations should not, as a rule, be applied to burns, because symptoms of phenolic poisoning frequently arise after their application.

Chloretone is an admirable application. It is at once non-toxic, antiseptic, and analgesic, and it does not delay granulation. An ointment, 1 in 10, makes a satisfactory dressing.

Picric Acid, first recommended by Dr. Miles, of Edinburgh, is displacing all the old methods of treatment, and modern surgeons say that Carron oil and other greasy applications should not be used on account of their promoting septic troubles. Picric acid is used in the form of solution, *e.g.* :—

Acid. picric.	ʒiss.
Spt. rectificat.	℥iij.
Aquam ad	Oij.

M. et S.

Gauze or lint should be wrung out of this solution and applied to the affected surface, then covered with absorbent wool. The dressing should be changed once or twice a week, any portion of it which is dry being left undisturbed. This acts remarkably well in superficial burns, the relief of pain being immediate, from the picric acid forming with the albumen of the tissues an insoluble antiseptic varnish, which seals up the sensitive nerve endings. In deeper burns sloughs will separate with the dressings, and the raw granulating surface may be treated, according to circumstances, with boric fomentations or weak eucalyptus vaseline.

CANCER.

Pathologists are still divided into two opposing camps as regards the causation of cancer: (1) those who believe that the disease is due to a parasite, and (2) those who are of

opinion that the occurrence of malignant growths can be explained by purely intrinsic causes inherent in the cell itself.

The nature of cancer is perfectly understood. All surfaces, cavities, and organs of the body are lined by a structure called epithelium, composed of cells which in health are continually being thrown off to be replaced by fresh growth. A cancerous growth is composed of epithelial cells. For some unknown reason more new cells are produced than are required to replace those thrown off by wear and tear. The superfluous cells accumulate rapidly at the tumour seat. As the growth enlarges it destroys the healthy structures in its vicinity. Sometimes it reaches a vital part and so destroys life. At other times a large blood-vessel is eaten into and fatal hæmorrhage occurs, or it may infiltrate the system and cause death by blood-contamination and exhaustion.

There seems to be no mode of depriving the cancer-cells of their power to reproduce themselves. If we knew why they increased so, we should be within measurable distance of a cure for this terrible disease.

Treatment.

Diet.—Various forms of diet have been brought forward from time to time as capable of curing cancer. A milk diet, so beneficial in kidney disease, has no effect. A purely vegetarian diet is asserted to cure, by enthusiasts of the vegetarian school, but experiments have found it wanting.

Removal by Operation.—There is but one recognised treatment for a malignant tumour, and that is its early removal by the knife. Even this, as a rule, offers but a temporary respite to the sufferer, for the growth generally returns at the seat of operation. Still, it offers to the patient a relief from suffering for at least a time.

Calcium Sulphide (gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$ t.d.) long continued has been given with good effect after cancer operations to prevent recurrence, and is worthy of further trials.

Opium.—Opium and its preparations are largely used for the purpose of relieving pain and suffering. They must be

given under medical supervision and in full doses. Sometimes chloral hydrate (gr. x. t.d.) may be preferred if opiates block the secretions or cause nausea and headache, or a combination such as 'bromidia' may be resorted to.

Remedies without number continue to be brought forward as cures for cancer—all kinds of drugs, electricity, external applications, &c. Professor Clay, of Birmingham, in 1880, proposed Chian turpentine and sulphur as a specific for cancer, and it was favourably reported on at the time; but subsequent experience has not fulfilled the promise held out then, and it has now become quite obsolete. All such remedies are serviceable only inasmuch as they keep the patient interested, and so divert his mind from his terrible affliction and render his sufferings less hard to bear.

X-ray treatment of cancer seems to have produced fairly good results, reports of several successful cases having been published. On the other hand, at least one case has been reported where the medical man in charge of the treatment himself contracted cancer and died from the disease.

Radium has also been used with conspicuous success in selected cases, but is only accessible to paupers and millionaires. For superficial cancers application of a caustic (*e.g.*, carbonic-acid snow) is quicker and as good.

CHANGE OF LIFE.

This great physiological change—the end of the reproductive period—has a most important and critical bearing on woman's health. It is an epoch in her existence when the uterine functions are in a state of abnormal activity, and it is not astonishing that a variety of constitutional disturbances should arise, in consequence of the necessity of the various structures adapting themselves to the altered state of affairs.

The symptoms which point to a commencing menopause are very varied, and are mostly of a neurotic type, or depend on alterations of the circulation. The patient's periods are

often irregular or profuse, she complains of pressure, burning, giddiness, throbbing, or noises in the head. Sleeplessness, hot flushes, rheumatic or neuralgic pains, hysteria, depraved temper or appetite are other signs, and all sorts of strange fancies may take possession of the mind. This is the period when the most serious cases of melancholia occur, and the intense mental depression and suffering which result not infrequently develop a suicidal tendency. Constant watchfulness and, if possible, change of air and scene are required ; but in all these cases, even those which seem the worst, there is always good reason to anticipate recovery.

The average age for the change of life to occur is forty-five. After a variable period—it may be months, possibly years—the system recovers its normal fibre. The woman takes, as it were, a new lease of life.

Treatment.

Diet must be plain and unstimulating, with little or no alcohol, and a sparing allowance of meat. Tepid baths are good, but late hours, excitement, and worry are highly prejudicial.

Aperients.—Constipation is a frequent concomitant of the menopause, and is best overcome by a liberal fruit diet and a course of one of the natural aperient mineral waters ; but in some cases a simple pill of aloes, or aloes combined with pil. hydrarg., answers better.

Potassium Bromide is perhaps the most valuable drug we possess to relieve the varied nervous symptoms. It soothes the despondency, sleeplessness, and irritability. It should be given in doses of ʒss. n.m.que, and continued for some length of time. Bromides should not, however, be given in cases of true melancholia. Sulphonal and paraldehyde are the best hypnotics.

Ergot.—If the menorrhagia is profuse it may be controlled by ext. ergot. liq. in ʒss. or ʒj. doses t.d., or by acid. gallic. gr. x. t.d., and a steady and prolonged course of iron should be taken, intermitting it during the periods.

Eucalyptus Oil, 5 drops on sugar, is a serviceable drug to relieve the flatulent distention, but spt. ammon. arom., combined with spt. camphoræ, is often better.

Zinc Valerianate gr. ij. in pill is useful to relieve the hot flushes. The inf. valerian. in mixture is better to relieve hysterical symptoms.

Tonics are not always well tolerated. Liq. arsenic. (♏iij. to ♏v.), ferri et quininæ citras (gr. iv.), tr. nuc. vom. (♏v. to ♏xv.) have their value, but their use is by no means attended with uniform success.

Change of Air is the proper treatment where mere drugs fail to benefit. As a rule inland resorts are better than sea-coast localities.

CHICKEN-POX.

Chicken-pox resembles smallpox, but has no real connection with it. An attack of chicken-pox does not render the system proof against smallpox, nor *vice versa*.

The fever is slight, the eruption, which comes out in successive crops, has no tendency to produce pits unless violently scratched, and on the third or fourth day the vesicles dry up.

Treatment.

The treatment is very simple. Keep the patients in bed, put them on a milk diet, and administer some saline mixture containing liq. ammon. acetatis or potassium citrate in appropriate doses.

CHILBLAINS.

Redness, some swelling, and intolerable heat and itching are the features of an unbroken chilblain. More severe symptoms and an abraded cuticle constitute the broken form of this circulatory ailment. Chilblains are difficult to cure. Suitable means of treatment are unpleasant to a sufferer. It is hard to modify the natural predisposition to them.

Unlike a true inflammation, a chilblain never spontaneously develops into a pus-discharging sore—that is to say, the chilblain inflammation exhibits tissue change up to a certain point (the swelling which characterises inflammation, as in a sore throat), but it never reaches that point when the tissue degenerates into pus. Herein lies the difference between the chilblain and some other inflammations arising in cold weather. The origin is simple, and the seat of trouble limited. A certain torpidity of nerve action, and consequently of blood circulation, is induced in the hands and feet by low temperature and damp, and some swelling takes place which passes unobserved, until some evening, when the afflicted person begins to feel warm and comfortable, an intolerable itching of the parts arises. This itching is evidence that Nature is trying her best to restore the parts to health, for it is simply due to stimulated circulation in the parts. Chilblains give little trouble during the day, this being another point of difference between them and true inflammations, which go on steadily to their worst if unchecked. The most careful observers are agreed that men, women, and children are not equally liable to attack. Our own observation is that the disposition is hereditary, and that it is not at all a case of poor feeding or poor clothing, but inherent deficiency in circulation, or in the quality of the blood, which age will remedy, and does remedy, in many cases. The late Sir B. W. Richardson differentiated a class of his patients, and ticketed them 'Chilblain Circulation'; they are always ailing more or less, have chilblains amongst other things, but are wonderfully long livers. In them the heart never works at high pressure, so it lasts long.

Treatment

Hygiene.—Every sufferer from chilblains should be urged to avoid hot rooms or fires, and to protect the system against cold by means of exercise, warm clothing, and both local and general friction of the body. Warm, double-lined

gloves, thick stockings, even washleather socks, have been known to keep them away.

Most of the remedies which relieve the itching check the circulation and do harm. Aconite is one of the worst things of the kind, and capsicum and arnica are not far behind it. Youngsters should have liberal feeding with 'malt and oil,' and a teaspoonful of the following mixture twice daily :—

Tr. belladonnæ	ʒj.
Syr. phos. co. ad . . .	℥viij.

M.

The belladonna stimulates the circulation, and is much better and safer for children than digitalis, which is good, however, for adults, as in the following :—

Quininæ sulphat.	gr. xxiv.
Acid. hydrochlor. dil. . . .	♏xx.
Tr. ferri perchlor.	ʒiij.
Tr. digitalis	ʒj.
Glycerini	ʒvj.
Aq. ad	℥viij.

M.

Dose : A tablespoonful three times a day.

For relieving the itching, a lanoline and witch-hazel ointment is excellent, and does not interfere with the circulation at all, while it can be applied with benefit to slightly abraded parts :—

'Pharm. Form.' II. No. 14.

Lanolini	℥vij.
Liq. hamamelidis dest. . . .	℥iij.
Acidi carbolici	ʒss.
Ol. lavand.	♏xx.
Ol. eucalypt.	ʒj.

M.S.A.

Affected parts to be well rubbed at night with the ointment.

Glycerin is of no use at all. An excellent application is—

Collodii belladonnæ . . .	℥ss.
Collodii flexilis	℥j.

M.

To be painted on the affected parts at 6 P.M. and 9 P.M.—that is, twice in the course of the evening.

One of the best liniments is—

'Pharm. Form.' II. No. 36.

Chloroformi	℥ss.
Lin. belladonnæ	℥j.
Tr. benzoin. co.	℥ss.
Lin. saponis	℥vj.

M.

Apply bits of lint dipped in the liniment to the parts affected, and allow them to remain on for at least ten minutes.

Here the chloroform has a local anæsthetic action, and gives what immediate relief is obtained; the belladonna is the arterial stimulant which hastens the cure; and the soap liniment has a soothing and cooling effect—it is also slightly counter-irritant. Rubbing is not mentioned, because it is of no use telling chilblain-afflicted people not to rub; they will do that as a matter of course, and thereby assist the healing power of Nature. The tr. benz. co. in the liniment is colouring; tr. cannab. ind. does quite as well.

Peroxide of Hydrogen has been proposed in the treatment of chilblains, the ordinary solution being diluted with an equal volume or with two volumes of boiled and warm water, and the parts bathed with the lotion for half-an-hour daily. If the chilblains are ulcerated, a saturated solution of sodium biborate is added to reduce the acidity and diminish the pain of the application.

Iodine.—The tincture (℥ss. to ℥j.) painted on the parts affected is a most effectual remedy to allay the itching and produce curative action. If on the hands or face the decolorised tincture may be used instead. If on the feet, pencilling them with a solution of argent. nit. (℈j. to ℥j.) is a sure remedy. Of course it stains the skin black, which prevents its application to the hands.

Sulphurous Acid diluted with 2 parts of glycerin has been strongly recommended.

Carbolic Acid Collodion (1 in 30) will often be found useful.

Tannic Acid.—A solution of ℥ij. in an ounce of spirit of wine, applied with a brush and allowed to dry, forms a film, and

shrivels the swollen surface, thereby giving great relief to the itching and irritation.

Calcium Chloride is recommended by Sir Almroth E. Wright, M.D., as an internal remedy. It acts by increasing the density of the blood, which, Sir Almroth observed, is always low in chilblain patients. Dose, gr. v. to gr. x. for children, and double for adults, in syrup and water thrice daily. It may be combined with tr. ferri perchlor. ♏x. to ♏xx. in each adult dose. The remedy should be commenced just before the chilblain season. Its action is magical, when it is to cure.

Broken Chilblains are very slow to heal. The following ointments will be found useful :—

'Pharm. Form.' II. No. 3.		'Pharm. Form.' II. No. 12.	
Ungt. acid. boric. . .	ʒj.	Zinc. oxid. . . .	ʒij.
Ungt. acid. carbolic. .	ʒj.	Acid. carbolic. (pur.) .	ʒiss.
Adipis benz. . . .	ʒj.	Vaselin. . . .	ʒvj.
M.		M.	

Apply night and morning.

CHOLERA.

It is now ascertained that the contamination of a water-supply is the main cause of the dissemination of Asiatic cholera in Europe. Hence the supreme importance of investigating the condition of the water-supply whenever the disease makes its appearance ; and it is to this point that the attention of the sanitary authorities is now universally directed. The awful suddenness with which it strikes down and kills its victims is one of the chief features of cholera. The first symptoms to be noticed are diarrhœa, chills, and spasmodic pains or cramps in the abdomen. These give place to profuse rice-watery or bloody evacuations, great thirst, general coldness of the body, and speedy death. Cholera is caused by an active virulent specific microbe, which creates intense inflammation of the digestive organs and great fermentation in the intestines. If the ravages of the disorder are to be checked it must be taken in hand without delay. Very little time is allowed for

remedies to have a chance. By international agreement a staff of medical and sanitary specialists now guards the gates between the East and Europe for the exclusion of cholera, which is frequently carried by pilgrims on the way to Mecca. There, and elsewhere in the civilised world, whenever cholera is discovered the victims are rigidly isolated. Sanitation beats medication.

Treatment.

Hygiene.—Houses should be well ventilated and freed from all effluvia or decaying refuse. Disinfectants ought to be liberally used. Cholera attacks mostly those who are badly housed and badly fed, who are huddled together in slums. Persons should go about their business as usual, and have no thought of fear. If they live quietly and healthily, they are in the best state to resist this and any other epidemic disease. A woollen or felt body-belt should be worn by those who reside in an infected district. One should be worn during the night, and changed for a day one every morning.

Diet.—'Boil everything,' especially drinking-water and milk, is a good rule to go on in cholera times. Unripe or too mature fruit or vegetables should not be allowed. Alcohol is prejudicial except in strict moderation. The intemperate fall a ready prey. Let all meals be taken regularly and all food eaten slowly, so that the digestive processes may go on in a normal fashion and the stomach be abundantly supplied with its natural acid—hydrochloric acid. It will thus present a barrier through which it is generally believed the cholera microbe cannot pass, as it flourishes in an alkaline medium like that of the intestine. Smoking in moderation is asserted to be a preventive of cholera.

Carbon Bisulphide is one of the best agents to restore the normal action of the bowels. It was used with great success some years ago in the Paris hospitals.

Rubini's Camphor.—A remedy which obtained much credit in former English epidemics was Rubini's camphor, a homœopathic preparation made with equal parts of camphor

and rectified spirit. The dose is 2 or 3 drops frequently on sugar. This can also be used as a preventive.

Sulphuric Acid.—In view of the fact that acids are deadly to the cholera microbe, mineral acids should be the remedy indicated. Dilute sulphuric acid in doses of 20 to 40 minims, taken when the bowels are relaxed, is probably the best remedy we possess for cholera. Mixed with syr. aurant. and boiled water, it forms a pleasant acidulated beverage for regular use in times of epidemic.

Sulphur has been much used in Indian epidemics both by fumigation in the shape of sulphur fires burnt round about and in infected districts, and also as lac sulphuris (℥j. to ℥ij.) taken internally.

Opium.—Given in the form of chlorodyne or otherwise, twice a day, opium has a magical effect in allaying the cramps and intestinal pains. It is a good plan to combine it with sulphuric acid. In cholera times no case of diarrhœa should be neglected, as it may always be regarded as a premonitory symptom. The sulphuric acid and opium treatment may be adopted, or as an alternative a chalk mixture.

Cholera Mixture. Acid.

'Pharm. Form.' II. No. 3.

Acid. sulph. dil.	℥vj.
Tr. opii	℥j.
Spt. chloroformi	℥iij.
Tr. card. co.	℥iss.
Aq. menth. pip. ad	℥xij.

Misce. ℥ss. 4tis horis sum.

Aromatic Chalk Mixture.

'Pharm. Form.' II. No. 18A.

Tr. opii	♏48
Tr. catechu	℥iij.
Tr. cinnamomi	℥iij.
Spt. ammon. arom.	℥ij.
Mist. cretæ ad	℥viij.

Misce.

Sig. : Cap. ℥ss. quâque tertiâ vel quartâ horâ.

A supply of either of these mixtures should be kept in readiness in every household.

External Remedies may be found necessary to relieve the cramps in the stomach and bowels. Mustard is the best, applied over the abdomen. For the limbs diligent friction with a stimulating embrocation is recommended—cajuput oil, camphor, turpentine, and ammonia have all been well spoken of.

COLDS.

'A cold' is a term of very wide signification. This article refers only to what may be called common colds affecting the eyes, nostrils, throat, and chest, but without general or constitutional symptoms. More serious forms of colds are noticed, as Bronchitis, Influenza, Cough, &c., under their respective heads.

A cold may be caused by exposure to damp or cold or draughts, and even when a part of the body only is exposed to them. Many people are very susceptible, and frequently take it without any apparent cause. A neglected cold is the foundation of a large number of dangerous diseases, and therefore any cold should be attended to at once. The use of the cold bath in the morning, with friction by means of the flesh brush previously, and plenty of brisk open-air exercise are the best preventives.

The symptoms of a common cold are running at the nose and eyes, dryness or soreness in the throat, and cough. These symptoms may exist separately or, more frequently, combined. Often they succeed each other, beginning in the head, and advancing by the throat to the chest.

Treatment.

Liq. Ammon. Acet.—The best remedy for an incipient cold is liq. ammon. acet. It keeps up a gentle action of the skin, and so relieves the affected organs. Either of the following 'cold mixtures' is good :—

'Pharm. Form.' II. No. 1.		'Pharm. Form.' II. No. 3.	
Liq. ammon. acet.	℥ij.	Liq. ammon. acet. fort.	℥ij.
Sp. ammon. arom.	℥iv.	Spt. ætheris nit.	℥ij.
Aq. camphoræ ad	℥viij.	Aq. chlorof. ad	℥iv.
Misce. ℥ss. every three hours.		Misce. ℥ss. pro dose p.r.n.	

The patient must keep warm during its use.

Opium.—An old and approved method of arresting a catarrh in the head is a full dose of tinct. opii or liq. morph. at night. Ten grains pulv. ipec. co. followed by a basin of warm gruel at night, and a saline aperient in the morning, has the same effect. Tinct. camph. co. is the favourite opiate for relieving cough, but it should be combined with a stimulant; 40 minims of the tincture with 20 minims sp. am. ar. for an adult dose answers well, and 5 minims vin. ipec. may be added.

Salol is an excellent remedy for aborting a cold; one or two 5-grain tablets at night completely arrest the trouble in many cases.

Camphor will often arrest a cold in the head. Ten drops of the spirit on a bit of sugar, or a camphor lozenge or pilule taken every hour. Bismuth snuff is also excellent for the same purpose.

Anticatarrh Snuff.

'Pharm. Form.' II.

Mentholis . . .	gr. xv.
Cocain. hydrochlor. .	gr. v.
Pulv. acid. boric. . .	ʒviij.

Misce.

Medicinal Snuff.

'Pharm. Form.' II.

Bismuth. subnit. . .	ʒvij.
Pulv. acaciæ . . .	ʒj.
Morph. hydrochlor. . .	gr. ij.

Misce.

There is a possible danger of creating the cocaine habit by habitual use of the anticatarrh snuff. Smelling-salts with carbolic acid or oil of eucalyptus will also be found useful, and much safer than narcotic snuffs.

Mustard.—A mustard leaf applied for ten minutes at bed-time to the front of the chest often cuts short a cold affecting the chest. Putting the feet in hot water or mustard and water is also a favourite method of treatment.

Change of Air.—Sometimes a common cold resists all treatment, remaining persistently for a long time *in statu quo*. In such a case change of air for a few days generally acts like magic in dispelling it.

CONSTIPATION.

If it were not for Nature's barrier—the liver—a costive person would not live for many days. Dejecta, if retained for any time, generate virulent toxic substances. These are called leucomaines or ptomaines, and are deadly poisons. They are rendered inert when brought into contact with the liver juices. The small quantity that leaks through into the system destroys the red corpuscles of the blood. A condition of anæmia or bloodlessness is the result. This is a real blood-poisoning—fæcal poisoning.

When an individual works his brain much, nerve force is diverted to that organ. The intestinal nerves become torpid and lazy, and bowel movements are slowed. Constipation is frequent among brain workers.

General debility and want of tone, caused by excesses of any kind or by a sedentary life, render the nerves sluggish and the digestive organs torpid. There is not sufficient peristaltic movement to carry the food onwards.

Women are more subject to constipation than men, and they are peculiarly liable to it during pregnancy. They have more space for distention without suffering inconvenience, and their mode of life is less active. It is important to remember that prolonged loading of the rectum is apt to bring about uterine displacement.

Treatment.

Regularity of Habit.—Evacuation of the bowel is periodical and influenced by habit, and the bowels should be trained *by habit* to empty themselves once in twenty-four hours. If the regular call is not obeyed, the necessity for the evacuation passes away. If the call is repeatedly neglected, habitual costiveness is the result. A regular habit can always be acquired if persistently solicited.

Diet.—If the bowels have not sufficient material to act upon they will remain costive. Therefore diet should be a full one, with plenty of coarse bulk-forming nutriment, such

as fruit, vegetables, and farinaceous grains, with a modicum of animal food to make it nourishing. Fruit taken before breakfast has a valuable aperient action ; oranges, apples, or melons are the best to take. If not available, a glass of cold water, with or without a little lemon or lime juice, can be taken instead. All food should be thoroughly masticated. Young children frequently cry because they are thirsty, and they should be allowed an occasional drink of pure water. A dry diet is to be avoided. A good deal of liquid should be taken with every meal. Many people, especially town-dwellers, find that alcohol in the form of beer helps to regulate their bowels.

Whole-meal Bread has a decided tendency to promote the action of the bowels by increasing their peristaltic, or forcing-down, action. It will cure constipation when drugs entirely fail. Wheat is man's staff of life, for, compared with other cereals, the excess of gluten which it contains enables it to be easily made into bread. To obviate the natural binding qualities of the starch and gluten, Nature has provided it with an extremely irritating husk, and she meant this to be eaten with the wheat.

Exercise.—Brisk exercise, such as can be had by means of outdoor games and sports, increases the flow of bile—the natural aperient of the body—stimulates the peristaltic movements of the bowels, and is highly conducive to their regular action.

Massage.—Firm kneading of the abdomen is of immense service in the constipation of young children, and even adults are sometimes benefited thereby. The massage employed should be firm and deep to be effectual.

Tobacco.—Smoking in moderation, especially after breakfast, promotes the action of the bowel. Excessive smoking, on the other hand, by impairing the tone of the nervous system, creates constipation.

Cascara Sagrada.—The most valuable remedy we possess is cascara sagrada, which is a tonic laxative. The fluid extract should be given in daily doses, sufficient to cause one natural daily action of the bowels, and this should be kept

up until regular habits have become established. Where the bitterness is objected to a cascara tablet will be found effective.

Glycerin Enema.—A teaspoonful of glycerin injected into the bowel at the proper time each day is an efficient evacuant, which may be the means of ensuring regularity, or glycerin suppositories may be used. Glycerin acts as an irritant, and the efforts to expel it make the bowels move. As a rule, ordinary enemata are prejudicial unless they are merely employed to unload a distended bowel. A piece of soap is used for the same purpose as glycerin for constipated infants.

Cholagogue Resinoids.—Of late years the active principles of a number of powerful aperients, such as aloin and podophyllin, have been brought into general use as elegant aperients. They act when the liver is at fault, causing it to secrete more bile, which is the natural stimulant of the bowels. Nux vomica, a drug which is of immense service for want of bowel-tone, is generally combined with the foregoing, but even alone it is a favourite and successful remedy for constipation.

Natural Aperient Waters.—Carlsbad salts, or the mineral waters of Friedrichshall, Hunyadi, Franz Josef, Apenta, &c., are largely used for constipation, and they are undoubtedly very serviceable. They are best given in adequate doses in the morning fasting. Potassium bitartrate, Rochelle salt, or sodium phosphate, owing to their being almost tasteless, may be administered as a mild laxative in broth to children A drachm of sodium sulphate in water before breakfast, followed by a glass of hot water, is an excellent morning draught for many people.

Castor Oil is a useful, safe, and certain aperient to unload the bowels when blocked.

Aloes.—There is an endless variety of aperient pills, in which aloes is an almost universal ingredient. They should always contain a sedative, such as hyoscyamus (as in the pil. col. et hyos.) or belladonna, to prevent griping and pain. The habit of constantly resorting to pills is not to be encouraged, as the bowels soon come to refuse to act without them.

Sulphur, plain or combined with pot. tart. acid. or magnesia, from its mild, non-irritating action, is the most suitable aperient when piles are present. Pulv. glycyrrh. co. is the common form in which it is used.

Aperients vary in their activity according to the nature of the individual, and while it must be admitted that to some people purgation is a necessity, it must also be remembered that constant purgation will never cure habitual constipation. The best remedy is to restore peristaltic action by physical means if possible, combined with suitable dietary and the timely use of a remedy like cascara.

CONSUMPTION.

Consumption is decay of the lung substance, caused by an aggressive germ—the tubercle bacillus—dangerous to those wanting vital force. This germ has many inlets through which to attack the body, and it gets to the blood perhaps by the air or food, but it goes no further than the blood. Pure blood contains white corpuscles, otherwise phagocytes (amœboid bodies) which wait to seize and devour the mischief-making germ. But if the patient's constitution is bad ; if poverty and overcrowding, or dissipating and enervating luxury, impair the powers of life, then the white corpuscles are lazy and languid, and their appetite for germs is impaired. It is then that the bacillus gets a foothold—its time has come, and it takes advantage of it. It selects the top bit of the lung—the apex, as it is called—a portion stowed away in a corner, out of the way of the inspired air and the brisker circulation—a naturally weak spot, and the first to capitulate. Vital force maintains the fighting trim of the white corpuscles, whose special duty it is to make war on and remove from the system the invading bacilli and their poisonous secretions. It has come to be a common saying that there is 'consumption in the family,' but it is quite certain that the spread of consumption is due almost entirely to infection, and that if

ordinary precautions be taken, the influence of heredity need never be felt. It usually begins with a cough, which clings to the patient, and he gradually becomes weak and emaciated. These symptoms are followed by many complications—night sweats, diarrhœa, high temperature, quick small pulse, loss of voice, &c.

Treatment.

Until recently consumption had always been regarded as a fatal disease, from which recovery was hopeless, but fortunately, owing to the success of the open-air treatment, this pessimistic view has now been abandoned.

Hygiene.—Those who are predisposed should sleep and dwell in large, well-ventilated rooms, containing ample allowance of cubic space. Exercise in the pure air, entailing deeper breathing, and enabling the air to enter the lung apex, will effect wonders in early stages of the complaint. All the expectoration and handkerchiefs containing the sputa should be at once disinfected or destroyed. Every person predisposed to phthisis should lead a quiet, healthy life, retiring to bed early and rising late.

Diet should be nourishing, and the food digestible and wholesome. Koumiss, or fermented milk, has been strongly recommended.

Climate.—The selection of a suitable dwelling-house in a healthy climate is most important. The climate should be dry and the temperature equable, while the soil should be one of gravel or chalk, and not clay. Those who can afford it, who are in the early stages of the complaint and can stand the journey, will probably get quite well in the high plateaus of the Engadine in Switzerland, at Davos Platz, or San Moritz. Extraordinary cures have been made there. A sea voyage is also beneficial in recent cases. The constant breathing of the pure sea air renews the vitality of the constitution. Many peculiarly situated places in England and Scotland, especially on the south coast of England, have great merits as dwelling-places for consumptive patients.

Open-Air Treatment.—Within these few years a new and rational method of treating consumptive cases has come into vogue, and has found favour with many medical men. The patients are kept in the open air in all conditions of weather, and are made to eat enormous quantities of animal food. Various sanatoria for carrying out the practice have been established both on the Continent and in this country, and certainly many quite wonderful accounts of favourable results have been reported. At the same time, many physicians doubt whether it is wise treatment to cram food into a tuberculous patient in the way sometimes done, and there is at present a reaction from the German sanatorium idea. The tendency now is to treat patients individually, especially as to digestive possibilities, and some reports have shown that large diets have given worse results than those of more moderate amount. The essentials of sanatorium treatment as understood and practised at the present time may be summed up in the following terms: Rest, Outdoor Life, Forced Feeding, and Medical Supervision. The last is the keynote of success: the physician must study the peculiarities of each patient and individualise his treatment. The shortest period that will allow a patient to leave a sanatorium cured, and to return to his occupation, is three months. In more advanced cases at least six months will be required, and on the average it is found that not more than two patients per bed can be treated per annum. The average cost of treatment in good sanatoria is from three to four guineas weekly, though there are many institutions, partly supported by charity, where much smaller fees are charged.

Alcohol.—Although inadvisable during the early stages, or during hæmoptysis, alcohol is beneficial in the form of rum or brandy with milk to remedy the great emaciation which is taking place.

Hypophosphites.—The hypophosphites of soda and lime in doses of gr. v. to gr. x. t.d. are valuable in cases of early consumption caused by want of tone and hereditary deficiency of vital force.

Cod-liver Oil is a typical aliment for the growth and nutrition of the body. It is not intended to supply material in the place of the wasting caused by fever, but to cure the cause of the emaciation. Cod-liver oil should be given floated on lemon juice, coffee, or orange wine, in doses of ʒj. or more, two hours after a meal; or if not well tolerated in this way, it may be given in doses of ʒij., plain or in the form of emulsion, prior to going to bed, when it will be digested during sleep.

Cream is a valuable substitute for cod-liver oil, if the latter causes vomiting or is badly tolerated.

Inhalation.—This is a useful method of administering such remedies as iodine, creosote, guaiacol, ol. eucalypt., carbolic acid, sulphurous acid, and is especially advantageous if the throat and larger bronchial tubes are implicated. Antiseptic inhalations soothe the mucous membrane, render the secretions harmless, and diminish cough and expectoration.

Iodine.—A tinct. iodi (ʒss. ad ℥j.) painted on the chest (or in some cases blisters under the collar-bones) relieves the chest-pains and frequently ameliorates the symptoms.

Opium.—All cough mixtures or lozenges containing opiates should be avoided, except in the advanced stages of the complaint. When the cough becomes distressing and there is profuse expectoration, or when the diarrhœa becomes very severe, there is no remedy to equal opium or morphine. Codeine may also be found of service.

Tuberculin.—Koch's new tuberculin (known as T.R.) is now being largely used in tuberculous disease. There are a number of published reports of success in pulmonary tuberculosis, although there can be no doubt that many cases do not receive any benefit. In localised tuberculosis, such as occurs in glands, bones, joints, and the eye, the results have been more uniformly good, in some cases brilliant. At first it was considered necessary to control the injections by the opsonic index, but on account of the enormous labour involved and the uncertainty of the results in the hands of different observers, this is now being to a great extent abandoned.

The following is a reliable pill for night-sweats :—

'Pharm. Form.' II.

Zinci oxidi	gr. ss.
Salicini	gr. j.
Ext. bellad. fol.	gr. $\frac{1}{25}$
Hydrastinæ	gr. j.
Pepsin. lactat.	gr. ss.

Misce. Ft. pil.

CONVULSIONS.

Convulsions have been well defined as general purposeless muscular contractions, usually attended by loss of consciousness more or less profound; constituting what is commonly called 'a fit'! In adults convulsions are most frequently seen in epileptics, but they occasionally accompany hysteria, and they are the result of poisoning, as in uræmia, of sunstroke, pregnancy (*eclampsia*), certain brain diseases, and other causes. Three well-recognised stages in convulsions are observed: first, the tonic, or continuous contraction of the muscles, which is followed by the second, clonic, or interrupted contractions, and the patient then lapses into the third or stupor stage. During the last the first stage may recur, and when it does the patient's condition is grave.

The convulsions of children, as distinguished from those of adults, more frequently represent a transitory condition of irritation; nevertheless, they are a common cause of death, and must always be regarded seriously, prompt measures for their suppression being adopted. The nervous system of the young is much more excitable or sensitive than that of the mature, owing to the absence of the controlling influence of the higher centres which comes with years. Children are particularly liable to this intense nervous excitement through disturbance of the alimentary canal, as by indigestible food, intestinal worms, and the many infantile disorders which are ranked as 'teething.' Convulsions also come on sometimes at the close of an attack of diarrhœa or other trouble which has exhausted

the child, and it always has to be borne in mind, from what has been said respecting the convulsions of adults, that they may be a symptom of a grave illness, such as cerebral meningitis. On the other hand, very excitable children not infrequently go into convulsions after a severe spell of naughtiness accompanied by screaming or struggling.

Treatment.

Cold Sponging of the head and nape of the neck is as a preventive always useful in those cases where excitable children look as if they would go into convulsions, as when they awake screaming and the head is hot. Instead of sponging with cold water, it is on the whole better to fold a handkerchief into four, dip it in cold water, and place it on the head. Renew this every few minutes.

Hot Bath.—This is the universal means employed for taking children out of convulsions. The bath should be about 95° F., and it may have a teaspoonful of D.F. mustard mixed with it. The child is then immersed in the bath, and the sponge applied gently down the spine a few times. The bath appears to act as a sedative to the nervous system, but if it be too hot, either in temperature or mustard, it may do more harm than good. Two to ten minutes is long enough to keep the child in the water.

Sedatives are essential. For children who are prone to convulsions a sedative mixture should always be at hand, and a dose of it must be given at once, even before the cold applications or the hot bath. One of the best sedative mixtures is as follows:—

Potassii bromidi	ʒj.
Chloralis hydratis	ʒj.
Tr. belladonnæ	ʒj.
Syrupi	ʒvj.
Aquam anethi ad	℥iv.

M.S.A.

Dose: For a child of six months, a small teaspoonful, which may be repeated twice at intervals of one hour; for children of one year, a large teaspoonful; and so on in proportion to age.

If the child is unable to swallow, a dose of chloral hydrate (½ grain for each month up to six months, then ¼ grain more for each additional month) should be injected up the rectum, the hydrate being dissolved in an ounce of tepid water.

Laxatives.—If the convulsions come on a few hours after a meal and are due to intestinal disturbance not diarrhœic, the child should get a laxative dose. There is nothing better than castor oil, warmed, as by pouring the dose into a spoon dipped in boiling water, then filling the spoon, and waiting a minute or so until the spoon becomes lukewarm.

Enemas.—If the convulsions are the result of constipation, the child's bowels should be emptied as rapidly as possible by giving an enema of warm water in which a piece of soap has been rinsed for a few minutes. In such cases colic may be the immediate cause of the convulsions, and then the following mixture is highly recommended by Dr. Eustace Smith and others :—

Olei terebinthinæ	♏j.
Olei ricini	♏iij.
Glycerini	♏v.
Mucilag. tragacanthæ . . .	♏v.

Misce bene et adde—

Aq. menthæ piperitæ ad . . .	℥j.

Misce.

This dose is to be given every three hours.

Stimulants, such as mist. spt. vini gallici, are required in the convulsions which are due to exhaustion, as in those that follow diarrhœa, and the child should be kept as cosy as possible.

Worms must be got rid of as quickly as possible if they are the exciting cause. In this case the warm injection given to empty the bowels should simply be a hot infusion of quassia. The child should afterwards get vermifuges, as to which *see* the article on 'Worms.'

CORNS.

The squeezing action of a tight or misfitting boot is the usual cause of corns, and the pain they produce in walking is often agonising. Most people who have corns resent them, whereas they are really friends in disguise, protecting sufferers from worse things. If any portion of the body is subjected to pressure or hard wear, the skin becomes thickened to protect the parts beneath, and the portion of the surface that is most frequently affected in this way is the skin of the toes. If it were not for this skin induration, the result of pressure would be a blister or some ulceration. If corns are neglected, ulceration actually does sometimes occur. Corns are generally more painful during wet weather and at certain seasons. This is probably due to sundry atmospheric influences acting on shoe leather.

Paring Corns.—If practised at all this should be done with great care, so as to avoid cutting the flesh. The only effectual paring is that of the chiropodist. He works with his knife round the hard corn itself, which is embedded in the excrescence, gradually excavating and removing it. But this is an operation requiring considerable skill and experience, and should be left to an expert.

Properly Fitting Boots.—When people suffer from corns which prevent their free locomotion, they must wear comfortable, properly fitting boots or shoes. It is best to have these made on a last modelled from the wearer's own foot. By wearing easy boots and shoes, with the upper parts made of soft leather, pressure on the corns is removed, and so the corn or bunion ceases to trouble.

Iodine.—The tincture (℥ss. ad ℥j.) is useful to relieve the stinging pain caused by swollen and tender corns, and it also answers well for bunions. It deadens and hardens the skin.

Salicylic Acid.—This acid is the most usual remedy for corns. It possesses a slight caustic action. It is used thus :—

Corn Solvent.

'Pharm. Form.' II. No. 12.

Salicylic acid	64 grs.
Ext. of Indian hemp . . .	8 grs.
Flexible collodion ($\frac{3}{4}$ strength). .	1 oz.

Apply daily as a solvent.

Corn Salve.

'Pharm. Form.' II. No. 1.

Acid. salicylic.	ʒj.
Ung. resinæ	ʒvj.
Adipis lanæ hydros.	ʒj.

Misce.

Corn Plasters.—The ordinary felt circular plasters with a hole in the centre are of immense value to relieve the pain of pressure, both in the case of bunions and hard or soft corns. Plasters with a piece of salicylic plaster in the centre give excellent results. Arnica plasters are also well spoken of. Wadding inserted between the toes is useful for soft corns, and a compress of wet lint covered with oiled silk is often very effectual.

COUGHS.

A cough is one of the first symptoms of a cold, of inflammatory conditions of the lungs or the chest, of a disordered stomach, of nervous and other diseases. It is Nature's cry for help. The air-passages are lined with a delicate membrane sensitive to the most trivial influences. The throat sounds an alarm if the slightest irritant is lodged on the mucous surfaces. By the forced expiration of coughing, foreign matter, such as mucus, is expelled from the larynx or bronchial tubes. When a person has anything the matter with his chest or throat a

cough is a natural agency to get him well again. The series of rapid breaths has a most salutary effect. They increase the action of the heart and circulation, and drive the blood to the surface. Skin-action is restored as it would be by a diaphoretic drug.

Treatment.

Learning to Cough.—Much inconvenience can be averted by instructing a patient to cough properly. The expiratory effort should be delayed until the secreted mucus is felt to be within reach, when one moderately strong cough will expel it. The cough of nervousness or hysteria is largely under the control of the will, and sufferers must be told sternly to cease from coughing. An elongated uvula—if the cause of cough—should be painted or gargled with astringent applications.

Mucilaginous Drinks.—Most valuable aids to soothe an irritated mucous membrane and a teasing hacking cough are bland non-irritating beverages, such as gum-water, barley-water, linseed-tea, the French *tisane*, and honey or glycerin with lemon-juice.

Lozenges are valuable aids in soothing a cough, especially those containing ipecac., or morphine and ipecac., liquorice, or gum acacia, and jujubes of various kinds.

Cough Syrups may be made with a basis of syrup, glycerin, mucilage, or honey, and thus a host of different drugs may be combined in suitable proportionate doses, such as vin. ipecac., tinct. or acet. scillæ, acid. sulph. dil., acid. hydrobrom. dil., morphine or codeine, sp. æther. nit., tr. camph. co., &c. The following are good examples of simple cough mixtures :—

'Pharm. Form.' II. No. 79.

Vin. ipecac.	℥ij.
Vin. antimon.	℥ij.
Liq. morph. hydrochlor. . .	℥ij.
Oxymel scillæ ad	℥iiij.

Misce. ℥j. tussi urgente.

Red Cough Syrup.

'Pharm. Form.' II. No. 18.

Syr. marrubii	℥v.
Syr. scillæ	℥v.
Syr. rhœados	℥iiss.
Oxymel. simp.	℥iiss.
Glycerini	℥v.

Misce. ℥j. three or four times daily.

Opium is often contra-indicated as a cough remedy, owing to its constipating effect and to its blocking the secretions. In the latter case it should always be combined with a stimulant to counteract that effect. In the form of chlorodyne lozenges or a morphine cough syrup it is useful in cases of spasmodic cough. It is also of service combined with antimony and ipecacuanha to obviate the nauseating effect of these drugs, which with some people is very distressing.

Bromides, especially the bromide of ammonium, in full doses act well in cases of spasmodic nervous cough.

Quinine, in the form of quinine wine or pills, or as a quinine and iron tonic, is good for the cough of debility and want of tone of the mucous membrane.

Aperients, such as the pil. rhei co., natural aperient waters, and the like, are indicated in coughs of gastric origin. Sometimes pil. hydrarg. c. colocynth., or calomel gr. iss. to gr. iij. at bedtime, is preferable.

Hypophosphites of lime or soda in mixture, or with iron, as in the syrup, should be advised in cases arising from too rapid growth, or from threatened phthisis.

Inhalations prepared with hops infused in boiling water, or chloroform ♏x. to ♏xv. in eau de Cologne ℥j., and inhaled, or various medicinal sprays, are serviceable in many cases.

Cod-liver Oil should be resorted to in cases accompanied by wasting and serious lung mischief.

A writer on cough mixtures in *The Chemist and Druggist* made some useful remarks which we here summarise.

Our first example may be the familiar popular household remedy—equal parts of oil of almonds, syrup of squill, and syrup of violets. Here the active ingredient is the squill, for the other syrup and the oil have no effect whatever upon the air-passages. The squill is an expectorant, and as such increases the bronchial secretion, and by the telegraphy of the human system that fact is conveyed to the respiratory centre, whence a message is sent to the muscles of the chest, which close as if they were a bellows, thus creating a cough and a discharge of phlegm. Ipecacuanha, senega, ammonium carbonate, and tartar emetic are amongst the remedies which act in this way, and it is obvious that when a person has a copious discharge of soft phlegm he is not at all in need of expectorants. It is here that the traditional cough mixture is potent for good, because it is so rarely compounded without a sedative.

'Pharm. Form.' II. No. 74.

Vin. ipecacuanhæ . . .	ʒij.
Chlorodyni	ʒij.
Oxymellis scillæ . . .	℥ij.
Aq. ad	℥viij.

M.

Sig. : ℥ss. t.i.d.

'Pharm. Form.' II. No. 25.

Chlorodyni	℥j.
Glycerini	℥j.
Vin. ipecac.	ʒvj.
Syr. scillæ	℥iss.
Inf. senegæ conc. . . .	℥j.
Aq. ad	℥x.

ʒj. vel ʒij. pro dose.

In these there is a small dose of morphine with the expectorant, and morphine does two things—viz., decreases the secretion, and dulls the respiratory centre, whereby the act of coughing is suppressed. It may be said, therefore, that the above mixtures are almost neutral, so far as their action upon the bronchial tubes is concerned; but they ease coughing, give the medicine-taker a sense of warmth about the chest which he likes, and do not 'upset the stomach.' The last point is one which many prescriptions seem eminently calculated to bring about. Take the following examples :—

Cough Mixture

'Pharm. Form.' II. No. 33.

Chlorodyni	℥iss.	Tinct. lobeliæ acid.	℥j.
Tinct. benzoin. co.	℥iss.	Acid. sulph. dil.	℥j.
Spt. æth. nit.	℥iss.	Vin. ipecac.	℥j.
Spt. ammon. co.	℥iss.	Tinct. scillæ	℥j.
Tinct. conii	℥iss.	Balsam. pectoris	℥iv.
Tinct. camph. co.	℥iss.	Glycerin.	℥v.
Cordial (Godfrey's)	℥x.	Aquæ	℥xij.
Syr. scillæ	℥x.	M.S.A. ℥j. t.d.	

There is a big waste of material in this extraordinary prescription, and by the time the patient has got rid of his cough, he needs something to cure his indigestion. Polypharmacy is to some extent permissible in the cough mixture, but it should lean towards the combination of flavouring and colouring with one or two active expectorants, and not with the prescription of absolute chemical incompatibles. The late Sir Robert Christison long ago gave an excellent example of a good mixture, though, curiously enough, it also presents a chemical incompatibility in the acid syrup and the alkaline tincture of opium :—

Syrupi scillæ	℥iiss.
Aq. menthæ pip.	℥iiss.
Tr. opii ammoniat.	℥vj.
Tr. lavandulæ comp.	℥ij.

M.

Sig. : ℥ss. nocte maneque.

The dose of squill in this mixture is, *per se*, excessive ; but the opium modifies its bronchial action, and the result is a mixture which gives quick relief and comfort. But the objection to this and all other mixtures containing opium is that they are positively harmful in chronic bronchitis, and in many acute cases should be avoided. They do good in the common winter cough. The familiar white cough mixture, in which tr. camph. co. and tr. tolutan. are combined with a syrupy and mucilaginous basis, is also good, because the amount of opium

present is too small to exert any marked physiological action. Bronchitis mixtures for adults should be as simple as possible. The following is a good one :—

Ammon. carbonat.	ʒj.
Chloral. hydrat.	ʒj.
Tr. card. co.	ʒiij.
Syrupi	ʒiij.
Aq. ad	ʒvj.

M.

Dose : ʒss. every four hours.

This acts well in many cases solely through the expectorant action of the alkali, the chloral hydrate having a sedative effect without counteracting the expectorant. The mixture gradually undergoes change, some of the chloral hydrate reacting with the alkali and liberating chloroform ; but there seems to be a limit to the reaction, and it does not alter the efficacy of the mixture. The tickling cough which is accompanied by little or no secretion, but is spasmodic and sometimes painful, frequently waking the sufferer from sleep, is successfully combated by codeine as in the following prescription, which acts chiefly through the respiratory centre :—

Codeinæ	gr. ij.
Acid. hydrobrom. dil. . . .	ʒij.
Acid. hydrocyanic. dil. . . .	ʒss.
Aq.	ʒss.
Solve et adde—	
Syr. limonis ad	ʒij.

M.

Dose : A small teaspoonful when the cough is troublesome.

We have said little regarding children's cough mixtures, because the little which can be said may be put into one sentence—make the mixtures sweet and as simple as possible, avoiding sedatives. Ipecacuanha is better for children than squill, and they can take a drop of the wine for each year ; allow three drops for the first year. It is desirable to make the cough mixture as nice as possible to the eye and palate ; precipitates should be avoided, as a rule, for they rarely

contain anything of importance, and make the preparation unsightly. Upwards of 200 prescriptions for children's cough mixtures will be found in the volumes of 'Pharmaceutical Formulas,' many of which are excellent for their purpose.

CROUP

is a disease of the windpipe, with noisy breathing and peculiar loud croaking cough. It occurs chiefly in children from two to five or six years old. It comes on sometimes with symptoms of feverish cold and sore throat, but more frequently gives no warning. The child is put to bed quite well apparently, and in an hour or two wakes up with loud *clanging* cough and signs of imminent suffocation. It is impossible to distinguish some varieties of croup from diphtheria ; indeed, 'membranous croup' is sometimes regarded as a diphtheritic disease. In all such cases, therefore, a medical man should at once be summoned.

Treatment.

This must be prompt and decided. Hot poultices to the throat and chest must be applied immediately, and renewed before they become cool. Free vomiting should be induced by ipecacuanha wine—a teaspoonful every five minutes till it acts. These means will generally cut the attack short; but it must be kept in mind that the child will be liable to a recurrence of it, and should be carefully guarded against draughts and damp, as likely to bring on cold, should wear flannel next the skin, and should have his general health carefully attended to.

DIABETES.

This means literally an excessive flow of urine, and there is a form of the complaint—*diabetes insipidus*—which is nothing more than this, and which is comparatively harmless. It is only when sugar appears in the urine that true diabetes—*diabetes mellitus*—is diagnosed. At the same time, it is possible for a patient to be suffering from *glycosuria*—sugar in the urine—and yet be free from diabetes. The latter disease occurs

at any age, and is of grave omen; glycosuria occurs after forty-five or fifty years of age, and it may continue for years and give comparatively little trouble.

The liver is the storehouse of the sugar derived from food. By means of certain ferments glucose or grape sugar is converted for storage purposes into a liver sugar—an animal starch—glycogen. Whenever this animal sugar is supplied to, or from any other cause appears in, the blood in greater excess than is required for fuel purposes, the patient is said to have diabetes. In such cases sugar permeates all the secretions, it saturates the blood, and is eliminated by the most available excretory organs—the kidneys.

Saccharated blood causes thirst, dry skin, emaciation, and increased flow of urine—diabetes. This disease is chiefly seen among men, is often hereditary, alternating with other nervous disorders, and is equally common among the rich and the poor.

Treatment.

Diet.—It is essential to maintain in the highest degree the vital energy and the integrity of the digestive organs. Some observers have warmly advocated a purely skimmed-milk diet (Ovj. daily). This would appear to be the best form of treatment in cases of purely liver or digestive derangement. But in cases of true nervous type the sole principle of diet is that of rigorously excluding all sugar or starch foods. The patient should live almost entirely on meat, fish, eggs, fruit and vegetables free from sugar, gluten or bran bread, macaroni, and many articles which special manufacturers now provide. In place of sugar, saccharin or glycerin should be used.

Opium.—Of all remedies none rank as the equal of opium and codeine. These hypnotics soothe the irritable nerve centres and retard the increased proneness of the liver to part with its glycogen. To be effective, opium or codeine must be administered in very large doses. They are generally well tolerated, but of course their action requires most careful watching. Combined with gallic acid or ergot, opium is invaluable in

cases of increased flow of urine without sugar—the *diabetes insipidus*.

Quinine, in doses of gr. iij. t.d., has a very beneficial effect in many cases. It should be long continued to effect permanent improvement.

Ozonic Ether (ʒss. t.d.), **Oxyaërated Water, Oxyaërated Milk, Oxygen Gas Inhalations.**—Oxygen administered in any form has been known to remove the symptoms of diabetes by oxidising the sugar in the blood. Exercise and quicker respiration in some measure conduce to the same end.

Phosphorus (gr. $\frac{1}{60}$ to gr. $\frac{1}{30}$ after food) is useful to tone and strengthen the nervous system. Acid. phosphoric. dil. ɱx. to ɱxx. may be given with tr. nuc. vom. and tr. cinchonæ as a nerve tonic.

Bromides in full doses are aids to treatment if there is much nervous irritability and sleeplessness.

Sodium Salicylate (gr. x. to gr. xx. in mixture) has been known to cure cases complicated with malaria or rheumatism.

Jambul.—Some wonderful cures have recently been reported by the use of the bark and seed of *Eugenia Jambolana*, which are said to be capable of arresting the formation of sugar in diabetes. Dose of the fluid extract, 5 to 10 drops.

DIARRHŒA.

In the late summer and autumn the ripening of fruit is followed by decay and death of verdure. The germs of putrefaction are at work on the fast decaying foliage. They are partial to warm dry weather, they abound in the air, and nothing organic comes amiss to them. They quarter themselves in food of all kinds, animal or vegetable, in fruit or milk, in anything that is goodly to man and full of nutriment. With the food they are carried into the digestive organs, and there they take up their abode, causing fermentation of

the intestinal contents, generating ptomaines and irritant products sufficient to liquefy and putrefy the dejecta of food This state of things is called 'diarrhœa' or 'summer cholera,' and the mortality from it among children is very great. Irritant aperient drugs, unwholesome indigestible food or drink, increase the action of the bowels and produce the same symptoms as diarrhœa.

Treatment.

Hygiene.—Rest is an important element in treatment—repose of body and rest for the stomach itself. Rest in recumbent posture is desirable in acute cases. Severe griping pains are best relieved by hot fomentations applied to the abdomen. A flannel belt is a good preventive of diarrhœa.

Diet.—Milk should be the staple of diet in cases of diarrhœa. Food should be given in small quantities frequently, and light non-irritating substances should be selected: arrowroot blanc mange, boiled milk and lime water; ice to allay sickness or thirst; the white of egg and barley water or toast water. For infants the milk should be boiled or peptonised and the supply looked to. Feeding-bottles must be kept scrupulously clean, tubed bottles being avoided. If the complaint persists, it is wise to stop all milk and give barley or rice water and raw-meat juice. If the teeth are creating trouble, the gums should be lanced and a potass. bromide mixture ordered.

Mineral Acids.—Diluted sulphuric acid is almost a specific in cases of summer diarrhœa. It should be given in doses of ♏x. or more, and combined with tinct. opii ♏v. if there is much griping pain.

'Pharm. Form.' II. No. 3.

Acid. sulph. dil.	℥iij.
Spt. chlorof.	℥iss.
Tr. opii	℥ss.
Tr. card. co.	℥vj.
Aquam ad	ℨvj.

Misce. ℥j. t.d.s.

'Pharm. Form.' II. No. 5.

Acid. sulph. dil.	℥j.
Tr. opii	℥j.
Tr. chlorof.	℥iss.
Tr. zingib.	℥iss.
Aquam ad	ℨvj.

Misce. ℥j. t.d.s.

Mist. Cretæ Aromat.—If there is much acidity of the intestinal contents, and mineral acids fail, as they occasionally do, the next best treatment is that by alkalies, of which the aromatic chalk mixture is the best example. (*See* 'Cholera,' p. 38.)

Opium.—Where there is acute pain and much irritation of the bowel, chlorodyne or some other form of opium or morphine allays the symptoms, or morphine suppositories may be used. Pil. plumbi c. opio (gr. iv.) is one of the most effective astringents in severe cases of diarrhœa.

Naphthalene, gr. ij., in pill form is an intestinal antiseptic useful in chronic forms of diarrhœa.

Salol in doses of gr. v. to gr. x. may be administered in similar cases.

Mercury.—Calomel gr. $\frac{1}{10}$ or hyd. c. cret. gr. $\frac{1}{6}$ given frequently is excellent for the summer diarrhœa of children. Both act as alteratives, and induce healthy action in the bowels.

Ol. Ricini.—It is a common practice in an early stage of the complaint to administer a full dose of oil, ℥ss. to ℥j., with ♏v. to ♏xx. of tinct. opii, for diarrhœa, to remove any irritant. In doses of 2 to 5 drops, castor oil, given hourly, is a valuable remedy for diarrhœa of infants.

Rhubarb is employed in the same way, and is an excellent corrective for children :—

Pulv. rhei	gr. xx.
Pulv. sodii bicarb.	gr. xx.
Spt. myrist.	ʒss.
Aquæ	℥iss.

ʒj. occasionally.

Lactopeptine or pepsin should be advised when diarrhœa is the result of deficient or perverted digestion, when the food passes through the bowel in an undigested or partly digested state. Peptonised foods may also be given at the same time.

Charcoal.—When flatulence is a marked symptom charcoal is indicated. It may be combined with bismuth, given

in large doses, in the diarrhœa of consumption or wasting diseases.

Quinine, in full doses, is the remedy in cases of diarrhœa of malarial origin.

Kino.—mxx. of the tinct. kino, or 5 to 15 grains of the compound kino powder, is an excellent astringent remedy. Tinct. catechu (ʒss. to ʒj.) and dec. hæmatoxyli (℥ss. to ℥j.) are also astringent remedies useful for diarrhœa. Logwood is specially indicated in chronic cases.

Injections.—On the principle of deodorising the rectum hot antiseptic rectal douches of weak solutions of carbolic acid, pot. permang., sodium hyposulphite, naphthalene, and other drugs, have lately been used with considerable success in obstinate cases.

DIPHTHERIA.

Diphtheria is one of the diseases caused by germs. These originate in decomposing sewage matter, and are very virulent and poisonous. The presence of diphtheria in a house is a warning of insanitary surroundings—a warning which should always be followed by prompt action in inspecting the drainage.

Diphtheria is a disease common to all animals. It is most fatal to birds, such as pigeons or fowls ; it also attacks cats, dogs, and other animals. Human beings, especially children, take it readily. The disease attacks the throat. The earliest symptoms are depression, hoarseness, swelling of the glands of the throat ; afterwards the characteristic white membrane forms in patches on the tonsils and back of the throat, and from this centre the system is rapidly contaminated and poisoned. Unless checked by appropriate treatment the fungoid condition extends until the air passages are reached, or until the poison or toxin in the blood has become so concentrated as to destroy life.

While the germs are multiplying and producing toxins Nature endeavours to defend the patient by making another

substance which counteracts the effects of the toxin and thus performs the part of an antidote. This is called the 'antitoxin.' If sufficient antitoxin is made, the action of the toxin is altogether overpowered, the germs gradually disappear, and convalescence commences. If, therefore, we can rapidly increase the amount of antitoxin in the body, the illness is much more likely to have a favourable termination. To make this antitoxin, doses of diphtheria toxin are injected into a horse for a period of some months, and when the animal is immune, and the blood sufficiently rich in antitoxin, he is bled, and the clear blood serum is separated from the red clot. This serum contains the antitoxin, which is now almost invariably used in the treatment of diphtheria.

Treatment.

Isolation.—When a case of diphtheria occurs in a house the defective drains must first be attended to. The people who are well should be transferred to a healthy house, for prevention is better than cure.

Antitoxin should at once be injected hypodermically. If the case is severe, from 4,000 to 10,000 antitoxin units should be administered; if mild, 2,000 units is a common dose. Persons who have been in contact with the patient should receive a prophylactic or protective dose of 1,000 units.

Diet.—It is most important to sustain the patient's strength by a nourishing liquid diet. Eggs beaten up in milk, beef tea thickened with rice or barley, milk puddings or custards, ice to allay thirst or sickness, are suitable. Alcohol is necessary to support the patient's strength after the acute stage has passed or if the condition is critical.

Formaldehyde Vapour.—It is always a good plan to purify the atmosphere of the sick-room in cases of diphtheria. The best way to do this is to use a bronchitis kettle, to the water in which ʒj. of formaldehyde solution should be added, or a weak solution of formaldehyde (1 per cent.) may be

sprayed in the room with an atomiser, care being taken not to allow the vapour to come directly in contact with the patient's eyes.

Salt Fomentations.—Hot flannels wrung out of a saturated solution of common salt give great relief to symptoms.

Lactic Acid.—A spray or paint composed as follows has been used to dissolve away the membrane :—

Acid. lactic.	ʒiiiss.
Aquæ	℥x.

Vin. Pepsin., applied warm, with the same view, has been recommended, as also solution of papain in glycerin.

Iron.—Tinct. ferri perchlor. in large doses, alone or combined with potassium chlorate, is a routine method of treatment.

Tracheotomy.—The operation of opening the throat is often necessary to prevent the risk of suffocation. It is a dangerous operation, and in former days only one in four survived it. Since the introduction of the serum treatment, the tracheotomy death-rate, as well as the diphtheria death-rate generally, has been largely reduced.

After recovery from diphtheria, paralysis of the muscles of the throat and of the limbs is not infrequent ; but it is not lasting, and passes off under suitable treatment. Some authorities maintain that the antitoxin treatment is rarely followed by paralysis, cardiac syncope, or suppression of urine. On the other hand, the injection of serum is often followed about the ninth day by a well-defined urticaria or serum-rash.

DYSENTERY

is a form of diarrhœa, characterised by slimy and bloody stools of offensive odour, with very frequent desire to evacuate the bowel, and great straining and pain in doing so. It is the large bowel—the lowest part—that is affected in dysentery.

It is essentially a disease of warm climates, where it is very common and very fatal. It is usually caused by an infection of the bowel with *Amœba dysenteriæ*, and one of the most common complications in such cases is abscess of the liver. The bacillus of Shiga has been shown to be the causative organism in a number of cases. Dysentery comes on with griping and desire to go to stool. The evacuations gradually become scanty, then mucous and bloody. There is fever, quick pulse, great thirst. Recovery is tedious, and the bowels continue irregular for a long time. Sometimes they never recover their tone.

Treatment.

Hygiene and Diet are the same as in diarrhœa, and must be rigorously enforced.

Castor Oil.—In an early stage a dose of castor oil with laudanum is highly recommended for removing the offensive matter which accumulates in the bowel.

Ipecacuanha.—This is the remedy in vogue in India, given in large doses : in the acute stage it seems specific. Some practitioners give it in doses of 30 to 60 grains rubbed up with honey, with the best results. The larger the dose, the less likely is vomiting to supervene. The ipecac. should be repeated every six hours until the straining and tendency to diarrhœa have disappeared. No fluid should be taken save teaspoonful doses of iced water.

Opium is a useful adjunct, and may be given either alone or as pulv. ipecac. co. or pil. plumbi c. opio, or, perhaps best, combined with other astringents, such as kino, catechu, or coto ; and it is advisable to give it rather in small and frequent doses—5 to 10 minims of tinct. opii—than in larger doses. Morphine suppositories are a very effective means of administering this remedy ; or half-drachm doses of tincture of opium with $\frac{1}{4}$ grain of cocaine may be injected into the rectum.

Bael is a favourite Indian remedy, most suitable where the disease is of a chronic type.

Injections are a valuable means of treating dysentery. They are specially useful in bringing away offensive collections in the bowel. For this purpose plain tepid water cautiously thrown up is best. To act on the affected surface, ipecacuanha has been used—3j. diffused through Oj. tepid water. Starch with tinct. opii is also employed. This should be used in small quantity—a few ounces—to ensure its retention in the bowel.

Copper.—This is a valuable astringent in chronic cases. The following is the recipe of a medical man who had an extensive experience in India, and whose *clientèle* in this country consisted mainly of retired Indians :—

Cupri sulph.	gr. $\frac{1}{4}$
Quininæ sulph.	gr. iiss.
Ext. opii	gr. $\frac{1}{4}$
Ext. gentianæ	gr. iss.

Misce.

Ft. pil. tales xxiv. Sig. : One thrice daily.

Convalescence.—During this stage great care must be exercised in regulating the diet and regimen, and one of the vegetable tonics should be taken, such as calumba, quassia, gentian, or cusparia. The infusions alone or with an equal quantity of lime water added, form a favourite tonic with old Indians. The complaint is very apt to return on any exciting cause.

DYSMENORRHŒA.

Difficult menstruation occurs chiefly in women of nervous temperament. Sometimes the pain occurs a day or two before the period, and ceases when the flow comes on ; at others the pain comes with the flow.

Treatment.

Pulv. guaiaci gr. x., in cachet or emulsified with tragacanth, taken three times daily, for a week before the period (as recommended by Hermann), sometimes acts in a magical manner.

The cure of constipation, if present, by enemas and saline aperients is effective in some cases. Potassium bromide (℥ss. n.m.que) is the best sedative, with hot applications over the abdomen while the pain continues; and between the periods, open-air exercise daily, nourishing diet, general tonics, and an aperient, if required, constitute the appropriate treatment. Liquor sedans, a proprietary preparation composed of viburnum prunifolium, hydrastis, and piscidia, is said to be a specific in regulating function and alleviating pain.

DYSPEPSIA

—from *dys*, difficult, and *pepso*, I digest—means, primarily, difficulty of digestion; but the term is applied generally to all gastric or stomachic disorders and inefficiency. It is the function of the stomach to ferment the food, and anything that interferes with this process of fermentation may be a cause of dyspepsia. It would be impossible to describe all such causes. The kind and the quantity of the food taken, the manner of taking it, the ability of the stomach to deal with it, and the general condition of the system, and especially of the nervous system, may each play a part in bringing it on. It would be alike impossible to catalogue the various forms and symptoms of this truly protean complaint, as it manifests itself in different cases—from the atonic dyspepsia caused by simple debility, and characterised chiefly by loss of appetite, to the severer forms produced by errors of diet, and marked by the symptoms of uneasiness and pain after eating—acidity, flatulence, palpitation, &c.—and those of a more obscure but probably nervous origin, arising from mental worry and excitement, sedentary habits, &c.; these last manifesting themselves generally by the symptom of acute and even agonising pain, as of a cramp or spasm or gripe, or of all three combined, occurring with little or no premonitory

notice, continuing for a shorter or longer time, sometimes many hours, and disappearing in the same way as it came. This last form is called gastralgia or gastrodynia, and is often characterised by being felt when the stomach is empty, and by being relieved on taking food (according to Mr. Moynihan, all such cases are due to duodenal ulcer, and can only be cured by operation). Dyspepsia has a direct and marked influence on the other organs of the body. The bowels and the kidneys become irregular in their action, the heart becomes subject to palpitation owing to the stomach being dilated to an abnormal extent and pressing on that organ, the mind becomes depressed and the temper irritable.

Treatment.

Diet and Regimen.—Food should be light and sparing, and, above all things, taken at due and regular intervals, well masticated, and all exertion of body or mind for some time afterwards avoided. Milk diet is always best, and in severe cases quite necessary. Fish and white meat, fowl, sweetbreads, tripe, and mutton should be taken in preference to beef; spirits in moderation in preference to fermented liquor. Tea and coffee should be taken in moderation or replaced by cocoa, or better still by hot water and milk, with or without sugar, a beverage known in some parts of the country by the name of 'content.' But as 'one man's meat is another man's poison'—for the stomach is a most capricious organ, and will in some cases reject not only the article of food, but also the mode of cooking it, which in other cases it prefers—it is important that every dyspeptic patient should find out what agrees best with him and keep to it. Open-air exercise daily is all-important.

Aperients.—Constipation is a frequent symptom of dyspepsia, and must always be attended to. Cascara is valuable in this respect, or a simple aperient pill, which should contain a mild mercurial or podophyllin, and should be followed by a saline draught in the morning. Aperients carry off irritating

secretions and imperfectly digested food. The following are examples :—

'Pharm. Form.' II. No. 85, p. 444.

Pil. hydrarg.	gr. iss.
Pil. col. co.	gr. ij.
Ext. hyos.	gr. j.

M sce. H.s.s.

'Pharm. Form.' II. No. 11, p. 447.

Podophyllin.	gr. iij.
Ext. hyos.	gr. iij.
Pulv. ext. col. co.	gr. xiv.

Misce.

Div. in pil. xij. One every second or third night

Bismuth is the most reliable of all agents in treating dyspepsia. It acts as a sedative tonic, and very generally gives relief to the feeling of uneasiness and pain. It is given plain, as the subnitrate or carbonate or as the solution, or it may be prescribed with morphine or acid. hydrocyan., the former when there is much pain or tendency to diarrhœa, the latter when there is nausea or vomiting. It is also given along with sp. ammon. ar. or pot. brom., when there is nervous disturbance, and it is frequently combined with the alkalies and with rhubarb. The best time to administer bismuth is shortly before eating. The following are examples :—

Acid. hydrocyanic. dil.	℥xxiv.
(vel Liq. morph. hydrochlor. ʒj.)	
Liq. bismuth. ad	ʒj.

Misce.

A teaspoonful in water every two or three hours.

Indigestion Powders.

'Pharm. Form.' II.

Bism. carb.	gr. viij.
Sodii bicarb.	gr. vj.
Pulv. cinnam. co.	gr. ij.
Pulv. rhei	gr. ij.

Misce. Ft. pulv.

One three times a day, shortly before eating.

Ext. nucis vomicæ	gr. $\frac{1}{8}$
Pepsin	gr. ij.
Bismuthi subcarbonat. . . .	gr. x.

Misce. Fiat tab. vel chart. mitteque xij.

One tablet or powder before and after eating.

Ext. nucis vomicæ	gr. $\frac{1}{8}$
Pancreatini	gr. iss.
Bismuthi subcarbonat. . . .	gr. x.

Misce. Fiat tab. vel chart. mitteque xij.

One tablet or powder before, and one two hours after, meals.

The second of the powder formulæ will be found useful when the fault lies with the stomach, the third when intestinal digestion is deficient.

Indigestion Mixtures.

'Pharm. Form.' II. No. 22.

Bismuth. carb. . . .	ʒij.
Magn. carb.	ʒij.
P. tragac. co.	ʒj.
Tr. card. co.	ʒij.
Tr. nucis vom.	ʒj.
Aquam chlorof. ad . . .	℥vj.

Misce. ℥ss. ter die post cibos.

'Pharm. Form.' II. No. 23.

Bismuth. subcarb.	ʒj.
Sodii bicarb.	℈iv.
Inf. gent. co. conc. . . .	ʒiij.
Syr. zingiberis	℥ss.
Tr. euonymi	ʒj.
Aq. menthæ pip. ad . . .	℥vj.

Ft. mist.

Cap. ℥j. ter in die post cib.

A convenient form for using bismuth is the lozenge or tablet. It can be carried in the pocket, and used at the very earliest advent of the symptoms.

Acids.—The dilute mineral acids, and especially the nitro-hydrochloric, in doses of ♏x. to ♏xx., combined with ♏v. of tincture of nux vomica or with ʒj. of a bitter tincture

or of suc. taraxaci, taken before meals, are indicated in dyspepsia with a red tongue; they exert a curative action by going to the root of the evil—that is to say, they restore to the stomach its natural acids, and they act besides as bracing tonics. Dilute phosphoric acid (mx. in water) may suit old people best. When there is much gastric disturbance or diarrhœa, sulphurous acid, mx. to mxv. every four hours, acts better because it has greater power of arresting fermentative changes. Generally speaking, it may be said that acid mixtures are indicated in cases of gouty dyspepsia and dyspeptic weakness, when gastric juice is feeble in digesting power and lacking in hydrochloric acid. The following are typical and reliable mixtures :—

Indigestion Mixtures.

'Pharm. Form.' II. No. 5.		'Pharm. Form.' No. 11.	
Acid. nit. mur. dil.	ʒvj.	Acid. nit. mur. dil.	ʒj.
Tr. aurantii	ʒj.	Liq. strychn.	m36
Tr. gent. co.	ʒj.	Tr. card. co.	ʒiv.
Succ. tarax.	ʒiss.	Glycerin. pepsin.	ʒvj.
Spt. chlorof.	ʒvj.	Glycerini	ʒvj.
Aq. ad	ʒxviij.	Aq. ad	ʒvj.
ʒss. t.d.s.		ʒss. bis terve die.	

Alkalies.—Soda, potash, lime, and magnesia are all much employed in treating dyspepsia. The bicarbonates of the first two, in doses of 30 to 60 grains, are useful to correct acidity and heartburn, but only as palliatives and for occasional use. Soda-mint tablets are a convenient form for administering soda in small doses. When the acidity is located in the bowels, alkalies are not only better than acids, but are curative : magnesia gr. x. with bismuth subnitrate gr. x. will give satisfaction. If there is tendency to diarrhœa the magnesia should be replaced by carb. calcis. Lime water taken freely is a good alkaline remedy for intestinal acidity if accompanied by diarrhœa, and it is an indispensable addition to the milk when that forms the staple of diet, as it renders it much more digestible. Alkalies are often combined with rhubarb and ginger, as in the p. rhei co. of the Pharmacopœia, or with

calumba and other bitters or aromatics, and this combination is excellent for habitual use in simple gastric derangement.

The following are examples :—

Indigestion Mixtures.

'Pharm. Form.' II. No. 21.

Sod. bicarb.	ʒij.
Tr. nucis vom.	ɱ48
Spt. ammon. arom.	ʒiij.
Tr. gent. co.	ʒiij.
Aq. menth. pip. ad	℥viij.

Misce. An eighth part for a dose at 11 a.m., 3 p.m., and 7 p.m.

'Pharm. Form.' II. No. 20.

Potass. bicarb.	ʒij.
Tr. nuc. vomicæ	ʒij.
Dec. aloes co. ad	℥viij.

Misce. ℥ss. ex aq. bis die post cibos.

Pepsin, Pancreatin, Ptyalin, Rennin, Ingluvin, and Papain are a class of remedies representing the natural digestive secretions, and are given when these are deficient in digestive power. There can be no doubt of their value in many cases, but a recent writer has pointed out a danger which may attend their excessive or indiscriminate use. By supplying the secretions to the organs whose part it is to produce them, the ability of these organs to perform their natural function may in course of time become weakened or destroyed.

It may be convenient here to refer to the functions of the various digestive agents. The most common is the digestive ferment which constitutes the active principle of the gastric juice and which we call *Pepsin*, which digests albuminoids such as white of egg, meat fibrin, &c., but has little or no action upon starchy or fatty substances. It is used as a substitute for the natural digestive fluid in atony of the stomach from functional derangement or organic disease.

Pancreatin is the extractive from the pancreas or sweetbread, the natural juice from which digests the fats in the

duodenum. When there is intestinal dyspepsia and torpor, defective nutrition, and in convalescence from acute diseases, it is frequently found necessary to predigest the food before the patient takes it. Pancreatin is used for this purpose together with an alkali—bicarbonate of sodium—and the two substances emulsify fats and peptonise albuminoids, so that the work of digestion is largely accomplished before the food enters the stomach. There is no such preparation as *pure* pancreatin, which is simply a highly concentrated extract containing the various ferments of the pancreatic secretion. Five grains with fifteen grains of sodium bicarbonate is sufficient to peptonise a pint of fresh milk.

Ptyalin is the diastatic ferment which transforms starch into sugar, and it is supplied by the salivary glands in the process of chewing the food. When the supply of ptyalin is deficient its place can be taken by the substance called *Taka-diastase*, an isolated ferment from a fungus which grows on moist wheat bran, and which is much more powerful than malt extracts or substances of that class, since under proper conditions it will in ten minutes convert 100 times its weight of dry starch into sugars. As an amylolytic it is the most powerful known, and it is therefore of use in the various forms of amylaceous dyspepsia.

Lactopeptine and *Lactated Pepsin* are mixtures of pepsin, pancreatin, diastase, and one or more acids, and are sometimes extremely useful in cases where there is a deficiency of the natural secretions. It was formerly believed that the property of curdling milk was an attribute of pepsin; but this is no longer tenable, since it has been proved that casein is curdled by *Rennin*, a ferment distinct from but associated with pepsin in the gastric juice, and that pepsin from which rennin has been removed has no milk-coagulating power. One grain of pure rennin is capable of curdling two pints of milk; and the ferment is therefore of value for preparing junket, or curds and whey, for dietetic purposes.

Ingluvin is the mucous membrane of the common barnyard fowl carefully dried and powdered; it is said to be useful in the indigestion associated with pregnancy.

Papain is a ferment isolated from papaw fruit, and has a digestive action on proteins.

Carminatives.—These are a class of remedies which relieve pain and uneasiness by dispelling flatulence, and they act on both the stomach and bowels. It is best to combine an alkali with them to correct acidity. Peppermint is the best of this class of remedies, soda-mint tablets being a favourite form. When the peppermint odour is objectionable ginger or capsicum or any other of the aromatic spices may be used. Spt. ammon. arom. or æther. chloric. makes an excellent addition, or one of the bitter tinctures, as calumba or gentian.

Tonics are quite useless when the secretions are disordered, but when these have been set right, and in atonic dyspepsia, where loss of appetite is the prominent symptom, the vegetable bitter tonics will be found beneficial taken half an hour before meals. Quinine in small doses may be used, or quassia, calumba, gentian, or chiretta may be given in the form of infusion, and they may be combined with small quantities of the acid or alkaline remedies, or with nux vomica :—

Acid. sulph. dil.	℥ij.
Inf. quassiæ	ℨvj.

Misce.

℥ss. ter die ante cib.

Acid. phosph. dil.	℥iv.
Liq. strychninæ	♏xxx.
Inf. calumb. ad	ℨvj.

Misce.

ℨss. t.i.d. inter cibos.

Arsenic, in the dose of gr. $\frac{1}{20}$ t.d. and continued for several weeks, is highly spoken of as curative in severe cases of gastralgia.

Potassium Bichromate (gr. $\frac{1}{10}$ in pil. t.d.) has a remarkably good effect in many similar cases. Oxide of silver is also employed.

Glycerin, in doses of ℥j. to ℥ij. in a little water t.d., is highly recommended by good authorities for the same purpose.

It is often necessary to employ morphine and hydrocyanic acid to relieve the urgent symptoms in this form of the complaint. The following are prescriptions by two specialists :—

Liq. morph. hydrochlor. . . .	ʒij.
Acid. hydrocyan. dil.	ʒj.
Aq. chloroformi ad	℥vj.

Misce.

Dose : ʒss. three or four times daily.

Bismuth. carb.	ʒiv.
Sodii bromidi	ʒiv.
Acid. hydrocyan. dil. , . . .	ʒj.
Sp. ammon. arom.	℥iss.
Liq. opii sedativ.	ʒj.
Aquam ad	℥vj.

Misce.

Sig. : ʒss. ex cy. aq. qq. tertiâ vel quartâ horâ.

A somewhat similar mixture to the latter is the

Indigestion Mixture.

'Pharm. Form.' II. No. 21.

Bismuth. carb.	℈ij.
Sodii bicarb.	ʒij.
Spt. am. arom.	ʒiij.
Tr. chlorof. c. morph. . . .	ʒj.
Aquam ad	℥viij.

ʒss. b.v.t.d. p.c.

Stomach Washing.—It is a familiar fact that in certain cases of painful digestion free vomiting gives immediate and entire relief. Following up this idea a French doctor suggested the evacuation of the stomach, by mechanical means, of its contents when these consisted of acrid and irritating matters, and the practice has become somewhat general in recent years, and with very favourable results. The process is accomplished by means of the ordinary stomach pump, or by means which may be extemporised with a simple flexible tube and a funnel (as described further on). It is necessary that the operation should be performed at first by a medical expert,

but afterwards the patient will be able to manage it himself quite readily without assistance ; and it is no unusual thing for the dyspeptic victim to prize his 'tube' as a *vade mecum*, and to have recourse to it as occasion may require, with the happiest results.

The remedy is specially useful when there is much dilatation, and for clearing the stomach of abnormal secretions and indigestible portions of food, and it promises to revolutionise the method of treatment of such cases. The following is a description of the *modus operandi*, with which it will be useful and interesting for the chemist and druggist to be acquainted. The apparatus consists of a soft thick-walled indiarubber tube, about six feet long. To one end of this a large-sized glass funnel is firmly fixed. The other end is dipped in glycerin, and the patient is directed to swallow it. When the swallowing has commenced, a little gentle pressure passes the tube on to the stomach, which it will have reached when rather less than half its length has disappeared. Tepid water, in which may have been dissolved a teaspoonful of boric acid, is then poured into the funnel, and while it is yet full it is quickly depressed into a basin. The tube being now filled with water, and the funnel end being lower than the stomach end, a syphon action is established, and the stomach is rapidly and easily emptied. When the flow has ceased, a couple of pints of warm water ought to be poured into the stomach and likewise returned, and this should be repeated until the water comes away again practically pure. It sometimes happens that the conformation of the organs is such that the food is allowed to lie and ferment—as, for example, in the pylorus when that organ is too low down to be able to empty itself into the bowel. In such a case it has been found that a flannel bandage, about 9 to 12 inches in width, tied tightly round the abdomen, produces a perfect cure. In any event such a bandage is always useful, especially in the cold weather, as a protective to the kidneys.

EARS (CARE OF).

An exquisite little mechanism is the auditory apparatus with its minute drum, its delicate chain of bones, and the shell-like battery holding the nerves of sound. It is a veritable telephone in miniature, and far more perfect.

Cases of deafness are of two kinds—those which are curable and those which are hopeless. Among the latter may be included the loss of hearing following severe ulceration of the deeper parts of the ear.

Temporary deafness may be caused by chills, rheumatism, loud noises, blows on the ears, wax accumulations, catarrh of the Eustachian tubes, or by the prolonged use of quinine and salicin.

Permanent deafness is almost invariably the outcome of deep inflammations resulting from injuries or acute fevers. These destroy the delicate structures which are occupied in transmitting sound vibrations.

Treatment.

The heads and ears of children should always be wiped perfectly dry after they are washed. Parents, nurses, and others should be strongly cautioned as to the great danger which arises from boxing the ears, a practice which is quite likely to rupture the drum. It is dangerous to irritate the ears by putting into them the ends of penholders, wooden matches, and especially pins.

Remove Accumulated Wax.—The object of the wax secreted in the outer ear is to lubricate the passage and improve the penetration of sounds from without. This wax sometimes gets hardened into a mass, and blocks up the passage, retarding or preventing the transmission of sound. In this case the patient should be directed to drop equal parts of almond oil and glycerin into his ear every night for a few days until the mass is softened, and then careful syringing with warm water and soap will quickly remove it.

Ung. Hydrarg. Oxid.—Eczema and other eruptions occasionally extend to or attack the outer ear-orifice, and ung. hydrarg. ox. rubri (gr. iv. to ʒj.) will generally suffice to cure it, or a lotion of glycerole of lead subacetate may be employed.

Calcium Sulphide.—Some persons are prone to suffer from boils in the ear. These are exceedingly painful, and cause temporary deafness. Calcium sulphide (gr. $\frac{1}{10}$ or more t.d.) is the best remedy to effect a cure. For discharges affecting the ear 'sanitas' diluted is an excellent injection to use.

Ammonium Chloride Inhaler.—The middle ear is a small cavity, and its air pressure is regulated by the Eustachian tube, which descends to open at the back of the nose. Catarrh of the nose or throat will generally extend to this tube and block it, producing throat deafness. The prolonged use of a chloride of ammonium inhaler is the best treatment for this.

Cocaine, &c.—A 2 or 4 per cent. cocaine or a 5 per cent. solution of eucaine spray affords great relief in acute earache of agonising character. Other remedies are probably better in less acute forms. Hot applications (a very good plan for effecting which is to lay the affected side of the head on a hot-water bottle), a few drops of almond or olive oil, with an equal proportion of laudanum, or with 20 per cent. of chloroform or menthol or camphor, and a host of other remedies are all of greater or less efficacy in relieving earache. People subject to this malady have been completely cured of the liability by habitually keeping a little bit of cotton wool in the ear.

Boric Acid.—Where there is discharge coming from an ulcerated middle ear the ears should be carefully syringed each day with sanitas and warm water, and then a little boric acid blown in by means of an insufflator. Inflammations affecting the deeper parts of the ear may be of so disastrous a character that it is always wise for patients at once to consult a skilled practitioner.

ECZEMA.

Eczema is the name given to a catarrhal inflammation of the skin. During its course it shows the characters of inflammation—redness, swelling, heat—and also that of catarrh—exudation of serum. Inflammations of the skin caused by known chemical or mechanical irritants, which can be withdrawn at will, are usually excluded from the definition, and classed generally as dermatitis, although many of them are in their characters indistinguishable from true eczema.

The diagnosis of eczema is not always easy. If seen during the characteristic 'weeping' or catarrhal stage, there is no difficulty; but the forms it takes are so numerous, and their appearance so complicated by the scratching of the patient, that, unless one has had a good deal of experience, it is sometimes difficult to come to a definite conclusion. The first symptoms of an attack are an itching or burning sensation in the part; this is followed by redness, and numerous vesicles containing fluid appear; the whole affected surface now becomes hot and tense; the vesicles usually become torn by the patient scratching, the discharge from them drying and forming crusts. General weeping of the raw surface may take place, which may gradually subside, the part healing under the crusts; a fresh outbreak may take place in the immediate neighbourhood of the initial one, or spreading to distant parts may result. The most prominent feature of the disease may be little pimples instead of vesicles, or there may be simply a dry redness and scaliness apparent. In a very severe attack there may be constitutional symptoms, but there is seldom fever; the worst effects are the sleeplessness and nerve-tension caused by the irritation and intolerable itching, which are very frequent, especially at night. The attack may pass off, the last stage being that of desquamation, the new epidermis being shed in scales, which get smaller and thinner as the condition subsides. Chronic red scaly patches may, however, remain, and these occasionally become the starting-

point of another acute attack. It should not be forgotten that the itching is often worst when there is least to be seen, the exudation being in such cases in the deeper layers of the skin, and, from its inability to escape freely, causing pressure on the nerves of the part; this is particularly the case in the scalp.

Syphilitic rashes, scabies, and sycosis of the chin are apt to be mistaken for eczema. The first can be excluded by the history and the absence of other syphilitic symptoms. In the case of the second, when the humours of the itch-mite can be seen, the case presents no difficulty. Moreover, the lesions are always grouped in patches, not isolated as in the case of eczema; they have no spreading edge, and have a special fondness for the spaces between the fingers, the armpit, the wrists, and the inner side of the thigh. Sycosis of the chin—a septic inflammation acquired by the inoculation of pus from a dirty razor or shaving-brush—shows no tendency to spread beyond the hair-area, but is sometimes difficult to differentiate from eczema. Psoriasis is usually readily distinguished by the sharply defined border of its patches and its silvery-white scales, those of eczema being yellowish and crumbling.

Treatment.

The cure of eczema is not by any means so easy or so certain as the advertising pages of the newspapers would lead us to believe. The use of internal remedies is now to a great extent discarded by skin-specialists. Arsenic is considered in many cases to do more harm than good, and the cases in which it is of benefit are few. The general principles of treatment in severe cases are complete rest of body and mind, avoidance of extremes of temperature and of stimulants, simple diet, and regulation of the bowels. Any accompanying diseases, such as dyspepsia, gout, or rheumatism, should of course be treated with appropriate remedies, and it may be noted here that gout is not now considered to be a cause of eczema.

It is to local treatment that one must look for the cure or alleviation of eczema. Certain principles must guide us—viz.,

(1) When the disease is in the acute stage, use soothing applications; (2) when the disease has become chronic, stimulate; (3) before commencing treatment remove any crusts or scabs, so that free access for the medicament to the affected tissue may be assured. This may be readily effected by means of oil applied on lint, by weak solutions of sodium bicarbonate, or by a starch and oil poultice.

Acute Eczema with Oozing.—Wash with 1-in-60 solution of boric acid, and dry with a muslin bag containing starch-powder to which has been added a trace of boric acid. Do not dry with a towel. If the affected surface is large and too sensitive for the watery application, dredge over it some flour containing a trace of boric acid. After the acute symptoms have subsided the part may be washed with soft or distilled water; hard water must never be used. If soap is used at all it must be superfatted and of the best quality. The inflamed surface must then be protected from the air by a piece of lint, on which may be smeared the following preparation recommended by Morris:—

Zinci oxidi	ʒvj.
Lanolini	ʒij.
Ol. olivæ opt.	℥j.
Aq. calcis	℥j.

M.S.A.

A good cold-cream answers equally well, and has also the cooling property aimed at by the lime-water in the prescription. When the inflammation has sufficiently subsided, the use of parasiticide applications may be proceeded with, and Lassar's paste may be taken as a type of these:—

Acid. salicylic.	gr. x.
Vaselini	ʒss.
Zinci oxidi	ʒij.
Pulv. amyli	ʒij.

M.S.A.

This should be applied on linen or lint. If a large surface is affected the patient should be kept in bed.

Moist Eczema of ordinary type where the symptoms are not very acute.—For this form the best application is ung. emp. plumbi applied to the part on linen or muslin :—

Emp. plumbi	} partes æquales
Vaselin.	

M.S.A.

After this has produced the desired effect, a favourite application for promoting perfect proliferation, and so producing a smooth epidermis, is the following :—

Pyrogallol. oxidat.	gr. xv.
Acidi salicylici	gr. x.
Ichthyolis	gr. xv.
Vaselini	ʒj.

M.S.A.

This should be used like the last, but should not be applied to very large surfaces on account of the risk of pyro-absorption, and consequent toxic effects. Oxidised pyro is used, because it has been found to be less poisonous than the ordinary acid. For the moist forms, often seen behind the ears and in other situations in young children, Dr. Allan Jamieson recommends the following cold-cream :—

Lanolin.	ʒss.
Ceræ alb.	ʒss.
Acidi salicylici	gr. x.
Ol. amygd.	ʒss.
Aq.	ʒss.

M.S.A.

Papular Eczema, affecting extremities of limbs.—Use the following, and exercise great discretion in washing :—

Resorcin.	gr. x.
Ung. zinci	ʒj.

M.S.A.

Itching Eczema, affecting face and flexures of joints, is held by some competent authorities to be caused by digestive disturbances. These should, therefore, always be looked to.

Numerous local applications are in favour for the relief of the itching. Liq. plumbi subacet. dil., kept applied on lint, is probably as effective as anything, and the cure can be completed with Lassar's paste. If there is no scaliness the part should not be washed, but if scaly the scales may first be removed with soft water and superfatted soap.

Sweat Eczema, common on the back of the neck and face after profuse perspiration, is best treated by the occasional application of the following lotion :—

Acidi borici	℈ij.
Calaminæ	ʒij.
Aq. rosæ ad	℥iv.

M.

Chronic Patches of Eczema are often exceedingly troublesome. When there is violent itching, daubing with the following lotion gives great relief :—

Acidi carbolici	ʒj.
Glycerini	ʒij.
Aquam ad	℥viij.

M.

An ointment composed as follows is also very effective :—

Acidi tannici	ʒj.
Acidi carbolici	gr. v.
Cremor. frigid.	℥j.

M.S.A.

Preparations of tar are sometimes very effective, but must be used with discretion. For the cure of persistent chronic patches after the itching has subsided, the following is a good ointment :—

Sulphur. præcip.	gr. x.
Hydrargyri ammon. . . .	gr. x.
Camphoræ	gr. iv.
Vaselin.	℥j.

M.S.A.

If no great irritation results the sulphur may be increased. The ointment must be kept applied on lint or muslin.

There is a common form of eczema which appears in nummular patches on the skin of children, and is due to defective nutrition. The best cure is feeding and country air, aided, perhaps, by the calamine lotion already mentioned. The same form in adults is usually a sign of some grave constitutional condition, and should be referred to a physician.

EPILEPSY.

No nervous disease is more dreaded than epilepsy. Its origin is still a mystery. In its severe forms the patient utters a peculiar shrill cry and falls to the ground. His muscles are violently contracted or convulsed, he foams at the mouth, and always bites his tongue. Often he sleeps a while after a fit, and when he awakes he recollects nothing of what has happened. Epilepsy is generally regarded as hereditary, but there are many exciting causes—debility, excessive excitement, and vicious indulgence of any kind.

Prevention and Treatment.

Stopping a Fit.—The warnings that patients have of an approaching fit are usually too brief to allow of measures being taken. Occasionally, however, a warning or aura is felt. This may present itself in various ways, as by a headache, or a feeling of cold water or air running up a limb ; when it stops a fit occurs. If a ligature is tied tightly round the part or a blister put round the limb the attack may be prevented.

Exercise.—Regular exercise, short of fatigue, is beneficial. Rest and change of scene and the indulgence of a hobby are good. Too severe exertion, mental or bodily, may determine a fit. Both the mind and the body require much rest. Patients should sleep with the head high, and on a low bed, in case of any injury from a fit occurring during the night, and the patient falling out of bed.

Diet.—A purely milk diet or a vegetarian dietary will cure some cases and benefit all. Above all, the stomach should never be overloaded. Diseased teeth should be attended to; they are an occasional exciting cause of epilepsy.

Bromides.—There can be no question as to the controlling influence of bromide given regularly in full doses—10 to 20, 30, or even 40 grains t.i.d.—and continued for a long time, months and even years. The patient comes to realise its value, and will be slow to discontinue it. It is advisable to administer arsenic at the same time, to obviate any ill effects from its use.

Borax.—When the fits occur at night biborate of soda is an excellent remedy. It does not act well in diurnal seizures, when bromides are indicated.

Circumcision.—This operation has cured cases depending on perverted conditions of the sexual organs.

The salts of zinc, iron, and silver have all been given to prevent the recurrence of the fits, and the two former at least are beneficial as tonics.

ERYSIPELAS.

The features of erysipelas are redness (hence its common name, 'Rose'), with a burning, swollen condition of the skin, and a tendency to spread over and beneath it, accompanied by general fever. As the disease advances there may be a discharge of matter or desquamation of the skin. Two forms of erysipelas are recognised—the one a purely constitutional disease attacking chiefly the head or face, the other a local disease occurring secondarily as a result of a recent wound or injury of some kind. Any healthy wound may become infected by the microbe of erysipelas, *Streptococcus pyogenes* (*erysipelatis*). In its severe forms it is a highly dangerous disease calling for prompt medical advice, and it is very infectious.

Treatment.

Hygiene.—Those who suffer most severely from erysipelas are found to live under bad hygienic surroundings. Those who have wounds should rigorously avoid all possibility of their erysipelatous infection.

Diet.—As erysipelas is a disease which markedly lowers the powers of life, a nourishing diet is essential to promote its recovery. Beef tea, meat juice, milk and eggs, and concentrated light foods should be given freely. Intemperance is a frequent cause of erysipelas, but in severe cases a moderate allowance of alcohol should not be withheld. In very critical cases a mixture containing sp. ammon. arom. ʒss. c. tinct. cinchonæ ʒss. in each dose, every four hours, is the best medicinal stimulant to give.

Serum Treatment.—The use of antistreptococcus serum has revolutionised the treatment of this disease. The serum is obtained by injecting the specific streptococcus into the horse, and removing the blood when the animal has become immunised. It is the most scientific and also the most certain remedy, and should be used early and in every case; 10 c.c. injected once or twice daily according to the symptoms. The older remedies, such as iron and antipyretics, cannot be compared with serum; but local disinfection and ichthyol dressings, with tonics in convalescence, are part of the plan of treatment.

Tinct. Ferri Perchlor.—In the absence of serum, the most reliable remedy for erysipelas is tinct. ferri perchlor. in doses of ɱxx. every four hours or oftener. The tincture can at the same time be painted on the parts.

Tinct. Iodi may be painted round the affected part to prevent it spreading.

Antipyrin, in doses of gr. x. every four hours, is useful to allay fever if high and to diminish pain. It will not cure the disease; it only allays the symptoms.

Quinine in many cases exerts a magical action in doses of the sulphate gr. iij. every four hours. In the typhoid condition

ammonium carbonate gr. v. with quinine sulphate gr. iij. or tinct. cinchonæ ℥ss. is generally indicated.

Calcium Sulphide (gr. $\frac{1}{10}$ or more every four hours) acts with extraordinary effect in the deeper forms of the eruption accompanied by threatened abscess. This may be supplemented by dusting the parts with sulphur or painting them with equal parts of glycerin and sulphurous acid.

Carbolic Acid.—A 1 per cent. solution on lint relieves pain and tension. Salol mixed with an equal part of creta gallica is a valuable dusting powder, or boric acid with starch equal parts.

The best lotion for erysipelas is the lotio plumbi c. opio :—

Plumb. acet.	gr. xxxij.
Pulv. opii	gr. xxxij.
Aq. bullient.	℥viij.

Misce et cola. Apply on lint.

Ichthyol, applied as lanolinum ichthyol. (25 per cent.), is one of the most useful external remedies.

Varnishes.—On the principle of excluding the air certain more or less impermeable applications have been advised. Small strips of isinglass plaster, applied so as to envelop the part, and flexible collodion have been suggested.

ERYTHEMA (REDNESS).

This is not exactly inflammation, simply a redness of the skin. It may occur on any part of the skin when deranged sympathetic nerves relax the capillary blood-vessels and over-gorge them with blood. Erythema is a frequent outcome of deranged digestion ; flushing of the face after meals is a common symptom, especially at woman's change of life. The worst and most persistent form of erythema is called erythema nodosum. Painful oval red spots of fair size appear on the front of the legs and persist for some weeks.

TREATMENT.

Zinc Valerianate.—The flushing heats after meals are generally very troublesome and annoying to the sufferer. The best remedy is zinc valerianate (gr. ij. t.d.). When it fails, ammonium bromide (ʒss. night and morning) or eucalyptol (♏v. on sugar) should have a trial.

Quinine.—Tonics containing quinine are generally best in the severe forms, such as erythema nodosum, provided there is absence of fever. Chamomile fomentations can be used with it if the pain is troublesome, or the lot. plumbi c. opio applied on lint.

EYES (AFFECTIONS OF).

Sight is the most valuable of all the senses, and perhaps the least taken care of. Without it we become very dependent on others.

It is singular how little attention some people give to their eyesight. When they have it good they do not realise what it means to be deprived of this faculty.

The eye is the most exquisitely beautiful of all the bodily structures. It is the wonder and the standard of opticians. The very delicacy of its mechanism makes it sensitive to the slightest impressions.

Defects of vision are very prevalent. They result from some defect, natural or acquired, in the shape of the lens or in the focussing apparatus. Short sight, long sight, astigmatism, and day or night blindness are examples of vision blemishes. (*See* 'Sight-testing,' p. 246.)

Conjunctivitis or inflammation of the eye (ophthalmia) is a frequent outcome of colds, of irritants within the eyelids, or of acute infectious fevers, especially measles. If uncared for, the mischief may extend to the cornea or clear part of the pupil of the eye, causing great impairment of vision. Conjunctivitis is the most common of all affections of the eye.

Opacity of the lens, or cataract, inflammation of the iris or retina, and disease of any of the deeper parts of the eyeball are

so serious that the immediate attention of a skilled oculist is always needed if danger of blindness is to be avoided.

A stye is a small painful boil which forms on the edge of the eyelid. It requires no treatment beyond fomentation with hot water, and carefully opening it with a needle when it comes to maturity. If there is a tendency to recur, a little general treatment by sulphide of calcium or otherwise may be required. (*See* 'Boils.')

A bloodshot condition of the conjunctiva, which often comes on suddenly and without pain or any other symptom, as the result of cold, is best treated by fomenting with water as hot as it can be borne. The application of a solution of adrenalin, 1 in 10,000, at once relieves the congestion.

Hygiene.—Persons predisposed to conjunctivitis should avoid exposure to easterly winds, and should never try their eyes with small print or fine needlework, especially in artificial light or in a railway carriage. They should sit upright to read, not in a stooping position. A tired feeling about the eyes is a sure indication of the need of rest. The free use of alcohol and tobacco is very bad for the eyes.

The ophthalmia of new-born babies, or resulting from gonorrhœal infection, is decidedly contagious as well as dangerous, and the patient or nurse should be told to use separate towels, and take all necessary precautions for isolation.

If the eyelids, owing to slight suppuration, are found sticking together in the morning, they must be carefully bathed with tepid water before attempting to open them.

Remove Cause.—If a speck of dust or an irritant is causing inflammation, this should be removed at once. A piece of iron in the eye is best got out by means of a magnet. Lime in the eye requires to be neutralised by means of an acid, and acids require neutralisation by alkalies. The eyes must first be well bathed with tepid water to remove as much as possible of the substance, and the remedies must be well diluted, so as not of themselves to irritate the eye. If the eye happens to be injured with carbolic acid, prompt application of olive oil is the best remedy.

Spectacles.—Defects of vision require careful adjustment of suitable spectacles. Short-sightedness calls for concave glasses, long sight for convex, astigmatism for separate glasses to remedy the inequality of each eye's vision. In bad cases it is always best to have the sight tested by an oculist, and if the patient is poor he may with advantage be sent to one of the large ophthalmic hospitals. (*See* 'Sight-testing,' p. 246.)

Zinc Sulphate.—The best and safest eye lotion is made with zinc sulphate gr. ij. to ℥j. of rose water. To this a little vin. opii may be added if pain is complained of. Salts of lead should never be used except by an oculist, for if there is any ulceration of the cornea the salt may deposit and permanently injure sight.

Hydrarg. Perchlorid.—When there is a feeling of smarting in the eyes, and congestion within the eyelids, a lotion of hydrarg. perchlor. (gr. j. to ℥vj. aq. destill.) will be found an unfailing remedy. It should be used mixed with an equal quantity of hot water.

Argenti Nitras.—As a rule solutions of nitrate of silver should be avoided in eye affections, but they are probably the most effectual remedies in cases of ophthalmia of new-born infants and in gonorrhœal forms. The organic salts of silver, such as nargol, protargol, and the like, are to be preferred to the nitrate. A solution of gr. ij. to gr. iv. in ℥j. distilled water should be used for this purpose, and a single drop applied once a day.

Atropine.—A solution of atropine sulph. (gr. iv. to ℥j., or atropine gelatin discs) is most valuable in painful forms of eye inflammation complicated with corneal ulcers or inflammation of the iris or pupil. Atropine dilates and rests the pupil muscles. Eserine (gr. ij. to ℥j.)—the alkaloid of Calabar bean—which contracts the pupil, is beneficial in some cases of inflamed cornea.

Mercury.—Mercurial preparations are largely used in diseases affecting the eye. Calomel dusted over the conjunctiva is a valuable treatment for a variety of ophthalmia characterised by the presence of a number of little seedlike

elevations, which cause great irritation of the superficial eye structures ; and the ung. hydrarg. subchlor. is used by many oculists for anointing the edges of the eyelids at bedtime when there is tendency to suppuration. The red oxide of mercury ointment (gr. viij. to ʒj.) is also very serviceable in cases of sore eyelids. The following is excellent for ringworm of the lids and for any form of superficial inflammation :—

Hydrarg. ox. flavi	gr. viij.
Atropin. sulph.	gr. j.
Vaselini	ʒj.

It is important to use the yellow oxide, as the crystalline structure of the red variety may cause mischief to the eye.

Blisters behind the ear are commonly used as a counter irritant in obstinate cases of eye affections in children, and frequently with great benefit. In very severe acute forms of eye inflammation, leeches to the temple or other surrounding parts are still occasionally resorted to. The piercing of the ears for earrings is thought to improve the sight.

Ammon. Bromid.—Where the eyes are tired from over-reading or from want of sleep the bromide of ammonium (ʒss. doses) is a good remedy.

Potass. Iodid.—In eye affections caused by gout, rheumatism, or syphilis, potass. iodid. (gr. v.) combined with liq. hydrarg. perchlor. (mxx.) or vin. colchic. (mx.) is the remedy indicated. Syr. ferri iodidi, sulphur, and cod-liver oil are the best preparations to remove constitutional weakness causing disease of the ocular structures, such as strumous ophthalmia or corneal ulcers.

Cocaine.—A 4 per cent. solution of cocaine hydrochloride—or *beta*-eucaine, which is safer—is largely used to arrest acute pains in the eye, and so allay the hypersensitiveness of the organ, in order that specks of dust and foreign bodies may be removed, or slight operations performed without pain or resort to a general anæsthetic.

Cuprol, an organic salt of copper, is recommended in trachoma, the powder being applied with a brush to the

everted lids. There is almost no pain following the use of the remedy, and no irritation of the tissues.

Adrenalin.—The active principle of the suprarenal gland is a good remedy for conjunctivitis, a single drop of the solution of adrenalin chloride being sufficient to blanch the conjunctiva. It is best used by diluting the 1 in 1000 solution to four or five times its volume with normal physiological salt solution (0·9 per cent. sodium chloride) and applying the lotion frequently. It has been ascertained that many emigrants afflicted with trachoma, particularly Italians, have been in the habit of using adrenalin to blanch the conjunctiva in order to pass the ship's doctor.

FAINTING

is caused by a temporary reduction of the heart's action owing to pain, loss of blood, a hot, crowded atmosphere, or any strong emotion. Persons of an excitable temperament or with weak circulation are most subject to it, and women more so than men. When caused by any organic affection of the heart itself, it is a very grave affair; but in the generality of cases, however distressing, it gives no occasion for alarm.

Prevention and Treatment.

To prevent a fainting fit, if it gives any warning—for frequently it does not—place the patient in a prostrate position and with the head not higher than the body, and administer ʒj. sp. ammon. ar. in a glass of water, or brandy, or if these are not available, then cold water, and apply smelling salts to the nostrils. When the patient is under the fit admit fresh air, loosen the dress, sprinkle cold water on the temples, and have recourse to the stimulating treatment described above. Persons subject to fainting fits should lead a quiet life, avoiding over-fatigue and excitement, and from time to time pursue a course of treatment by tonic remedies, notably iron.

FEET (CARE OF THE).

The lower extremities are the stay and support of the whole body, and they are liable to a variety of disorders, partly because everyone must use them, and partly because they are so far removed from the heart that the circulation in them is sluggish. The feet require to breathe just as much as other parts of the skin. Breathing of the skin means free outlet for its perspiration. When cased in impervious leather which prevents the proper action of the freely acting pores of the soles, the feet become icy cold in winter, and in the summer months burning, swelling, and free perspiration are apt to occur.

Exercise.—The best remedy for cold feet—the result of a languid circulation—is bodily action in the form of brisk walking in the open air.

Woollen Socks.—To prevent cold feet warm woollen socks or stockings should be worn. Stockings ought to be kept up by suspenders, and not by tight garters, which obstruct the circulation. In obstinate cases of cold extremities two pairs of socks may be worn, and this is equally applicable for cold hands: two pairs of warm gloves, one over the other, will keep the hands warm and cosy when one pair fails to do so.

Boots.—Those who are on their feet a great deal, such as policemen, postmen, and others, should change their boots and socks frequently, otherwise aching and soreness of the feet become marked. No two pairs of boots are exactly alike—they support the feet at different points, and it is owing to this that changing them is helpful. Jaeger boots contain a ventilating sole, are very comfortable, and remove perspiration by giving exit to it freely. Those subject to cold feet should have their boots warmed before going out. Canvas shoes make the best slippers over warm socks.

Warm Foot Baths.—Warm pediluvia, to which Condy's fluid or sanitas may be added, afford immense relief for the

burning aching of the feet resulting from a hard day's work. This form of bath rouses the weak circulation in the feet and draws it from the deeper parts. The feet should be frequently washed in warm or tepid water. It is just as necessary to wash the feet as the face, but as they are not exposed they are apt to be neglected.

Turkish Bath.—A good remedy for fetid perspiration of the feet is the regular taking of Turkish baths. They open all the pores of the skin and take extra work off the feet. Warm foot baths with a few drops of carbolic acid may be employed with benefit.

Formaldehyde.—The best results in cases of excessive and fetid perspiration have been obtained by painting the feet every night for a week with a 5 per cent. solution of formaldehyde. This has a wonderful effect in curing the condition, and rarely fails.

Salicylic Suet.—Salicylic lard or suet (1 to 50) applied to the feet tends to deodorise secretions and to heal sores or blisters. It is largely used in the German army.

Arnica.—A lotion composed of tinct. arnicæ 1 part, aqua camph. 8 parts, effectually allays burning and perspiration of the feet.

Foot Powders.—Convenient and much used remedies for perspiring feet are dusting powders which soothe and cool at the same time that they deodorise. For this purpose kaolin or French chalk with 2 per cent. of salicylic acid can be used with benefit. Powdered boric acid, oxide of zinc, fullers' earth, starch powder, &c., singly or combined with each other, also make excellent foot powders.

FEVERS.

Fever is an effort of nature to eliminate an irritant. Germs and their poisonous products act as foreign irritants, and the system does its best to get rid of them. This is done by the production of an antitoxin which neutralises the effect of the

germ poisons. At the same time the skin, kidneys, lungs, liver, and bowels, the great eliminatory organs of waste *débris*, are started into increased action by a rise of the body temperature and a quickening of the circulation. The temperature is sustained at the expense of the tissues, which act as fuel.

If the *vis medicatrix naturæ* is not sufficiently powerful to arrest and overcome the microbial antagonists, the excessive temperature soon uses up the vitality of the patient, and meantime the germs accumulate quickly and clog the excretory organs; therefore, in the early stages of a fever, the skin is dry and usually covered with an eruption, the urine concentrated, and the breathing quick. On the other hand, if the antitoxin is able to destroy the bacilli, the skin begins to perspire freely, the kidneys resume their normal functions, then the temperature falls to normal, and the weakened, emaciated patient is convalescent.

Treatment.

Diet.—As the liver is unfitted for performing its duties in neutralising ptomaines of animal food, the diet in acute fevers should be as liberal as possible. It should consist largely of milk, eggs, and strained broths made from lean meat, mutton, and chicken. Raw beef juice is invaluable. Solids are to be avoided, especially when there is gastric disturbance. Jellies made from calves' feet, and copious drinks of barley water or ordinary water, serve to eliminate and wash out the waste material resulting from febrile wasting.

Alcohol.—As a rule alcohol should be avoided, but when the maximum daily temperature is reached it may be given alternately with beef juice and jelly every hour, and it is of the highest value. Many fever patients die for lack of forced feeding, and in this alcohol can play a large part.

General Management.—Every person with a high temperature must be kept in bed, otherwise dangerous complications are liable to occur. No visitors should be allowed in the room, especially if there is a tendency to delirium. The

disease should be treated by systematic dieting and hygiene, and by people who are accustomed to such nursing.

Medicinal remedies, except for special symptoms, are out of place in the treatment of fever. An exception may perhaps be made in favour of diaphoretics, especially liquor ammon. acet.

FLATULENCE.

This is a very usual symptom of indigestion. A certain amount of gaseous matter is generated in a regular way in the act of digestion, but in health it gives rise to no inconvenience. When gastric or intestinal juices are deficient in power or quantity, products of fermentative decay are formed, and flatulence is a marked symptom. Flatulent distention of the stomach causes palpitation by upward pressure on the heart. This interferes with the due circulation of the blood, and giddiness, fainting attacks, shortness of breath, and many incidental discomforts accrue.

Treatment.

The palliative treatment of flatulence is effected by carminatives, such as peppermint, cardamoms, ginger, &c., combined with sodii or potass. bicarb., and with a diffusible stimulant, such as ammonia or sp. chloroform. Charcoal may also be used advantageously as a palliative, either alone or combined with bismuth or an alkali. It has the property of absorbing gases. But the effective treatment of flatulence will be found in regarding it as a symptom of indigestion. (*See* 'Dyspepsia,' p. 68.)

GALL-STONES.

Gall-stones are, as a rule, formed in the gall-bladder; they vary in size from mere sand to a hen's egg, and number from one or two to several hundreds. They occur more frequently in women than in men, and are more common in advanced life.

So long as the stone remains in the gall-bladder there is no trouble, but the moment it enters the bile duct it causes the most excruciating pain.

TREATMENT.

Morphine given hypodermically in full doses allays the pain of biliary colic until the stone has passed, or it may be administered in the form of suppositories. Either plan is to be preferred to giving it by the stomach.

Hot Fomentations constantly renewed as they get cool will be found useful to relieve the pain.

Copious Drinks of warm water in which bicarbonate of sodium has been dissolved—a teaspoonful to the pint—will be found beneficial.

Olive Oil.—A large quantity of olive oil is said to arrest almost instantly the severe pain.

Chloroform inhaled, or 5 to 10 drops taken internally may also be found of service.

Potassium Bicarbonate.—If any treatment is prophylactic or curative, it is the continuous use of potass. bicarb. for weeks.

Potass. bicarb.	ʒiv.
Tinct. opii	ɱxvj.
Aq. ad	ʒviij.

ʒj. t.d.s. ex aq. post cibos.

Extrusion by Abdominal Manipulation.—A great authority on the liver has recently succeeded in literally forcing gall-stones along the bile duct into the intestine, thereby obviating drug treatment, by means of a process of abdominal massage from without.

(*See also* 'Liver.')

GOUT.

In many cases gout is hereditary, but not always, and often it skips a generation. It is generally associated with the use of strong saccharine wines, combined with a highly nitrogenised diet and lack of exercise. It is a disease of the highly

civilised Englishman. When it occurs in women, it is chiefly among those who are robust and hearty-looking and inclined to masculine pursuits. Public men are very liable to it. Gout comes on usually in the early morning. It attacks mostly the ball of the great toe. Then it extends to other joints. The complaint gets more severe as age advances. A paroxysm is known to be impending by the presence of deranged digestion, irritability of temper, and a feeling of general disturbance. The pain is peculiar. It is likened to a feeling of a dog gnawing at the bones.

Treatment.

Hygiene.—A life of indolence is prejudicial, and one of activity and usefulness should be preferred. Regular and systematic exercise, such as walking or out-of-door sports, is an excellent preventive. Severe or exhausting extremes of labour are prejudicial. In very inveterate cases, removal to a warm dry climate during the winter is desirable.

Promotion of Skin Action.—To relieve the other excretory organs, friction of the surface and judicious bathing should be resorted to, and Turkish baths may help in this way taken regularly once a fortnight.

Non-nitrogenous Diet.—The active cause of gout is the presence of uric acid in excess, and this is derived from animal food. Therefore meat (especially salmon, veal, pork, or highly seasoned dishes) should be eaten sparingly. Pastry, greasy or twice-cooked food, and sugar, which are liable to create acidity, should be avoided.

Alcohol.—It is generally asserted that while too much animal food is the active cause of gout, rich saccharine wines, such as port, sherry, champagne, or madeira, determine the attack. Alcohol in any form is conducive to gout, but the least harmful are spirits, light wines, and beer in strict moderation, and taken only with meals.

Hot Fomentations.—The best local treatment of a joint acutely inflamed with gout is to wrap the part in flannel wrung out of hot water, with one or two teaspoonfuls of

laudanum sprinkled on the surface. Cold applications are dangerous, and may drive the uric acid poison to internal parts. An excellent application is glycerin and belladonna extract in equal parts, rubbed on thickly.

Potassium Iodide.—With a view to eliminating uric acid, drugs in which it is known to be soluble should be administered. Potass. iodid. (gr. v. every four hours) is a remedy of uniform efficacy. It may be combined with colchicum or other drugs. The following are good recipes :—

Gout and Rheumatic Mixtures.

'Pharm. Form.' II. No. 21.		'Pharm. Form.' II. No. 12.	
Potass. iodid.	ʒj.	Tr. colchici	ʒij.
Potass. bicarb.	ʒiss.	Potass. iodid.	ʒss.
Sodii salicyl.	ʒj.	Magnes. sulphat.	℥iss.
Vin. colchici	ʒij.	Tr. capsici	♏xxxvj.
Tr. card. co.	℥ss.	Liq. cocci cacti	♏v.
Aq. chlorof. ad	℥vj.	Aq. ad	℥vj.
℥ss. pro dose.		℥ss. pro dose.	

Colchicum is a remedy which has a specific action on gout. It should never be given alone, as cases so treated do not progress well, the disease being liable to return. When combined with saline aperients, such as mag. sulph. or with pot. iodid., it increases their action greatly. Combined in this manner, it may be given in doses of ♏x. to ♏xxx. of the wine every six hours.

Lithium Citrate.—In chronic gouty states an effervescent tablet of lithium citrate may be taken with advantage night and morning in a glass of potash or seltzer water.

Salicin and **Benzoates** are useful. Lithium benzoate gr. x. with salicin ʒss. is a good combination.

Antipyrin.—In doses of gr. x. or more, this remedy is valuable to reduce the acute pain of gout. It is useful also to allay headaches.

Hot Water Drinking.—On the principle of flushing the system, and thereby dissolving and promoting the elimination

of the poison, copious drinks of water, hot water, or potash water are decidedly useful.

Mineral Health Resorts.—Many sufferers are in the habit of frequenting various spas with the view to getting well. The exercise, spare diet, and change of scene have a beneficial effect. The brine baths of Droitwich are useful. This treatment, if desired, can be practised at home by dissolving 10 to 20 lb. of salt in 30 gallons of water at a temperature of 100° F. A glassful of Woodhall Spa water every day fasting, for a week or more, is also said to have a curative action.

Mineral Acids.—Nitromuriatic acid (mx. or more) may be combined with nux vomica or quinine as a tonic in cases of atonic gout due to impaired health.

Galvanism.—After the acute symptoms have subsided, this is a useful form of treatment.

GRAVEL.

This is a term commonly applied to a condition in which there is an abnormal amount of uric acid in the urine, which is passed in small quantity and of high colour. It is quite clear when passed, but on cooling deposits more or less copiously a 'brick-dust' precipitate. This is a comparatively harmless and temporary ailment, passing off in a few days; but the appearance of the red precipitate is often the occasion of alarm on the part of the patient, who has been known to mistake it for blood. The complaint arises generally from some disorder of the system—chiefly from indigestion or mal-assimilation of food—and it is amenable to quite simple treatment. This consists in dissolving the uric acid and washing it out of the system, and it is accomplished by giving potass. bicarb. gr. xx. t.i.d. and by copious diluent drinks. When the urine has regained its natural character, tonic treatment should be resorted to in the form of iron and quinine, or of one of the vegetable infusions with a few drops of any of the mineral acids.

There is a more serious form of the complaint when a concretion forms in the kidneys, and in the course of its passage to the bladder, which may last for hours, gives rise to pain of the most intense description. The treatment here is with the view to palliating the pain, and must consist in large doses of opium. One or two grains of the powder in the form of pill should be given every two or three hours, and the potash and diluent and subsequent tonic treatment should also be carried out. Hot fomentations over the seat of pain will also be useful.

A third variety of the complaint, and the most serious of all, is when concretions of various kinds are formed in the bladder, and, becoming too large to be passed by the urethra, are the occasion of pain, the most agonising, it is said, to which the human system is subject. These cases must be left entirely in the hands of the surgeon, and they call for the highest resources of his art, as the concretions (calculus or stone) must either be crushed (lithotrity) or cut out (lithotomy).

HAIR (CARE OF). BALDNESS.

The hair requires to be cut regularly. It ought to be kept uncovered and exposed to air and light. Constant wearing of modern hats is a frequent cause of baldness. The hair is an appendage of the skin, and participates in skin changes. Baldness is very generally a constitutional ailment, some people who are otherwise in good health losing their hair very early, while others retain it all their lives. But sometimes it occurs from other causes—after an exhausting illness, for instance, or from anything, mental or bodily, that injuriously affects the system generally. Sometimes, also, it proceeds from local causes.

Washing.—Occasional cleansing of the scalp is beneficial : the pores are kept open and the roots are made healthy. A good cleansing wash for the hair is camphor ʒss. and borax ℥j. in a quart of boiling water ; to be applied with a

sponge, and the hair brushed well afterwards. A good lotion for the same purpose is the following :—

Boracis	℥ss.
Glycerini	℥j.
Liquor. ammon.	℥j.
Spirit. rosmarin.	℥iss.
Aq. rosæ ad	℥xvj.

Misce.

Filter through magnesia.

Too frequent washing of the hair is prejudicial, with hot water and soap especially so. It removes the natural grease or gloss so strikingly seen in the sleek coat of a well-kept horse.

Fats.—In the form of oil or pomade, fatty substances supply nutriment to the hair roots and are beneficial. Many people find it necessary to use some oily preparation for dressing the hair. When this is the case, the hair should be cleansed from it at intervals by the use of the borax lotion mentioned above. A useful and more cleanly *dressing* for the hair is got by mixing equal proportions of almond oil and lime water and adding a few drops of an essential oil to perfume it.

Cantharides.—When the hair roots require stimulating, cantharides is the usual application, and other stimulants are used with the same view, such as ammonia, acetic acid, chloroform, &c. It is questionable, however, if cantharides does much good if used short of the irritation stage. Certainly if any preparation is applied which produces decided itching and faint vesication, benefit follows. Squire's *linimentum crinale* does this. The formula is :—

Cantharidin.	gr. j.
Æther. acetic.	℥vj.
Solve et adde—	
Spt. rectificat.	℥iij.
Ol. ricini	℥j.
Ol. lavand.	ɱxv.

The following is Sir Erasmus Wilson's hair lotion :—

Ol. amygd. dulc.	℥j.
Liq. ammon. fort.	℥j.
Spirit. rosmarin.	℥iij.
Aquæ mellis	℥iij.

Misce.

To be applied to the roots of the hair when brushing, daily.

The following is also an elegant and useful hair-wash :—

Tinct. capsici	℥ss.
Tinct. cantharidis	℥j.
Ol. bergamott.	℥ij.
Aquæ rosæ	℥iv.
Spirit. vini rect. ad	℥xij.

Misce.

Filter through magnesia.

Seborrhœa Capitis in its mild form of dandruff is well known, and is a common cause of baldness. The affection is not so common in children as in adults, and in children if any decided scaliness of the scalp is found ringworm should at once be thought of. It should also be remembered that a neglected dandruff frequently produces a general inflammation not only of the scalp, but also of the face and body (seborrhœic dermatitis), and that the treatment of the face and body condition is made much easier by the previous cure of the scalp-condition. The treatment of mild forms is simple and effective: the head should be washed frequently with a fluid soap made by mixing two parts of sapo mollis, B.P., with one part of rectified spirit, suitably perfumed, washing with plenty of warm soft water afterwards, so as to free the scalp from any trace of the soap. The following ointment should then be well rubbed into the scalp :—

Sulphuris præcipitati	gr. xv.
Acidi salicylici	gr. xv.
Paraffini mollis	℥j.

Misce.

If greasy applications are disliked the following lotion may be substituted. It is equally efficacious :—

Acidi salicylici	ʒij.
Olei ricini	ʒiij.
Spt. coloniensis	℥j.
Spt. rectificat. ad	℥vj.

Misce.

To be sprinkled over the head from a sprinkler bottle and well brushed in, or sprayed into the roots of the hair.

In both cases the essential thing to impress on the patient is that the medicament must reach the scalp, and that it is not enough simply to rub it over the hair. If the affection has spread to the face or trunk the same applications may be used, but if a large surface is affected they should be weaker, and it should be remembered that salicylic acid when rubbed in over a large surface may be absorbed and cause toxic symptoms. In very chronic cases the following lotion is extremely useful :—

Sulphuris præcipitati	ʒiv.
Glycerini	ʒij.
Aquam ad	℥iv.

Misce.

To be dabbed into the roots of the hair with a shaving-brush, after the head has been washed with the fluid soap. It should be left on for a day or two, and the head again washed, the process being repeated as often as necessary.

Some cases are extremely refractory and liable to constant relapses : in these great perseverance is necessary for a complete cure to be effected. As seborrhœa is now looked upon as one of the most common causes of premature baldness, it should not be difficult to impress customers with the necessity for patience and persistence. Most dermatologists regard the disease as bacterial in origin, the specific microbe being the *Morococcus* of Unna, an organism which takes its name from its occurring in mulberry-like masses. This sets up an inflammatory process in the sebaceous glands, which leads to increased and perverted secretion, accompanied by excessive formation of the scales which form the horny layer of the skin.

Salicylic acid acts by removing the excess of horny layer, and sulphur acts as a bactericide.

Alopecia Areata is characterised by a falling-out of the hair from areas on the scalp, or, indeed, anywhere on the body; the bald spots first developed may increase in size and number until the whole scalp, or even the whole body, is denuded; its cause has long been a subject of dispute among specialists, and is not yet by any means settled. Many cases are traceable to temporary disturbance of nerve centres (the result of blows on the head or face), but the evidence for a specific bacterial origin seems to be accumulating—the most striking, perhaps, being the epidemics which have on one or two occasions broken out in girls' schools after the introduction of a pupil suffering from the disease. The diagnosis is easily made, from the round patches, the smooth skin, the absence of evidence of ringworm, and the presence at the borders, or even in the patches, of hairs like a point of exclamation.

Treatment.

In young people any treatment, whether antiseptic or stimulating, will probably be effective, as the disease in many cases tends to cure itself, although the period of cure can be materially lessened by treatment. After forty, on the other hand, the prognosis is extremely bad. The wonderful testimonials which makers of hair-restorers obtain in favour of their wares owe their existence mainly to alopecia areata of the young and to the falling-out of the hair which is one of the symptoms of secondary syphilis, as both conditions tend to get better whatever the treatment; *post hoc ergo propter hoc.* The following two prescriptions will probably be found the most useful for general practice:—

Acidi lactici	ʒiij.
Olei ricini	ʒij.
Aq. lavandulæ	℥ss.
Spt. vini rect. ad	℥iv.

Misce.

This should be rubbed into the bald places very gently at first, but more vigorously as the scalp gets accustomed to it.

Liq. ammon. fort.	℥ss.
Chloroformi	℥ss.
Ol. olivæ	℥ss.
Spt. rosmarini ad	℥iv.

Misce.

This should be rubbed in cautiously until the scalp gets accustomed to the application.

Ung. sulphuris and mercuric chloride (½ to 2 per cent. in S.V.R.) have their adherents, but the last must be used cautiously on large surfaces on account of the risk of absorption. Any general condition of ill-health apparent in the patient must be treated at the same time. It sometimes takes a year or two before the hair grows in again, and, of course, it grows patchy until it is all long enough to be trimmed, with slight variations in colour.

HÆMORRHAGE.

Whenever the tissues are subjected to injury or disease, the blood-vessels are affected, and their contents flow out. If a large vessel is involved, free and possibly fatal hæmorrhage will result. Arterial bleeding is known by the blood being of a bright red colour, and spurting up from the wound—like a jet. This must be arrested at once by compressing the vessel immediately above the wound with the finger until a more permanent compress can be applied or surgical assistance obtained. If the small capillaries are torn asunder, oozing is the character of the bleeding.

The blood is endowed with peculiar properties, by reason of which, on exposure to the air, it coagulates. Nature stops bleeding by blocking up the orifice of the bleeding vessel with a clot of coagulated blood. If the bleeding is severe and prolonged, faintness is induced, and this diminishes the force of the blood current.

Hæmorrhage from the exterior of the body, from the skin, is generally caused by injuries or ulcerations. Bleeding from internal parts is more usually due to disease.

Loss of blood from the nasal cavities, the lungs, stomach, bowels, or kidneys, is frequently a serious symptom of some morbid state, and calls for prompt attention.

Treatment.

Bleeding from the Nose.—Young men and women are especially prone to nose-bleeding when they are in indifferent health. This is not always to be discouraged, as it is an effort of nature to relieve some congested condition. Only when it becomes very troublesome, or when there is the danger of too great a loss of blood, is it to be arrested. This may be done by dipping the face in a basin of cold water, snuffing the water up through the nostrils and returning it by the mouth, by snuffing up a little powdered alum or tannin, by plugging the nostrils with cotton wool dipped in tinct. ferri perchlor., or by spraying a solution of adrenalin chloride, 1 in 10,000, into the nostrils. As a preventive, the use of calcium chloride, gr. v. in water t.d., acts as a means for increasing the coagulating power of the blood.

Bleeding from the Throat or Lungs, when it occurs as a symptom of phthisis, is always grave, showing that the disease is active. During the attack the patient should remain perfectly quiet in bed, an icebag placed over the part of the lung from which the hæmorrhage is supposed to come, and small doses of morphine given every four hours. Liquid diet only should be given, chiefly milk and custard, the indication being to keep the whole circulatory system quiet. Ergot and adrenalin, by raising the general blood pressure, probably do much harm. A few 10-grain doses of calcium chloride or lactate may be given with a view to increasing the coagulating power of the blood.

Bleeding from the Stomach is generally caused by ulcers or tumours. What the patient vomits resembles coffee-grounds. Rest in bed and the sucking of ice are essential. If there is much tendency to vomiting, the diet should consist exclusively of peptonised milk. To arrest the hæmorrhage, distilled witch-hazel in ʒj. doses or acid. sulphuric. dil. in ʒss. doses

will probably have the desired styptic effect. Much the same treatment would apply in hæmorrhage from the bowels, unless due to piles, which of course require appropriate treatment.

HAY FEVER.

This is an affection which attacks some people during the hay season—from the month of May till July. The nostrils and eyes chiefly are the seat of the complaint—there being intense sneezing and running from the former, and soreness of the latter—but it frequently affects the throat and chest also, producing paroxysms of coughing and breathlessness. It is supposed to be caused by some emanation from hay or other vegetable product, as it occurs only at a particular stage of plant growth, and it is cured by the removal of this cause—by a sea voyage, for instance. It affects only particular individuals, who must undergo their ordeal every year at the appointed season. Many cannot enter a room in which there is a bouquet of fresh flowers without being thrown into a paroxysm of sneezing, &c.

Treatment.

Adrenalin spray in very dilute solutions (1 in 10,000) has the effect of instantaneously stopping the catarrhal secretion from the nares, and at the same time relieves the head symptoms in a marked degree.

Pollantin is the name given by Dr. Dunbar, of Hamburg, to a serum which he introduced in 1902 as a specific for hay fever and similar disorders arising from pollen-poison. It is an antitoxic serum, prepared on a similar principle to other antitoxins, and is supplied in two forms, liquid and powder, which are applied to the mucous membrane of the nostrils.

Cocaine.—A solution of cocaine hydrochloride, 5 per cent., may be pencilled on the inside of the nostrils. It gives immediate relief, but requires to be repeated frequently, as its effects are very evanescent; and there is always the danger of causing a 'habit.'

HEADACHE.

A headache is not a disease, but it means that something is amiss with the machinery of life which requires attention.

Headache affects those who imbibe not wisely but too well, and those who are careless livers and neglect the laws of health. This is bilious headache ; but there is also headache of a nervous origin, arising from any undue strain on the nervous system, as excessive mental application, worry, excitement, crowded atmosphere, &c. Great pain in the head is likewise an incipient symptom of many acute fevers, as typhoid, smallpox, or scarlatina, and it is important to recognise its significance early by the temperature.

Treatment.

Rest and sleep are the natural restorers of a tired nervous system. Those who suffer from nervous headaches find tea or coffee relieve them, but if taken in excess the nervous system is rendered more susceptible to fresh attacks. Change of occupation or change of air, combined with free exercise, may entirely arrest the tendency with some people. Spt. ammon. arom. ʒj. in a glass of water is a simple remedy in cases of slight headache.

Caffeine.—When sufferers are prone to fly to tea or coffee for every little nervous pain, it is wise to advise their discontinuance and to substitute caffeine, their active principle. This is more likely to be taken only when necessary, and it may be administered in the granular effervescent form—either the citrate or hydrobromide. Guarana is a similar remedy to tea, and is usually given in the form of powder, gr. x. to gr. xx.

Antipyrin in doses of gr. x. is almost a specific in many forms of headache, especially of a neuralgic nature, but it is a somewhat risky medicine to prescribe, from its depressing action on the heart.

Antifebrin is frequently used in 5-grain doses.

Phenacetin in doses of gr. viij. is also largely administered for headaches, and has not the drawback that attaches to antipyrin, but two doses, with an interval of an hour between, are enough. A small cup of tea should be taken with it. Phenacetin gr. iv. and caffeine gr. j. in tablets is a remedy largely sold as a 'headache cure,' and equally effective is the following :—

Neuralgic Tablet.

'Pharm. Form.' II. No. 5.

Acetanilidi	gr. iiiss.
Quininæ sulph.	gr. ij.
Caffeinæ cit.	gr. ½
Sodii bromid.	gr. $\frac{1}{10}$
Sodii bicarb.	gr. j.

Sodium Salicylate gr. x. hourly will relieve many cases, and it may be combined with effervescing citrate of caffeine :—

Sodii salicylatis	gr. x.
Caffein. cit. effer.	ʒj.

Every two hours in a wineglassful of water.

Cannabis Indica, given in doses of gr. ¼ in pill, is valuable in cases of headache due to mental or bodily overwork. It acts well in the following combination :—

Ext. cannab. ind.	gr. ¼
Zinci phosphidi	gr. ¼

Ft. pil. t.d.s.

Potassium Bromide.—Where there is restlessness and a want of sleep associated with headache, potassium bromide in doses of ʒss. is highly useful. It also controls the nervous head-symptoms frequent at the change of life.

Aperients.—A most frequent cause of headache is irregular action of the bowels. A mercurial or podophyllin purge will often carry it off. Saline aperients are excellent to the same end. Natural aperient waters are beneficial in many cases.

Valerian.—In the headaches of hysteria or excessive grief ʒj. tinct. valer. ammon. in water will generally allay the pain and feeling of abject misery. Any of the valerianates in pill form can be substituted.

HEART DISEASES.

The heart has great latent strength to fit it for its duties. It gets no real rest at all. Even during sleep its monotonous beatings continue. The heart is, as it were, sandwiched between the lungs above and the stomach below, and is easily affected by either or both of them. If pressed upon by a flatulent stomach it resents the intrusion, and functional disturbance ensues. This is called palpitation. Few are entirely free from this unpleasant feeling.

Real heart disease is comparatively rare. Those who have it generally do not know unless unwisely told. It is most prejudicial to a person suffering from organic heart disease to be rashly informed that his heart is diseased and that a quiet idle life is essential.

Rheumatic fever is the trouble which is answerable in early life for most damaged hearts : it thickens the edges of the valves and renders them incompetent. A cardiac sufferer of this kind should pursue the even tenor of his way just as though he were well and strong. He should be assured that the heart's reserve force will so strengthen the muscle of that organ that compensatory action will be established to meet the altered circumstances of incompetent valves.

In advanced years the general thickening of the arteries and a tendency to corpulency predispose to fatty changes in the muscular substance of the heart. Shortness of breath, fainting fits, and danger of sudden death are among its features. Old people with fatty hearts, unlike other sufferers, must be urged to avoid hurry and worry and understand distinctly that the least excitement is dangerous.

Treatment.

Hygiene.—The patient should pursue his regular occupation, taking care to avoid mental excitement and drinking habits. His calling should be one tolerably free from worry and anxiety. His clothing should be warm yet light, and he should take gentle exercise in the pure air.

Diet plays a most important *rôle*. Nitrogenous food should be restricted in cases complicated with gout. No heavy suppers should be indulged in. Many people get on better with a modicum of alcohol, which helps the food to digest and so prevents flatulence—a symptom to be dreaded.

Aconite.—To control violent throbbing or pain associated with arterial tension, tr. aconiti in doses of ♏ij. every four hours, combined with liq. amm. acetatis ʒj. and tinct. sumbul ʒss., is a valuable treatment.

Digitalis is the remedy upon which most reliance can be placed as a tonic and stimulant to promote the placid action of the heart. In difficulty of breathing, dropsy, lividness of the extremities, irregularity, or palpitation, tr. digitalis, in doses of ♏v. to ♏x., exerts a very beneficial action.

Strophanthus.—This drug is frequently found of great service. It has a remarkable effect as a tonic and diuretic in ♏v. to ♏x. doses.

Ether, in the form of spt. ætheris ʒss., combined with tinct. hyoscyami ʒss., is prompt in relieving difficulty of breathing due to failure of the heart's action. In very dangerous cases ether may be injected hypodermically to secure a quick effect.

Coca Wine is a serviceable stimulant in the palpitation of a weak, dilated, flabby heart.

Belladonna can be applied in the form of plaster over the cardiac region to allay pain and palpitation.

Lactopeptine.—In people who suffer from fatty heart there is usually great weakness of the digestive organs, and life can at times be prolonged by the judicious use of lactopeptine and peptonised foods.

Purgatives.—Where there is constipation associated with engorgement of the right side of the heart and a tendency to dropsy or full-bloodedness, purgatives, such as pulv. jalapæ co. (gr. xx. to ʒj.), are very useful.

HERPES (SHINGLES).

This is a skin complaint consisting of blisters or vesicles caused by irritation of the ends of the superficial nerves. It has been shown by Dr. Head that the real lesion is in the spinal ganglia with which the nerves are connected, inflammatory foci having been found in them, probably caused by an infection. It generally affects the back and chest, and almost universally one side of the body only; but it may occur anywhere if there are superficial nerves to cause it. The lips and face, mouth, eyes, and genitals are all favourable localities for its appearance. The complaint is usually ushered in by shivering and pain in the back, with some feverishness. It is a comparatively slight affection, passing off in ten or twelve days, but occasionally it is the source of much discomfort and pain. Care should be taken not to pick off the tops of the vesicles. The after-effects of shingles on old people are often very lasting, consisting in numbness of the part with occasional stinging burning pain. These may pass away or become ameliorated in the course of time, but they hardly admit of curative treatment, except perhaps in a general way by nerve tonics such as nux vomica, mineral acids, and iron.

Treatment.

Diet.—Herpes attacking the lips or face is a common symptom among children, arising from errors of diet. Rich living, or the too liberal use of sugar, causes heat of the blood. Plain unheating food is called for in treating this skin affection.

Quinine.—On the principle of treating the neuralgia, quinine in full doses will be found an excellent remedy to combat severe forms of herpes. Phosphorus pills will answer well in chronic cases due to nervous debility. Phenacetin is a good drug for herpes, and may be combined with quinine.

Collodion, with the addition of 1 per cent. of cocaine (alkaloid), immediately allays the intolerable itching.

Decoct. Papaveris.—Fomentations made by wringing out flannels in a decoction of poppy heads is the best local application when the pain is excessive.

Glycerin.—Glycerin alone and glyc. tannin or glyc. ac. carbolic. are useful applications in most cases of herpes. Menthol ointment (20 per cent.) allays the burning and tingling, or any simple dusting powder may be employed.

Zinc Oxide.—A very soothing ointment, made by mixing zinc ointment and liniment. calcis equal parts, is often employed to exclude the air, being covered with linen and cotton wool after it has been smeared on.

HICCOUGH.

Hiccough is, properly speaking, merely a symptom. It is a spasmodic contraction of the diaphragm, accompanied by spasmodic closure of the throat. It is a common symptom in infants from overfeeding and curdling or fermentation of food. Adults get it as a result of faulty digestion, and heartburn or a sluggish liver is the condition that induces it most.

Hiccough, although almost always a slight affection, in some cases assumes a peculiarly obstinate and distressing, and it may even be dangerous, form. For such cases an authority has recommended three methods of procedure, each of which has been highly successful. Firstly, inhalation of amyl nitrite. Secondly, loosening every tight article of dress round the body, and immediately after a hiccough closing the nostrils by pinching them closely and then sipping a glass of cold water, sucking it in and holding the breath. The third mode of procedure is as follows :—A chair with a high back is placed in front of the sufferer, and he is told to raise his arms above his head, and to lean forward, bringing the body across the chair-back at a line a little lower than the diaphragm, and at the same time to bring his arms forward and downward till they touch the seat of the chair. If the first trial fails, the operation is to be repeated.

Domestic Remedies.—It is usually easy to stop hiccough when one knows how to do it. Applying cold water to the lobe of the ear, frequent sipping of cold water, counting 100 without drawing breath, warmth or pressure to the pit of the stomach, are all effectual expedients.

Camphor and Antispasmodics.—Warm camphoraceous drugs, such as spt. camphor., ether, chloroform, and eucalyptol, are all good simple remedies for hiccough. A few drops may be administered on sugar. Chloral hydrate (gr. v. t.d.) will answer in more persistent cases, and chloretone gr. v.) has been found a prompt remedy. The following also is good :—

Spt. ætheris	ʒiij.
Spt. amm. arom.	ʒij.
Tr. opii.	ʒj.
Aq. camph. ad	ʒvj.

ʒss. in a wineglassful of cold water.

Alkalies.—The best remedy for troublesome infantile hiccough is calcined magnesia, gr. iv. to gr. v., placed on the tongue or combined with a little syrup and aq. anisi.

HIVES.

This is the popular name given to Urticaria (*q.v.*) in children. It is generally due to irritation, worms being one of the commonest causes, and improper and indigestible food is equally prone to give rise to the trouble. In the former case a dose of santonin should be given twice a week along with or followed next morning by this powder :—

Hydrargyri c. cretâ	gr. j.
Sodii bicarbonatis	gr. ij.
Pulveris rhei	gr. iiss.

Misce.

This is a dose for a child one year old. When the irritation of the skin is intense, the parts may be bathed with water in half a basinful of which a teaspoonful of bicarbonate of sodium is dissolved. The following lotion is excellent :—

Liq. carbonis detergentis . . .	ʒj.
Spt. ammonii aromatici . . .	ʒj.
Aquam ad	ʒviij.

Misce.

The affected parts to be covered with an old cambric handkerchief saturated with the lotion.

HYDROPHOBIA.

At the present time (1910) rabies is extinct in Great Britain owing to the muzzling order which was in force for several years, and excluded dogs from the country until their freedom from the disease was proved; now no dogs are permitted to enter Britain from foreign countries without spending some months in quarantine. If during that time rabies develops they are killed. Hydrophobia may ensue on the bite of a rabid dog many months afterwards. It comes on with pain in the wound, which reopens—if already healed—and discharges. Difficulty in swallowing, spasmodic action of throat, great anxiety, dread of water or anything associated with it, rapidly ensue. At once after a person has been bitten, the wound should be sucked and encouraged in every way to bleed. There is no danger in sucking, as the poison will not affect the mouth unless the skin is broken. If a ligature can be tied round so as to obstruct the blood circulation in the part, and then the wound excised, it will make the case safer. The immediate application of strong caustics has been recommended by different authorities—argent. nit., liq. am. fort., acid. carbolic. The Pasteur treatment is generally effectual.

HYSTERIA.

This is one of the most curious and yet most distressing of feminine maladies. It is a usual outcome of a failure to direct the mental faculties in proper channels, or of unhealthy excitement and excess. Woman is more prone to it at the extremes of her sexual life, either while she is yet in her teens or at the change of life. It is a most unpleasant sight to see a person in a fit of hysteria. It comes on with a feeling of choking, as if a ball (the 'globus hystericus') were in the throat. The patient quickly passes into a state of great excitement, alternately laughing and crying, partly unconscious and wildly incoherent. She is, for a while, better after the fit or until the time is ripe for another attack, and this is determined greatly by her surroundings.

TREATMENT.

Occupation.—Women who suffer from hysteria should be induced to take up some occupation or recreation into which they can enter heartily, cycling being particularly recommended. If lawn tennis, boating, or other outdoor amusements are not available, district visiting or plenty of domestic work will make their lives useful to others and more agreeable to themselves.

No Sympathy.—It is always difficult to break off bad habits, and hysteria is in many ways such. If friends sympathise with and commiserate the patient, she is certain to suffer more. Firm, kind treatment is most effective in abating the mental storm.

Cold Water Externally.—Nothing, except a galvanic battery, is so effective in restoring a person in an hysterical fit as cold water. This is best applied by dipping the end of a towel in cold water, and flicking the face with it until consciousness is fully restored. Smelling-salts aid the action of the cold water.

Diet.—There is a proneness among some hysterical people to fly to stimulants. These should be rigorously denied, otherwise permanent drinking habits may be formed. All rich unwholesome food is bad.

Valerian.—As a remedy for hysteria no other equals in efficacy valerian, which may be administered in a variety of ways, as zinc valerianate (gr. ij.) or iron valerianate (gr. ij.), in pill form or in the form of the ammoniated tincture (ʒj. t.d. ex cy. aq.), and tinct. sumbul ɱx. may be added.

Asafetida.—In obstinate cases, which resist other drugs, asafetida pill (gr. x. h.s.) will do wonders.

Apomorphine given hypodermically is useful in hysterical fits caused by indigestible food, in which vomiting of the irritant is considered necessary.

Potassium Bromide.—When increased activity of the sexual functions is present in hysteria, bromide of potassium in full doses is the most reliable remedy to give. It prevents the hysterical paroxysms.

Aperients.—Where constipation is present or the liver is sluggish, a simple aperient pill, with the addition of a mild mercurial or podophyllin or euonymin, will be necessary.

Blisters.—When hysteria simulates paralysis or disease of joints, resort, or threatened resort, must be had to blisters, and the patient must be told that if that fails recourse will be had to the actual cautery. The influence of this threat on the mind is generally sufficient.

Tonics.—In cases of hysteria due to debility or mental anxiety, tonics with cod-liver oil are serviceable. Quinine and iron tonic is one of the best.

INFLUENZA.

The symptoms of influenza in its ordinary form are those of a catarrh—feverishness, running at the eyes and nose, sore throat, and cough, with the addition of pains all over the body and great depression and prostration, these last being quite characteristic of the complaint. In its epidemic form these symptoms are all intensified, and not seldom some new ones added, such as gastric or intestinal disturbance and intense headache. The progress of the disease after its first appearance is very rapid, the pulse rising to 100 or more and the temperature to 104° or 105° F. in a remarkably short space of time, and, if not arrested by prompt measures, these symptoms may continue for a long time. The complaint leaves the system much weakened and depressed, and convalescence is slow and protracted. In this stage there is great risk of fresh access of the chest symptoms, and in fact pneumonia is responsible for great part of the mortality in this complaint.

Treatment.

The first object is to arrest the disease if that be possible. For this purpose tr. quinin. ammoniat. in ʒj. or ʒij. doses three or four times a day is perhaps best. Oil of eucalyptus, five drops on sugar, three or four times a day, and using it

on the handkerchief and on smelling-salts, may also prove effectual. But if the symptoms are severe, or if they do not readily yield to this treatment, then the patient must take to bed (this is imperative), and diaphoresis should be promoted by giving one of the following mixtures, and warm drinks of tea or coffee, or gruel :—

'Pharm. Form.' II. No. 15.

Potassii bicarb. . . .	ʒiss.
Liq. ammon. acet. . .	ʒj.
Tr. aconiti . . .	ɱviij.
Sp. æth. nit. . . .	ʒvj.
Vin. ipecac. . . .	ʒj.
Syr. simpl. . . .	℥j.
Aquam chlorof. ad . .	℥vj.

Misce.

ʒj. every two hours.

'Pharm. Form.' II. No. 54.

Sodii salicyl. . . .	ʒj.
Spt. ammon. arom. . .	ʒij.
Liq. ammon. acet. . .	℥ij.
Ext. glycyrrh. liq. . .	ʒss.
Syr. aurantii . . .	ʒiv.
Aquam ad . . .	℥vj.

Misce.

℥j. pro dose.

It is essential to maintain the strength from the first. If food is repugnant, that difficulty may be overcome by occasional spoonfuls of strong beef tea made from the extract, chicken broth, port wine or coca wine, or milk and soda or milk and potash water. When the feverish symptoms have subsided, tonic treatment must be resorted to and steadily persevered in. Quinine and hydrobromic acid is the most suitable to begin with, as follows :—

Quininæ sulph.	gr. xij.
Acid. hydrobrom. dil. . . .	ʒj.
Tr. nucis vom. . .	ɱxx.
Aq. ad	℥vj.

Misce.

A sixth part thrice a day, immediately before food.

This may be succeeded by ʒss. doses of the syrup of the phosphates of iron, quinine, and strychnine, or that of the hydrobromides or hypophosphites.

Young people affected by the disease should be treated in the same manner as adults, and either of the diaphoretic mixtures mentioned above may be given in half-doses for those

between fourteen and eighteen. For children under fourteen the following is a reliable antifebrile mixture :—

'Pharm. Form.' II. No. 19.

Potass. chlorat.	ʒj.
Potass. bicarb.	ʒj.
Liq. ammon. acet.	℥ij.
Vin. ipecac.	ʒiss.
Spt. æth. nit.	ʒij.
Aq. chlorof. ad	℥vj.

Misce.

A dessertspoonful every four hours.

Children are generally sick when the influenza attack comes on. The sickness is most intense and alarming, but brief, and there seems to be nothing gained by stopping it. It is impossible to lay too great stress on the circumstance that the most important remedial agency in this complaint is good nursing and careful avoidance of cold. This applies especially to the convalescent stage, and in the case of elderly people and all those whose already impaired vitality may be further lowered even dangerously by the prostrating influence of the malady. In many cases the normal condition is not restored except by a long rest and a complete change of scene and air.

INSECT BITES.

Nature in her profusion has provided an immense number and variety of insects in the world. Some of them are a torment to men. No doubt all have their part to play in the universe, although what that is, is not always apparent to us. Bees, wasps, and hornets are the great flower fertilisers. They are provided with stings, and if man interferes with them he may get severely punished. Gnats and mosquitos inhabit malarial marshy swamps. Perhaps they are meant to warn man not to penetrate to such localities by biting him when he does. Ants, cockroaches, scorpions, and tarantulas are provided with similar means of keeping off their enemies. Houseflies and bluebottle flies are the scavengers of putridity ; their larvæ eat up animal refuse. They annoy man when they abound,

but they also remind him by their presence of the work they are doing, which includes the carrying of the germs of diseases to foodstuffs, such as milk—summer diarrhœa of children being carried this way.

Bee and Wasp Stings.—The poison of the bee and wasp consists of formic acid, which causes severe pain when injected into the skin. If the sting has been left in by the insect, it must be extracted ; then a little diluted liq. ammoniæ will neutralise the acid and allay the pain and attendant swelling.

The bites or stings of ants or scorpions can also be neutralised by ammonia or potass. permanganate solution.

Mosquito Bites.—It has now been proved that malarial fever is spread by mosquitos, hence the necessity for preventing the bites of these insects. A host of applications have been suggested to prevent mosquitos, gnats, and harvest bugs from biting. An emulsion of soap and ordinary paraffin oil is one of the best. Coconut oil is a favourite remedy smeared on exposed parts. The following lotion is excellent for the same purpose :—

Hyd. perchlor.	gr. ij.
Spt. chloroformi	ʒj.
Spt. camphoræ	ʒj.
Aquæ	ʒiv.

Oil of lavender, or other aromatic essential oil, is used with the same view.

Liq. plumbi ʒj. mixed with sp. camph. ʒij. is a good remedy, dabbed on the part, to allay the irritation and swelling often caused by stings or bites.

To Get Rid of Houseflies.—All animal food should be kept outside the house in a flyproof safe, and all refuse of the house should be burnt. The flies, having their occupation gone, are then more willing to resort to some alluring dish of fly-paper or to seek a grave on the paths and plains of 'fly-gum' made for their curiosity.

To Remove Fleas and Bugs.—Scrupulous cleanliness is essential to clear a house of insect vermin. If a room is

infested with bugs, the effectual way to get rid of them is to fumigate the room thoroughly with sulphur, and then white-wash the ceiling and repaper the walls. A strong solution of corrosive sublimate, with a fourth part of turpentine, is used to paint on the joints of beds or other places which these pests inhabit. Insect powder—the powder of the flowers of the *Pyrethrum roseum*—is invaluable to destroy them when they infest beds, or when they are found on dogs and cats.

INSOMNIA.

A due amount of calm sound sleep is essential to health : it is refreshment for both body and mind. The brain is not the only part that reposes. Every muscle, nerve, and organ participates in all-healing slumber. The heart beats more slowly, breathing is retarded and shallow, and the mind ceases to worry. Sleep repairs the ravages made by the previous day's wear and tear. Food and drink provide a fresh supply of energy for the next day's toil.

Want of sleep is brought on by many causes. Mental trouble, excessive brain work, digestive disorders, or anything that weakens the body, may originate it.

Treatment.

Hygiene.—When insomnia is due to obvious influences, such as bad habits, worry, or indigestion, these causes must be removed. A tepid bath at bedtime will at times allay the sleeplessness of children. Immersing the feet in hot water or hot mustard and water is a useful treatment for sleepless adults. If the sufferer feels the cold, he should sleep in blankets and have on a sufficiency of bedclothes. A hard bed is the best for natural sleep. Feather beds are unhealthy, and predispose either to too little or too much sleep.

Diet.—As a rule a light nourishing supper, with such articles as beef tea, strong soup, and possibly some alcohol, is desirable in the sleeplessness caused by overwork or fatigue.

Potassium Bromide.—In sleeplessness or delirium accompanied by much excitability of the nervous system, this drug, in ʒss. doses every two hours, is invaluable. It may be given with hyoscyamus, belladonna, or other sedative drugs. The other bromides are equally effectual, and some physicians regard the mixed bromides, ammonium, potassium, and sodium, of much greater value than any one of them separately.

Opium.—In the want of sleep caused by pain no other hypnotic approaches opium in value for adults. Liq. morphinæ hydrochlor. may be given in combination with other drugs, and morphine should be used hypodermically in cases where the pain is very acute.

Chloral.—In the matter of power chloral hydrate ranks next to opium as a hypnotic, but it should only be given in cases of wild delirium and intense restlessness, when bromides fail. The effect of chloral in producing sleep is very rapid and certain, but it is a dangerous remedy to use owing to its action on the heart.

Chloralamide has a similar hypnotic effect and is much safer. It is given in doses of gr. xx. to gr. xxx. dissolved in spirit and diluted with cold water.

Chloretone is a safe hypnotic : it has no depressing influence on the heart or the circulation. In doses of gr. v. to gr. xx. it will usually exercise a gentle sedative influence, inducing a light, natural sleep.

Sulphonal.—In doses of gr. xx., given in fine powder, this drug, in three or four hours' time, produces sleep without subsequent headache or constipation. Its action is rather uncertain owing to its insolubility, and it is apt to make the patient inordinately drowsy on the following morning. These drawbacks are overcome by giving the drug in hot whisky toddy, or even plain water as warm as can be swallowed. Taken in this manner it acts more quickly.

Trional and **Tetronal** are also hypnotics of similar character, but the use of these synthetic drugs or any hypnotic should not be continued. It is well sometimes to substitute for these an equal quantity of sugar of milk, which seems to

have a wonderful hypnotic effect when backed up by moral force.

Paraldehyde, in doses of ʒss. to ʒj. in syrup and water, is a rather nauseous remedy, but it will induce sleep sometimes when everything else has failed.

Tinct. Lupuli (ʒj. or more) is useful in the insomnia of gout and other painful disorders, where opium is contra-indicated. A hop pillow is sometimes used with the same end in view.

ITCH.

Itch, or Scabies, is caused by a minute insect which burrows underneath the cuticle, raising small watery vesicles, at first about the wrist or between the fingers, but sooner or later spreading over the whole body. The complaint is characterised by intolerable itching, and it is very contagious, so that every precaution should be taken in the way of isolating the patient and his clothing and towels, &c., to prevent its communication to others.

Treatment.

Sulphur is the specific for scabies. Ung. sulphuris should be freely rubbed into all the parts where the disease appears, the operation being repeated daily. A sulphur bath can be had at one of the large bathing establishments, where special facilities are available for baking the clothes, which destroys any of the insects that might subsequently reinfect the patient. The usual procedure is to rub the whole body with soft soap and water, then wash in a hot bath, to open the pores of the skin and lay bare the burrows. The patient after this is well rubbed with sulphur ointment, and this should be allowed to remain on the skin over night. About three baths are sufficient to cure, taken at intervals of every second day.

Liq. Calcii Sulphidi.—Many practitioners prefer the golden solution of calcium sulphide as a substitute for ung. sulphuris. It is painted on the affected parts after the usual

washing and hot bath. It is prepared by boiling sulphur ℥iss. with slaked lime ℥j. in a pint of water for ten minutes, and straining.

Hydrochloric Acid and Sodium Hyposulphite.—An effectual plan, entailing but little trouble, consists in applying at bedtime a lotion of sodium hyposulphite (℥iv. to Oj.), and in the morning a wash of well diluted hydrochloric acid. This deposits sulphur in a state of very fine division upon the skin, sulphurous acid being simultaneously developed, and this is very deadly to the acari.

Hydrarg. Perchlor.—If the smell of sulphur be objected to, a lotion as follows will be found excellent :—

Hydrarg. perchlor. . . .	gr. iv.
Amm. chlor.	℥ss.
Spt. rectificat.	℥vj.
Aq. rosæ ad	℥vj.

Liq. Calc. Chlorinat. and **Liq. Sodii Chlorinat.** have also been used in the treatment of scabies, as being less offensive than sulphur. They must be diluted with several parts of water.

Bals. Peruvian. painted over the part has also been successful.

Personal cleanliness is indispensable for both the prevention and cure of itch.

ITCHING OF THE SKIN.

Itching of the skin is a symptom in various cutaneous affections—in eczema, nettlerash, scabies, &c.—but it may also exist as a result of gastric or intestinal derangement, and it often occurs without any apparent cause. Itching is an indication that the skin requires to be left alone—to be allowed time for healing. Unfortunately this is exactly what it is most difficult to do. Especially is it hard to make people understand that soap and water are bad for irritation. Soap at any rate should be rigorously abstained from in all abnormal conditions

of the skin. The superfatting of it modifies its irritating action to some extent, but it is much better to have recourse to some substitute, if necessary for the sake of cleanliness, such as a thin starch or gruel of oatmeal.

Diet.—When itching of the skin is the result of acid perspiration and irritation of the sweat glands of the skin, the diet should be bland and unstimulating. If uric acid is the exciting cause, meat should be very sparingly eaten.

Pruritus Ani is one of the most annoying forms of itching, and afflicts men badly, as well as women, who have also to combat with its possible incursion into the vagina (*see* page 128). Internal treatment consists in thorough antisepsis of the intestinal canal, as by giving ichthyol gr. v. on an empty stomach morning and evening or a dose of salol. The bowels must be kept regular (the pruritus is always worst when there is constipation or the usual time for a motion approaches or is passed). Cascara sagrada is a good laxative, but aloes is contraindicated. At night the anal region should be washed with Wright's coal-tar soap and warm water. Sir Malcolm Morris gives the following prescriptions, with a caution that the substitution of the cocaine-habit for pruritus ani would be expelling a devil to bring in a worse one :—

Acid. carbolici	♏xx.
Cocainæ hydrochlor.	gr. x.
Vaselin.	ʒj.
Misce.	
Ung. picis liquidæ	ʒj.
Bismuthi subnit.	gr. xx.
Adipem ad	ʒj.
Misce.	
Lot. nigræ	℥iv.
Liq. calcis	℥iv.
Mucil. tragacanth.	ʒj.
Misce.	
Hyd. perchlor.	gr. ij.
Glycerini	℥ss.
Aq. chlorof. ad	℥viij.
Misce.	

Acid. carbol.	ʒss.
Cocainæ	ʒss.
Aq. laurocerasi	ʒj.
Aq. rosæ	℥iij.
Misce.	
Acid. carbol.	ʒss.
Hyd. perchlor.	gr. ij.
Ol. olivæ	ʒij.
Ung. zinci oxid. ad	ʒj.
Misce.	
Zinci oxidi	ʒij.
Lanolini	ʒij.
Ol. olivæ	℥ss.
Aquæ calcis	℥ss.
Misce.	

The ointments may be put up in collapsible tubes with anal nozzle, and a little of them should be put into the bowel and rubbed outside. The lotions are to be applied on lint.

When itching accompanies skin eruptions, such as urticaria, lichen, and eczema, treatment should be directed to the disease. Suitable applications to arrest the irritation aid nature to remove at once both the skin disease and the itching. If the irritation is caused by parasites, treatment should of course be directed to their destruction.

Dry Treatment.—In cases of itching due to eczema and many other eruptions, it is essential to keep the skin dry to get it well. Hot-water bathing may temporarily relieve, but it does not cure. In cases due to urticaria or to blood acidity without eruption, washing is good, and a Turkish bath especially so.

Calomel Ointment.—Probably the best remedy for the very troublesome itching of the anus caused by a heated system is calomel ointment (℥j. to ℥j.). If due to lice or worms, treatment should be directed to their removal. The body louse affecting the hair of the pubes can be killed by means of mercurial ointments, either ung. hydrarg. mit. (1 to 3) or one of the precipitate ointments. Stavesacre also is a very effective remedy in ointment form (℥j. of the oil to ℥j. lard) or as decoction. Perchloride of mercury as a lotion (gr. ij. to ℥j.) is equally effective and much cleaner.

Liq. Plumbi.—To allay the intense itching of what is called 'pruritus pudendi,' a frequent and most distressing disorder attacking women, lead lotion is especially valuable. The following may be suggested :—

Liq. plumbi diac.	℥ss.
Zinc. oxidi	℥ss.
Tr. opii	℥ij.
Aquæ rosæ	℥vj.

Ft. lotio.

Chloretone.—An ointment containing 10 per cent. of chloretone in lard has proved valuable in pruritus when many of the usual remedies have failed.

Hydrocyanic Acid.—Cyanide of potassium (ʒj. to Oj.) or acid. hydrocyanic. (ɱxxx. to ℥ij.) is a valuable sedative application for various forms of irritation of the skin if unbroken.

Carbolic Acid.—Weak solutions of carbolic acid (1 to 40) allay all forms of pruritus. Liquor carbonis detergens (Wright), ol. cadini, and ol. rusci have a similar effect. Weak acetic acid lotions are serviceable to allay the intense irritation of nettlerash.

Alkalies.—Alkaline lotions containing potassium or sodium bicarb. (ʒij. to Oj.) can be applied in cases where acids are unsuitable. Alkalies taken internally are indicated in urticaria and all forms of itching dependent on acidity of the blood.

Menthol.—A spirituous solution of menthol (gr. xx. to ℥j.) or a menthol cone affords great relief to irritation of the skin.

KIDNEYS (BRIGHT'S DISEASE OF)—ALBUMINURIA.

A healthy kidney is a filter. The blood goes in at one end of the organ full of poisonous and waste refuse. It emerges from the other end absolutely pure : the impurities are gone—filtered away with water. All filters get out of order sometimes. The kidneys likewise get deranged if disease overtakes the owner. The organs do their work faithfully and well if the body itself is well ; but when the organism is ill, suffering from fever or some infectious malady, then the strain is great. Fevered blood full of tissue waste and germs is taking these impurities in haste to the kidneys, to be got rid of by filtration. The apparatus becomes choked with *débris*—it shows signs of congestion and inflammation, and perhaps ulceration. If the fever is not cared for properly, if the patient is allowed to get up too soon, to go out, or to eat unsuitable foods—if by any means the kidney machinery is subjected to rough usage—then the kidney is no longer healthy, but is a leaking filter full of holes and ulcers. Occasionally the blood itself runs through, more

usually it is its nutrient essence, albumin, that passes. When we find albumin in the urine, or when we discover that the excretion of water is insufficient and causing dropsy, that is a sure sign of renal disease.

It must, however, be understood that albuminuria does not of itself indicate Bright's disease. One medical authority states that out of a hundred cases of albuminuria, not more than ten are due to Bright's disease, the presence of which can only be definitely affirmed by microscopic examination of the urine and other means. Albuminuria is often associated with changing periods of life, worry, and want of tone.

Treatment.

Care of Fever Patients.—Sufferers from acute infectious fevers, especially scarlet fever, should always be kept in bed until perfectly well, as they are prone to take kidney trouble. Persons who are greatly exposed to cold or wet should live carefully, as they are peculiarly subject to kidney disease.

Diet.—Articles of food rich in nitrogen or albumin, such as eggs or meat, should be avoided by those suffering from albuminuria. An exclusive milk diet (the patient taking about Ovj. a day) is the most successful treatment for most forms of kidney disease. This is a bland emollient form of food which creates but little work for the renal filtration apparatus. It allows the parts affected to rest and heal, but it must be continued for months, perhaps even for years. Those fed on milk in this way thrive, and get fat and well. With an ordinary diet their days might be numbered. Pure distilled water, aërated or mucilaginous drinks, such as barley water, gum water, and linseed tea, should be taken freely when the kidneys are congested or irritable. They soothe and act as diluents.

Alcohol.—Certain irritant drugs, such as turpentine or cantharides, and alcohol taken in excess, greatly irritate the kidneys and frequently set up disease. They should be rigorously avoided by anyone predisposed to kidney disorders.

Fuchsin.—In doses of gr. j. to gr. ij., in pill form, fuchsin frequently causes albumin to disappear from the water. Continued for some length of time it is sometimes curative.

Nitroglycerin.—One minim of the official solution, *per se* or in tablets, is indicated in cases of marked arterial tension.

Quinine Sulphate, in doses of gr. v. to gr. x., is a good drug to administer if any malarial taint exists.

Antipyrin (gr. x. or more) is an antipyretic remedy which generally acts well in hæmorrhage from the kidneys. If it fails, resort should be had to ergot and sulphuric acid; tinct. jaborandi, in doses of 30 to 40 drops, has also been recommended.

Diuretics.—Whenever the kidneys are not acting sufficiently, and there are signs of impending dropsy, indicated by swelling of the ankles, diuretics, or remedies which promote the flow of urine, are required. Alkalies which arrest unnatural acidity of the blood are the best, such as the acetates or citrates of the alkalies. The following are suitable prescriptions :—

Kidney Mixture.

'Pharm. Form.' Vol. II. No. 3.

Potass. acetat.	ʒiv.
Ol. junip. ang.	♏xij.
Spt. chlorof.	℥ss.
Succ. scoparii	℥ij.
Glycerin.	℥j.
Inf. buchu ad	℥xxiv.

Misce. ℥j. pro dose.

A good diuretic, useful also in cases of dropsy of heart origin, is as follows :—

Potass. citratis	ʒij.
Spt. chloroformi	ʒiiss.
Tinct. digitalis	♏xxx.
Inf. buchu ad	℥viij.

Misce. ℥j. t.d.s.

The following is an excellent

Kidney Pill.

'Pharm. Form.' Vol. II. No. 2.

Ext. buchu	gr. ¼
Ext. uva-ursi	gr. ¼
Pulv. capsici	gr. ¼
Ol. junip.	♏ ¼
Pulv. potas. nit.	gr. j.
Podophyllin.	gr. ⅛
Terebinth. venet.	gr. ⅛

M. Ft. pil. t.d.s.

Potassium Iodide.—In nephritis resulting from syphilis, gout, or lead poisoning, iodide of potassium, in doses of gr. v. every four hours, is a valuable drug, and may be combined with colchicum and ammon. carbonate.

LIVER TROUBLES.

The liver is a wonderful organ, always at work filtering, neutralising, purifying, and manufacturing ingredients necessary to life. It is the central laboratory of the body, the heart of the digestive functions. As an excretory organ it plays the part of a natural poison antidote. The ptomaines of decomposing food and the effete waste of the body itself are alike arrested by it and rendered inert. The intestine is full of noxious poisons. A healthy liver is a living barrier against which they beat in vain.

As a gland the liver is the seat of manufacture of the bile, an intensely alkaline fluid which keeps sweet the intestine and aids to digest fat and other foods. Healthy bile is a germless antiseptic, and when deficient or absent, the bowel's contents decompose or become putrid. Bile lubricates the digesting food and is the natural aperient of the body. Constipation occurs when the liver functions are sluggish and the organ is working imperfectly. Then, lastly, the liver manufactures a ferment to act upon the grape sugar of food and turn it into

glycogen. It doles out this substance to the blood to produce animal heat and force.

Jaundice is caused by the colouring matter of the bile becoming absorbed into the blood from various morbid conditions of the liver, from obstruction or changes in the bile ducts, or from some constitutional injury or disorder which impairs innervation. In young persons it is most commonly of catarrhal origin, symptoms of gastric catarrh preceding it, and such cases readily yield to rest and cholagogic treatment, with careful feeding; but the more persistent form in adults requires careful diagnosis, as it may arise from conditions requiring the attention of the surgeon, such as impacted gall stone and cirrhosis of the liver. 'Black jaundice' is usually the result of malignant disease of the liver.

Treatment.

Diet.—In the matter of food meat should be interdicted and a V.E.M. diet (vegetables, eggs, and milk) substituted.

Intestinal Antiseptics.—There are various remedies which by their antiseptic influence on the intestinal contents tend to aid the ptomaine-destroying functions of the liver. An example of this form of drug is salol or salicylate of phenol in doses of gr. v. to gr. x. given two hours after food. This substance is not decomposed until it reaches the alkaline secretions of the duodenum. Salicylate of bismuth is another antiseptic of similar character. These salts may be combined as follows :—

Salol.	gr. v.
Bismuth. salicylatis . . .	gr. v.
Sodii bicarb.	gr. v.

Ft. pulv.

Cholagogues.—A study of the action of drugs on the liver functions elicits the fact that there are substances which promote the flow of bile and bodies which have no such influence at all. The most powerful of all cholagogue remedies is exercise

entailing deep inspirations. When a person breathes deeply, as he does during active exercise, his liver and appendages are subjected to a process of massage, by which the bile is forced into the intestine in larger quantity. This is why active exercise promotes the digestive functions.

Frequent meals exert a powerful cholagogue action. Each meal aids the gall-bladder in emptying itself. Women, because they breathe chiefly from the ribs, require food at more frequent intervals than men to secure adequate liver action.

Euonymin is one of the most powerful cholagogue drugs ; ox gall, sodium salicylate or benzoate, chlorate of potassium, and podophyllin also conduce to the same effect.

Chloride of ammonium, sulphate of sodium, Carlsbad salts, aloes, rhubarb, and hydrastine stimulate to a less degree the biliary flow.

Calomel and mercurial aperients act as irritant antiseptics, deodorising yet forcing the bowel contents onwards and sweeping on the bile in the intestine before it has become absorbed. Such action favourably affects the functions of the liver.

CONGESTION OF THE LIVER.

Man breathes chiefly with his diaphragm and abdominal muscles. Woman's respiration is more largely confined to the ribs, and less to the parts below them. The use of corsets is accountable for the greater frequency of gall-stones among the fair sex. Each movement of inspiration depresses the liver upon the intestines immediately below it. This exerts pressure on the gall-bladder and squeezes out the bile. Under the influence of brisk movement and deeper breathing the gall-bladder is subjected in this way to a process of massage. The flow of bile is constant, but is largely influenced by exercise and diet.

When sedentary individuals shirk necessary exercise, their gall-bladders are not properly emptied. Constipation and digestive inconveniences ensue from bile deficiency. The

bile becomes thicker, and its cholesterin is liable to concrete and crystallise, forming what are known as gall-stones. Now and again these stones pass from the gall-bladder along the bile duct into the intestine. During their passage they occasion one of the most fearful of all human pains—biliary colic.

Treatment.

Exercise is the most essential element in treating a sluggish liver. Any form of active movement which conduces to deep inspiration is good. Daily walking, bicycle riding, horse exercise, singing, or reading aloud are instances. Women should wear loose corsets.

Diet should be directed to the avoidance of increased gastric acidity. Animal food should be eaten sparingly unless means are adopted by active exercise or manual labour to work or burn it up. Fat in moderation is helpful. Fruit and vegetables should enter largely into the diet. As a rule, alcohol in any form is prejudicial. The sufferer should eat reasonably and masticate slowly.

Alkaline Waters, especially Carlsbad (℥j. to ℥ij. of the salt in a tumblerful of warm water) and Vichy, decrease acidity and diminish inflammation of the upper digestive tract. Effervescent salines, taken regularly, are serviceable. Sulphate of sodium and phosphate of sodium act specially on the liver. The following is a good draught for congestion of the liver :—

Sodii bicarb. . . .	gr. xx.
Sodii sulphatis	℥ij.
Tinct. zingib.	♏x.
Inf. gent. co. ad . . .	℥j.

Take this draught in a tumblerful of warm water every morning for a week or so.

The strong alkalinity of bile is due to the presence of taurocholate and glycocholate of sodium, therefore soda is *the* alkali for the liver.

Mercury must be rigorously avoided in all acute liver affections, but for many minor liver ailments pil. hydrarg. gr. v.

at bedtime is excellent. It must be followed by a dose of haust. sennæ in the morning. Calomel (gr. iss. to gr. iv.) will suit equally well, and is especially eligible in smaller doses for children.

Ammonium Chloride (gr. xx. or more every four hours) is largely used in the tropics for congestion of the liver. It stimulates the flow of bile, and also acts as an intestinal antiseptic.

Euonymin (gr. ij.) is one of the most powerful cholagogue remedies, and is of signal service in cases of bilious torpor. Podophyllin in $\frac{1}{4}$-grain doses acts in the same way.

Dilute Nitromuriatic Acid (mxv. to mxxx.) may be combined with ammon. chlorid., succus taraxaci, and a carminative. It is said to be an excellent preventive of gall-stones.

A Mustard Poultice, or an ordinary turpentine stupe, applied over the liver, can be used for pain and heaviness in the region of that organ.

LUMBAGO

is a severe neuralgic pain in the small of the back experienced on rising up from a sitting or a recumbent position, or on any change of posture involving a movement of the muscles of the back. It is scarcely felt, if at all, when the body is still. It comes on quite suddenly, and may be the result of a chill or of any undue strain on the physical powers. A chemist who catches it feels at the moment as if there was a sudden crystallisation of something in his lumbar muscle.

Treatment.

Absolute Rest in a position in which the pain is not felt is the best cure. It is very difficult to enforce this rule, as the patient, being generally able otherwise, will insist on moving about; but it should always be enjoined, as any movement aggravates the pain and makes it more persistent.

Aperients.—If necessary the bowels must be freely opened. Pil. coloc. et hyos. gr. iv. or any other reliable aperient may be used.

Potass. Bicarb.—This salt or acetate of potassium should be given in doses of gr. xx. to gr. xxx. t.i.d. in half a cupful of water until the urine becomes alkaline.

Phenacetin.—If the pain is very severe, phenacetin gr. viij. every three hours will probably be of service.

Cimicifuga.—The tincture (℥ss. to ℥j. t.i.d.) has been confidently recommended by high authorities.

Sodium Salicylate in gr. xx. doses every hour for four or six hours is sometimes very effective.

Counter Irritants.—The A.B.C. liniment (equal parts of the liniments of aconite, belladonna, and chloroform) is one of the best of this class of remedies ; or lin. opii ammon., or lin. camph. co., or any of the combinations of ammonia, camphor, turpentine, &c., may be used.

Hot-ironing.—In an early stage of the complaint, this is one of the most effectual external remedies. The parts (covered with a blanket) are to be passed over with a hot iron rapidly, but so that the heat may be sharply felt.

Plasters.—A large plaster of belladonna across the loins, or of emp. saponis with a little emp. resinæ added, is an extremely useful application. The warmth and support it affords is very grateful to the patient. Emp. menthol. has also been recommended. Persons subject to lumbago should wear a belt, preferably of flannel, round the lower part of the body as a preventive.

LUPUS.

A spreading tuberculous infiltration of the skin is called lupus. Its chief seat is the face or nose, but it may occur in any part. It causes great disfigurement, and its course is slow. Lupus should not be mistaken for syphilis, which involves the inner parts also of the nose and probably the throat, nor for rodent cancer, which does not, like lupus sometimes, begin in early life.

Treatment.

Potassium iodide in large doses, sulphur, phosphorus, arsenic, cod-liver oil, hydrarg. biniodid., all exert more or less curative influence on lupus. Chaulmoogra oil is stated to cure in some cases. Superficial forms, which resemble eczema, frequently yield to eczematous remedies alone.

Tuberculin.—The use of Koch's tuberculin (new or T.R.) has been found successful in skilled hands.

Light Treatment.—More recently cases of lupus have been treated with the light rays of the electric arc by means of the Finsen lamp, and numerous cures have been reported. In one case, where the disease was of a scaly type, the exposures took place twice a week, and the tube was seven inches from the diseased part. There were, in all, five exposures of ten minutes each, and the improvement was steady, without any inflammatory reaction. *X* rays are quite as successful as the Finsen light and much less costly, and are undoubtedly the method of choice.

Escharotic Applications, such as carbonic-acid snow, have proved of great service. The emanations from radium salts appear to act as an escharotic, and it is to this action chiefly that cures of lupus with radium take place. An eminent authority informs us that solid CO_2 is 'just as good.'

Sulphurous Acid applied frequently is almost a specific in some cases.

Ung. Acid. Pyrogallic.—Excellent results have been obtained with pyrogallic acid ointment (acid. ʒj., adipis ʒx.).

Mercurials.—The following is the prescription of a celebrated specialist which proved successful not only in the case for which it was prescribed, but in many others :—

Hydrarg. perchlor.	gr. ij.
Potass. iodid.	ʒj.
Tinct. cinchonæ	℥ss.
Sp. myristicæ	ʒij.
Sp. chloroform.	ʒij.
Aquam caryoph. ad	℥viij.

Misce.

ʒiij. three times daily in water, after meals.

Ung. hydrarg. fort.	℥ss.
Pulv. hydrarg. ox. rub. . . .	gr. iv.
Adipis	℥ss.

Misce.

To be gently smeared on at bedtime.

Calamin. ppt.	℥iij.
Zinci oxidi.	℥ij.
Hydrarg. subchlor.	gr. x.
Glycerini	℥ij.
Aquam rosæ ad	℥ij.

Misce.

To be painted on every morning.

MEASLES.

The symptoms of incipient measles are those of a severe catarrhal cold : feverishness, running from the eyes and nose, cough, &c. On the fourth day the eruption appears, beginning on the face, and extending all over the body. It consists of characteristic blotches, and it continues for three or four days. When it is coming on, and during its presence, it should be carefully encouraged by diaphoretics and avoidance of cold.

Suppression, or a dark-purple colour of the eruption, collapse, or bronchitis are indications of danger. Any carelessness of management may, with such symptoms, quickly lead to fatal results.

Treatment.

The patient must be kept in bed in a room sufficiently darkened to protect the eyes from injury. The temperature should be about 60° F., and retained at that height. The sufferer should remain in bed till all the symptoms have quite abated. When convalescent he may have permanganate baths on two successive nights, and a clean change of aired clothing. After this he may be allowed out of the sick-room, prior to its being thoroughly disinfected.

Diet.—A bland liquid diet alone should be allowed. No stimulants should be given, unless medicinally for combating

grave symptoms. No strong aperients ought ever to be administered in cases of measles.

Inunction.—If there should be any tendency of the rash to become suppressed, or signs of incipient lung mischief, the patient should at once be rubbed all over, from head to foot, with olive oil. If this fails, a warm mustard bath should be given.

Aconite.—At the onset, when the symptoms of the fever are marked, tr. aconiti, B.P., ♏ss., combined with liq. ammon. acetatis ♏xx. to ♏xxx., is the best treatment to moderate the catarrhal symptoms. Give a child of ten four doses at half-hour intervals, then one dose every four hours.

Iodine.—The fumes of iodine, produced by placing a few drops of tincture of iodine on a hot penny, are useful for the wheezing and hoarseness resulting from measles.

Eucaine Inhalation.—The following mixture for inhalation will be found useful should there be distressing cough; it is best used by means of a nebuliser:—

Eucainæ	gr. iv.
Mentholis	gr. xx.
Chloral. hydratis	gr. xx.
Codeinæ	gr. x.
Acidi benzoici	gr. v.
Paraffin. liq.	℥ij.

M. et S.

Tonics.—As measles, more than almost any other complaint, may leave behind it serious after-effects, not confined to one organ, but affecting the eyes, ears, nose, or chest, great attention should be paid to avoidance of cold and to the general health during convalescence, and the patient's strength should be well supported by a nourishing diet and suitable tonics, such as syr. ferri phosphatis with cod-liver oil, or if any tendency to tubercle should present itself, the following will prove serviceable:—

Calcii hypophosphitis	℥j.
Syr. aurant.	℥vj.
Aquam ad	℥ij.

℥j. t.d.s.

MENORRHAGIA.

The menstrual periods in the best of circumstances are a great impediment to a woman, but when the flow becomes profuse, and perhaps irregular in its appearance, her life may become a very burden to her. Full-bloodedness, intemperance, too frequent childbearing, tumours, and bad labours excite congestion of the uterine organs and are the chief causes of menorrhagia—that is, excessive discharge.

Treatment.

Ladies who are full-blooded require to live temperately. Often, to get rid of the excess of blood, Nature finds an outlet by increasing the loss at the monthly periods. This should not be rashly checked. Treatment should be directed to the cause of the plethora. A spare diet, with little meat, and tea or coffee or milk-and-water to drink, is best suited to such a case. Alcohol is always highly prejudicial, and should be strictly forbidden.

Potassium Bromide.—In all forms of menorrhagia potash salts exert a powerful curative effect. Potassium bromide, in doses of ʒss. morning and evening, is the best drug to give where there is much uterine pain and congestion; but in very chronic cases, where the medicine requires to be taken for any length of time, potassium chlorate (gr. xv. t.d.) is best. This applies especially to cases caused by what are called fibroid tumours.

Sulphuric Acid.—In very profuse hæmorrhage of uterine origin, dilute sulphuric acid, in doses of ♏xv., or acid. gallic. gr. x., every four hours, is a satisfactory internal styptic. The following is a good combination :—

Ammon. bromidi	ʒij.
Acid. sulph. dil.	ʒij.
Syr. aurant.	℥j.
Aquam ad	℥viij.

℥j. every four hours.

Ergot.—An effectual treatment of excessive flow is complete rest, and ext. ergot. liq. (ʒss. to ʒj. t.d.) or ergotin

(gr. iij. in pil. t.d.) during the periods, and iron in the form of Blaud's pills (gr. x.) or tr. ferri perchlor. (ɱxx. t.d.) during the intervals.

Lemon Juice.—A domestic remedy for this form of bleeding is to suck the juice of three or four lemons. A wineglassful of vinegar will also arrest it if severe, when other remedies are not at hand.

Hydrastis Canadensis.—The tincture, in doses of ɱxv. to ʒj., is said to be efficacious in checking the hæmorrhage due to tumours, but it must be continued for many months before any marked improvement will be noticed.

Quinine in full doses is an effectual remedy in some cases, and it can be used in tonic doses, after the hæmorrhage has ceased, to improve the general system.

Liq. Arsenicalis (ɱiij. after food) is also a valuable tonic remedy in cases due to tumour. It at first aggravates the symptoms, but afterwards its good effects are most marked.

Aletris.—In cases of menorrhagia dependent on congested conditions of the sexual organs, especially when there is a tendency to miscarriage, liquor sedans and aletris cordial are very valuable remedies.

Sulphur Waters.—The waters of Harrogate and other sulphur springs, by their alterative effect on the tissues, are generally useful in obstinate cases, but their use requires great caution, and they occasionally increase the flow, at all events for a period or two.

Potassium Iodide may be administered in similar cases, or in those caused by syphilis. This powerful drug likewise requires careful watching.

MUMPS.

A painful acute swelling of the parotid salivary glands, with fever and contagiousness, is called mumps. There is much swelling just in front of the ear, and difficulty and pain in opening the mouth or in eating. The disease is said to be caused by a diplococcus found in the secretions from the

parotid gland of persons suffering from mumps. In an ordinary uncomplicated case mumps is a simple febrile ailment, but every care must be taken to promote the resolution and subsidence of the enlarged glands. When improper treatment is adopted, or the sufferer is subjected to a chill, the complaint is apt to migrate to other glands, such as the breast, testicle, ovary, or other organ.

TREATMENT.

Salines.—A mixture with liq. ammon. acetatis ʒj. or potassium cit. gr. x. in each dose may be given every four hours, to promote resolution, and three sulphur lozenges daily will render the contagiousness less decided and promote quick recovery.

Warmth to the Head.—It is essential to keep the inflamed glands warm by means of flannel or swansdown, and, should the disease unfortunately migrate elsewhere, vigorous poulticing and stimulant mustard applications must be applied to the part in front of the ear, in order to woo it back again to its proper seat.

NEURALGIA.

The term 'neuralgia' is applied to any pain felt in the course of a nerve; the most common form is that affecting the branches of the fifth nerve, which supplies common sensation to the face and part of the scalp. Neuralgia of the great sciatic nerve is known as *sciatica*, of the nerves of the arm as *brachialgia*, of the stomach as *gastralgia*. In all cases it is only a symptom of some underlying disease, the function of nerves of common sensation being to give warning to their owner when anything occurs to the part whose guardians they are. Inflammation in the course of a main nerve trunk, or pressure on it—for example, by a tumour—may cause pain to be felt at the furthest ramifications of that trunk, while no pain is felt at the particular spot where the mischief is; for instance, a tumour pressing on the origin of the great sciatic nerve in the pelvis may have no other symptom than shooting pains in the

leg. Again (and the fallacy involved is one that doctors have constantly to bear in mind), tuberculous disease in the hip-joint may have no symptom in its early stage except a pain in the knee, the central nervous system having made an error in location from the fact that a small twig of the nerve which supplies the hip-joint helps in the supply of common sensation to the knee-joint. It will thus be obvious that there is no royal road to the cure of neuralgia, and that the first essential to a correct diagnosis of what is causing the pain is some knowledge of the nerve-supply of the part involved.

The form of neuralgia here dealt with is that affecting the branches of the fifth nerve, and often known as *tic doloreux*. The fifth nerve has three main divisions: the ophthalmic, which leaves the skull just over the eye socket, and supplies the skin of the forehead and anterior part of the scalp; the superior maxillary, which supplies the upper teeth; and the inferior maxillary, which supplies the lower teeth and part of the tongue, and sends an important skin branch up in front of the ear to supply the side of the scalp. Important connections are also made with other nerves; for example, the nerve supplying the throat. From a practical point of view, the important thing to remember is that a neuralgic pain which shoots up the side of the face and over the temples may be due to inflammation in the throat or in the teeth, and most ordinary cases of neuralgia of the face are due to one or other of these causes.

Treatment.

If there are obviously carious teeth on the side on which the pain is, dress them with pure carbolic acid, or phenol camphor or carbolised resin, after drying well out with a piece of cotton wool; if there is redness and tenderness at the roots, prescribe an antiseptic mouth-wash, such as myrrh and borax, or carbolic, and see that it is used with hot water frequently.

Should the tonsils or pharynx be inflamed the mouth-wash used as a gargle will do quite well, and the inflamed surfaces may be painted with equal parts of glycer. acid. carbol. and glycer. acid. tannic., or glycer. hydrarg. perchlor. (1 in 1,000) or

Mandl's paint; ulcers should be touched with sol. argent. nit. 20 per cent.

Any medicine prescribed will depend on the apparent condition of the patient; if anæmic, an iron mixture containing a laxative is suitable, or Blaud's pills or tablets with a cascara mixture answer well, anæmia being usually associated with constipation. If the patient is obviously plethoric, nothing is so effective as 5 grains of calomel, followed in the morning by a saline aperient, such as magnes. sulphas or sodii sulphas.

Even after the local condition which has initiated the pain in the nerves has been cured the fine extremities of the nerves may remain irritable, and shooting pains persist. This is the time when rubefacient liniments are useful (lin. tereb. with menthol is an example), assisted by hot sponging and keeping the affected surface warm.

Although in most cases of neuralgia of the fifth nerve a local cause can be found, still there are a few which are due to blood conditions, such as anæmia, and some which appear to be purely functional—that is, for which there seems to be no pathological basis. For simple anæmia pil. ferri and laxatives, with plenty of plain nourishing food, in which milk, meat, and eggs should figure largely, with as much sunshine and fresh air as can be obtained, will usually effect a cure.

The galvanic (continuous) current has been used with success in some cases, and in some of the most intractable after every form of treatment has failed success has followed the removal by the surgeon of portions of the main branches of the nerve and even of the Gasserian ganglion, which is the nerve's central exchange and lies at the base of the brain.

Phenacetin is of undoubted value in many forms of neuralgia connected with the nerves of the head. It should be given in the form of powders or in cachets, in doses of gr. v. to gr. x.

Gelsemium.—In cases of dental neuralgia, ovarian and other neuralgic pains, tinct. gelsem. semper. in doses of ♏x. to ♏xv. is much used, but many authorities question its value.

Croton Chloral Hydrate.—This drug is useful in most forms of neuralgia connected with the face or head. The dose should be gr. v. dissolved in spt. chloroformi ♏x. and water ℥j. It answers best in very obstinate cases which resist other treatment, and may at times be combined with ammonium bromide gr. xx. to gr. xxx.

Iron.—If the patient is anæmic, iron, administered in the form of Blaud's pills or the hypophosphite of iron syrup, will be found *the* remedy, and it may with benefit be combined with liq. arsenicalis, in doses of ♏j. to ♏v. This combination tends to purify the blood. A useful recipe is as follows :—

Ferri et quin. cit.	℥ss.
Liq. arsenic.	℥ss.
Acid. hydrobromic. dil. . . .	℥j.
Aquam ad	℥viij.

℥j. t.d.s.

NIGHTMARE.

A common result of indigestion is disturbed sleep and dreams. Some dreams are pleasant and fanciful. An unpleasant horrible scene in which the dyspeptic is an active though hardly willing participant, is a nightmare. Dreams of the blood-and-murder type are commonly the result of errors of diet. Repetition of actions and conversations of the previous day is a serious form of nightmare, as it indicates an overworked brain which urgently calls for rest and change of scene. Children with worms or adenoids, or with brains irritated by enforced over-study, suffer at times from disturbed sleep and night terror. They must have adequate rest and treatment to obtain relief.

Treatment.

Diet.—Light digestible food is important. Heavy suppers or late dinners, especially if combined with a free use of stimulants, are common exciting causes of incubus. Supper should be light, and consist of a cupful of beef tea, or bread and milk, or a milk pudding.

Hygiene.—The patient should sleep on a hard bed, with not too heavy bedclothes, and should carefully avoid lying on his back. He should allow himself a sufficiency of recreation, and above all should avoid hurry. Children with worms require appropriate treatment.

Potassium Bromide, in doses of gr. xxx. at bedtime, is an excellent and harmless soporific for adults who suffer from disturbed sleep, and it acts well in combination with tinct. hyoscyami. It is also rapidly curative in the night terror of children. As a rule, opium, chloral, sulphonal, and other powerful hypnotics should be rigorously avoided.

NIPPLES (SORENESS OF).

The nipples are parts of the body which are only called into requisition at certain times. They are tender, delicate structures, and are easily hurt. If not kept scrupulously clean and dry, or if not previously prepared for baby by the hardening action of spirit, they may become inflamed and excoriated.

Sore nipples are exquisitely painful. The child is not properly fed because the mother dreads the torture to which the child subjects her, and she postpones the necessary feeding as long as possible. If further neglected the inflammation extends to the breast itself. Mammary abscess and a host of troubles are the consequences of neglect.

Treatment.

Hygiene.—It is always a wise procedure to prepare the nipples—to harden and strengthen them for some considerable time before confinement. Weak spirit-and-water, weak arnica lotions, glycerin and eau de Cologne will do this effectively. Great cleanliness is essential. The nipples should be washed and dried after the child has finished its meal.

Shield.—As soon as the nipples become at all sore, zinc shields should be constantly worn, and the baby made to draw the milk through a breast-tube teat without actually sucking from the nipple itself.

Pulv. Acaciæ used as a dusting powder suits some cases

well, or a powder made by mixing equal parts of powdered gum, bismuth trisnitrate, and boric acid.

Glycerin of Tannin is sometimes most useful as an astringent, and glycerin of starch as an emollient, but a lotion of glycer. boracis ʒj., aquæ ʒiv., is hard to beat.

OBESITY.

A sufficiency of fat is a sign of health. Fat is the fuel of the human lamp stored up to resist disease and keep out the cold. Too much fat-forming food, unconsumed for want of exercise, creates obesity, and overflows the lamp.

A too fat person is hindered in life's race; he is ungainly and breathless. Half his muscular system is fat. He is muscle-starved—fat-poisoned.

An obese individual can always reduce his weight if he wants to. He must limit his supplies of fat-forming foods, and must help the oxidising powers of the blood to burn up the already large reserves of hydrocarbons by greater activity, more exercise, and little sleep.

Treatment.

Bantingism.—A proper diet is sufficient to remove obesity without drugs. All foods rich in hydrocarbonaceous matter—such as sugar, fat, or starch—store up fat in the system. No bread, potatoes, sweet roots, butter, sugar, cream, beer, port, champagne, or spirits should be taken. Articles allowable are lean meat, poultry, fish, game, eggs, separated milk, green vegetables, turnips, succulent fruits, light wines—as clarets or burgundies—dry sherry, bitter ale. An alternative plan of treatment consists in subsisting almost entirely for a length of time on underdone beefsteak and hot water in large quantity. Living entirely on skimmed milk has also been suggested as a successful curative measure. Any alteration in diet should be made gradually, and not suddenly.

Exercise.—The corpulent should take as much exercise as possible in spite of a natural disinclination to do so. They

must sleep on a hard bed without too many bedclothes, and rise early.

Turkish Baths are effectual in reducing weight when taken somewhat frequently. Any person intending to adopt this plan of treatment should assure himself of his ability to bear it without danger.

Acids.—Vinegar is frequently taken by ladies to reduce obesity. The active principle of one of the most widely advertised remedies is citric acid in 15-grain doses.

Iodine.—An extolled method of giving iodine is in the form of the extract of *Fucus vesiculosus*, or sea-wrack. It is the basis of the preparation known as Anti-fat. Seaweed is given to pigs in Ireland to fatten them, and in moderate doses it will also fatten human beings. Three grains of ext. fuci vesic. in tablet, thrice daily, with a saline purge in the morning and a spare diet (not more than two pints of liquid per day), quickly reduces fat.

Salines, such as table salt, liq. potassæ, and alkaline salines, in very large doses diminish fat at the expense of health. Excessive purgation will also serve the same end by carrying off the food before its assimilation has been completed. Moderate laxative action, as a rule, causes people to put on more fat.

Vichy and Kissingen.—This treatment consists in taking after each meal, in a glass of water, one compressed tablet of Vichy, and on alternate days, after each meal, a tablet of Kissingen salt. The treatment is said to be very successful.

Mineral Waters and Health Resorts.—Various spas, especially those of Carlsbad, Ems, and Kissingen, where life is agreeable and the surroundings pleasant, and where the regimen is severe and the diet spare, are largely resorted to by the corpulent, who generally derive much benefit from the course of treatment. The chalybeate waters of Tunbridge Wells and Harrogate in England, or Llandrindod in Wales, are resorted to in cases of extreme obesity due to bad health, where iron is called for to aid the deficient oxygenating powers of the blood.

PEDICULI.

There are three varieties of pediculi, or lice, which attack man. They exhibit a decided preference for unclean, ill-nourished, sickly people. Lice live on blood, and seem to find out instinctively the quarters where they are least liable to molestation. Those which affect the head are the most difficult to dislodge ; they roam about upon the scalp, and lay their eggs or nits on the hairs. All pediculi give rise to great irritation of the skin, and increase in number if not destroyed in time.

TREATMENT.

Baking the Clothes.—The body louse common in old people lurks in the clothing. It is therefore essential that the clothes should be subjected to a sufficiently high temperature to destroy the parasites. All underlinen should be boiled.

Stavesacre.—There is no more effectual parasiticide than stavesacre. It may be used either in the form of ointment—℥j. of the oil to ℥j. lard—or a decoction of the seeds may be used as a lotion. Acetic acid is one of the best solvents of the active principle, and this fact may be taken advantage of by making a vinegar of them by digestion (℥ij. to Oj.), which can be used as a nursery hair-wash. A little simple perfume should be added.

Quassia.—A strong infusion of quassia is a most effective non-poisonous insecticide. A number of formulas for nursery hair preparations containing quassia and stavesacre will be found in 'Pharmaceutical Formulas.'

Spt. Vini Rect.—The nits of the pediculus capitis are very firmly glued to the hairs, but if they are moistened with spirit of wine they become loosened, and a fine-tooth comb will readily detach them. If a little mercury perchloride (gr. ss. to ℥j.) is added to the spirit it makes the application more effectual. Paraffin oil is equally efficacious.

Mercurial Preparations.—Ung. hydrarg. ammon. is a favourite domestic remedy. Corrosive sublimate solution (gr. j. to ℥j)., ung. hydrargyri, and oleate of mercury (10 per cent.) answer equally well.

PILES.

The lower portion of the bowel contains a large network of veins. When these become inflamed or engorged the disorder is called piles. Frequently the blood coagulates in these veins, and one or more fleshy masses are formed.

Piles are recognised by the presence of pain, heat, and swelling at the orifice of the bowel. When visible they are termed external piles ; when high up in the rectum and out of sight they are described as internal piles. The latter are prone to bleed.

The blood circulating in the bowel, and in other parts of the digestive tract, is taken to the liver, and there filtered and purified by means of the hepatic juices. If it were not for this arrangement unclean feeders or persons of constipated habit would quickly suffer.

Liver congestion or liver sluggishness prevents free return of blood from the abdominal organs. The hæmorrhoidal veins are the first to feel the effects of this retardation of movement. Hence the presence of piles is an indication of a perverted liver, and gentle persuasive medication directed to that organ will go far to relieve them.

Treatment.

Hygiene.—It is important to bear in mind that the anus, or lower orifice of the bowel, is just as susceptible to outside influences as the throat. Persons with severe piles or other bowel perversions should use a commode containing hot water mixed with some suitable disinfectant, such as carbolic acid, 'Sanitas,' or Condy's fluid. Brisk open-air exercise is the best preventive of hæmorrhoids. Wooden or cane bottomed chairs alone should be used to sit upon.

Poultices.—Nothing relieves acute piles so markedly as hot poultices or poppy fomentations applied to the part. Enemas of starch or hot water slightly coloured with pot. permang. are more effective in cases of internal piles. A hot

hip-bath and perfect rest are good treatment for weakly subjects where fissure or fistula may be an outcome of want of care.

Diet should consist of plain nourishing food in large quantity—a substance-forming diet to help the bowels to act. Alcohol, tea, or coffee, and all highly seasoned dishes are bad.

Suppositories.—Ung. gallæ c. opio is an old-fashioned application to relieve piles, and it has stood the test of time. It is undoubtedly most effectual. Suppositories containing in each pulv. gallæ gr. iv., pulv. opii gr. ss., are more cleanly to use. Where there are ulcers or abrasions a suppository containing iodoform gr. iij. or an equal quantity of aristol is best. Cocaine gr. ss. in suppository or 10-per-cent. ointment may be used prior to the action of the bowels to allay acuteness of pain.

Adrenalin suppositories or adrenalin ointment frequently act well, the hæmostatic action reducing the congestion and relieving the pain instantly.

Bismuth.—As an external remedy bismuth is most useful to allay the irritation and itching which so often accompany piles. It is used as ointment, ʒj. or more to ℥j. ung. simp., or it may be mixed with ung. gall. et opii in like proportion. Bismuth suppositories are also used, and in some cases it may be desirable to add gr. ¼ morph. hydrochlor. to each.

Hamamelis Distillate is perhaps the best remedy for bleeding piles. It may be injected into the bowel and taken internally in doses of ʒj. every four hours. This combined plan of treatment seldom fails to arrest the hæmorrhage. It may also be applied externally on absorbent sheep's wool.

Natural Aperient Waters.—A course of a reliable natural aperient water, such as Carlsbad, Friedrichshall, Hunyadi János, Apenta, or Franz Josef, taken in properly gauged doses stimulates the digestive secretions and acts on the bowels gently. Natural aperients are most effectual curative agents, as they remove the exciting cause. A good tonic aperient water is made thus :—

Ac. sulphuric. dil. . . .	ʒiss.
Magnesii sulph.	ʒiiss.
Quininæ sulphat.	gr. xij.
Elixir simplicis	ʒiv.
Aquam ad	ʒviij.

ʒss. to ʒj. in a tumblerful of water every morning or three times a day.

Aperients of various kinds, such as aloes, cascara sagrada, podophyllin, euonymin, are at times beneficial for piles. They must be given in small laxative doses which secure regular daily action, and they should always be combined with a sedative, such as hyoscyamus or belladonna, to prevent any irritating effect. The old-fashioned dec. aloes co., in doses of ʒss., combined with tinct. nuc. vom. ɱv. and aq. menth. pip. ʒss., is an excellent pile-mixture.

Sulphur.—In the form of confectio sulphuris (ʒj. every morning), sulphur always relieves piles. Equal parts of confect. sulph. and confect. sennæ, ʒj. for the dose, may be used instead, or a teaspoonful of a mixture of sulphur and magnes. lev. in equal bulks in a glass of milk o.n.h.s.

Soap.—Hard soap gr. v., taken as a pill, is a little-known but very useful remedy. It serves to lubricate the digestive passages and render the lower bowel's action easier. White vaseline taken internally, ʒij. or more, has a similar effect.

PLEURISY.

There is no disease which creates so much misconception in the public mind as true pleurisy. False pleurisy is extremely common—an everyday form of neuralgia affecting the chest wall, in which there is an absence of the severe febrile symptoms that are characteristic of the true form. Real pleurisy is inflammation of the pleura, the membrane that lines the inner side of the chest and invests the lung.

Inflammation roughens the smooth glistening lubricated surface of this pleura, and one of two things happens if it does not get well quickly—either the two surfaces become glued together, forming adhesions, or liquid is thrown out to

separate the surfaces, causing effusion or dropsy. Occasionally matter forms, and that, of course, is a grave, if rare, complication.

Treatment.

False pleurisy (pleurodynia) is pain in the chest wall, dependent on neuralgia, rheumatism, or dyspeptic troubles, and should be treated accordingly.

Hot Fomentations.—To allay the acute pains of pleurisy, the patient should remain quietly in bed, and have a light diet. Hot poppy or chamomile fomentations give great relief at the onset. Mustard leaves are best in slight cases.

Strapping the Side.—Firm strapping of the affected side with strips of adhesive plaster placed obliquely in the direction of the ribs is the best-known treatment to allay pain and secure rest.

Antipyrin.—An effectual remedy to allay the inflammation is antipyrin in gr. x. doses, combined with liq. ammon. acetatis ʒj. every four hours.

Purgatives.—If the bowels are constipated it is always wise to administer a brisk saline, such as mag. sulphat. (ʒvj. to ℥j.) in water before food. This greatly helps the curative action of other drugs. A course of natural aperient waters may be prescribed.

Potass. Iodide.—To promote absorption of fluid, iodide of potassium in gr. v. to gr. x. doses, is one of the best remedies. Tincture of iodine may at the same time be painted on the chest and sides.

POULTICES.

When the skin or structures beneath it are inflamed it is often necessary to apply poultices of various kinds. The object of them is the application and the maintenance of moist heat to the part. Poultices should be covered with oiled silk or jaconette, and changed quickly so as to avoid cold.

Linseed.—To make a linseed poultice properly calls for skill which few but those who are trained possess. Place

boiling water in a scalded basin, and then quickly add the meal with constant stirring until it is of the consistency of a stiff paste. Spread the mass evenly, and to the depth of a quarter of an inch, upon a piece of muslin or linen ; smooth the surface with a knife before the fire, and roll up like a plaster. The warmth ought to be just what the cheek can bear, and when the right temperature is reached, unroll upon the affected part, cover with oiled silk, and lay over it a thick pad of cotton wool.

Mustard.—Mustard poultices or leaves are strong counter-irritants. They are chiefly needed in cases of deep-seated inflammations, especially those affecting the chest, and should not be kept on longer than twenty minutes. Where sustained counter-irritation is desirable the mustard should be diluted with linseed or bread, and then made into a regular poultice.

Bread.—Bread poultices are lighter than linseed, but they are more suited to small surfaces, in such cases as inflammations affecting the extremities or the face. To make a bread poultice, put breadcrumbs into a basin and pour upon them, with constant stirring, boiling water. Allow the superfluous water to drain off before the fire, and then apply spread on muslin or linen, and cover the whole with oiled silk.

Antiseptic.—Various drugs of an antiseptic nature—such as iodoform, salicylic, carbolic, and boric acids—can with benefit be incorporated with or sprinkled on a bread poultice, and this is far preferable to the dirty unsatisfactory mixture of bread and charcoal called a charcoal poultice.

Substitutes for Poultices.—Spongio-piline is made of sponge and wool felted together, and coated on one of its surfaces with an impermeable substance. It is dipped into boiling water just before using, or, as its surface is absorbent, it may be made the vehicle for applying sedatives or stimulants, such as opium or turpentine, according to the requirements of each case.

Tarred jute makes an excellent antiseptic application to absorb discharges. It should be well expanded by holding it

before the fire, enveloped in a piece of antiseptic gauze, before being applied to the part.

Other substitutes are antiphlogistine and thermofuge, ointments having a clay base, medicated with menthol, thymol, boric acid, &c. These are cleanly and effective substitutes for the mustard poultice.

Fomentations.—Flannels wrung out of hot water are also used in the place of poultices. They are lighter, and, like spongio-piline, can be readily utilised for the application of suitable drugs. Ext. papav. ʒij. to three pints of hot water forms an excellent sedative fomentation for inflamed joints, &c. To prepare a fomentation, pour boiling water into a large basin, place over it a stout towel, place the flannel in the centre, press it into the water, and then by twisting round the ends of the towel squeeze out the superfluous moisture. Apply quickly while hot.

PSORIASIS.

Psoriasis is at present but little understood. Even its exciting cause is unknown.

Some skin disorders are intensely irritating; others itch but little. Psoriasis belongs to the latter category.

The eruption is chronic and persistent, and consists of roundish, slightly raised, red patches, thickly covered with pearly white scales. The form which attacks the palm of the hand is the most inveterate. Psoriasis is a disease of the robust. It does not impair the general health, and, unlike eczema, rarely attacks children under six years of age.

Defective nutrition or nervous influences play some part in determining its appearance, but how is not quite known.

Treatment.

Hygiene.—To improve nutrition free out-of-door exercise will generally be found beneficial. This may be combined with sea air and sea bathing—by residence at the seaside in very severe cases.

Baths.—Warm alkaline baths, or baths of the sulphuretted waters of Harrogate and other inland resorts, are very beneficial. The waters of La Bourboule, in Lower Auvergne, are said to be curative.

Diet.—It has been asserted that psoriasis is due to a want of fresh vegetables. Therefore a nourishing diet, containing a small quantity of unboiled vegetables, given frequently, will do good. Onions, watercress, salads, tomatoes, and all forms of fruit, may be recommended with confidence. Cod-liver oil is a useful food-adjunct if patients are getting thin and feel debilitated.

Arsenic.—Liq. arsenic., given in full doses of ♏v. after food, is the best remedy we possess. Too small doses fail, excessive quantities do harm. Arsenic at first aggravates the symptoms and makes the spots more red. The patient should be warned of this, otherwise he will discontinue taking the remedy at a time when it is positively working a cure. Donovan's solution, in doses of ♏x. to ♏xx., is sometimes better in its action than Fowler's solution and other arsenical preparations.

Potassium Iodide, in large doses of gr. x. or more t.d., has lately been suggested as curative.

Phosphorus in pill form, in doses of gr. $\frac{1}{60}$ to gr. $\frac{1}{30}$ t.d. after food, improves nutrition and nerve force. As such it may prove a useful remedy for psoriasis. A course of electricity—the constant current—would serve the same end.

Bromides.—Ammonium bromide in doses of gr. xx. to gr. xxx. is of benefit where headaches and neurotic symptoms are an accompaniment of the rash. The salt may be given in combination with tinct. cimicifugæ ♏xx.

Ung. Hydrarg. Ammon. is one of the best applications to use locally.

Liq. Carbonis Detergens, pure or diluted with spirit, and painted on the affected parts, is serviceable in many cases.

Ung. Acid. Pyrogallic.—Gr. x. to gr. xx. of pyrogallic acid, mixed with ung. simpl. ℥j., is a strong remedy which quickly cures, but requires caution in using. The disease is very apt to return after its use.

Ung. Chrysarobin. has been much prescribed. The drug produces much staining of both the skin and the clothes, and, as in the pyrogallic-acid ointment treatment, the rash frequently returns again, often with greater virulence than before.

RHEUMATISM.

There are few diseases which are more tedious and painful than the protean malady called rheumatism. For the most part it attacks the sinews and fibrous structures of the body. Therefore the joints, the muscle casings, and the heart's valves suffer most. Rheumatic pains sometimes change their location, wander from one part of the body to another, and visit various joints in succession. Acute rheumatism, or rheumatic fever, has been shown by Drs. Poynton and Paine to be due to a diplococcus. Chronic rheumatism, whether of joints or muscles (*fibrositis*), is now considered to be due to auto-toxæmia, frequently arising in the large intestine, and the gonococcus (the organism of gonorrhœa) has been shown to be a much commoner cause of subacute and chronic forms than was at one time supposed.

Treatment.

Rest.—Every sufferer from acute rheumatism must be kept in bed for three weeks after all the acute painful enlarged joints are well. The remedies used may remove the actual symptoms in a few hours, but in reality they are only suppressed and kept under. If the patient gets up too soon he runs great risk of getting his heart organically and permanently diseased. The inflamed joints should be well wrapped up in cotton wool.

Turkish Baths to promote skin action are serviceable in chronic forms of rheumatism. They should be taken regularly.

Diet.—In acute rheumatism a strictly vegetarian diet has been found most useful, and such articles as milk and water,

barley water, milk puddings, grapes, and fruit should be mostly relied on. In chronic rheumatism a light wholesome diet, with a moderate allowance of meat, will suit best. Beer and saccharine wines are baneful as a rule. Celery eaten freely and habitually is an efficient preventive and cure for rheumatism. It may also be boiled, and the decoction drunk.

Climate.—Rheumatic people, as a rule, should live on high ground which is free from moisture or dampness. A gravel or sandy soil is best. In low-lying marshy localities rheumatism is very prevalent.

Sodium Salicylate.—The most effective remedy for acute rheumatism is sodium salicylate in doses of gr. xx. every two hours, until the pains and inflamed joints have completely subsided. It should then be given for a fortnight in smaller doses sufficient to keep the system under the influence of the drug. Many practitioners prefer salicin, in doses of gr. xx. every two hours ; and *aspirin*, the acetyl derivative of salicylic acid, is as prompt in action as sodium salicylate and affects the heart as little as salicin.

Alkalies.—As solvents of uric acid the salts of potassium and lithium are very serviceable in rheumatic affections—the bicarbonate, acetate, or citrate of the former in doses of gr. xx. t.d., or gr. x. of the citrate of the latter t.d.

Cascara Sagrada.—When constipation is a feature of the disorder, cascara sagrada will be found very serviceable, and it may be combined with sodium salicylate in acute cases.

Salol, or phenol salicylate, in doses of gr. v. to gr. x. has been much lauded, but it is inferior to the sodium salt in acute forms.

Potassium Iodide.—When a relapse of acute rheumatism occurs—and this may arise occasionally from want of care or from getting up too soon—salicylates will generally fail to control the symptoms, and then potass. iodide, in doses of gr. v. every four hours, is the best remedy to give.

Antipyrin has a great effect on the pains, given in doses of gr. x. every two hours, but as it is only palliative it should

be used solely for that symptom. Tinct. cimicifugæ in doses of ɱxxx. is also effective in reducing the pain.

Blisters over Heart Region.—If the heart become affected in a case of acute rheumatism, mustard poultices should be applied to the heart region, or small fly blisters may be used if a stronger action is desired.

Sulphur.—Compound sulphur lozenges taken regularly and habitually are said to be most beneficial in chronic rheumatism. The use of sulphur in this respect is very old. A favourite form of administration was the 'Chelsea Pensioner.' Guaiacum is also much used in chronic rheumatic affections. It is another ingredient of the 'Chelsea Pensioner.'

Cod-liver Oil.—Many cases of chronic rheumatism are dependent on lowered vitality. By improving nutrition by means of ol. morrhuæ and tonics, the disease will generally become amenable to cure.

Guaiacol Carbonate in cachets or emulsion (6 to 10 grain doses) is a most valuable remedy in toxæmic forms arising in the bowel, and should be accompanied by suitable doses of saline aperients. The gonococcal form has been successfully treated by vaccine, and Bier's congestion treatment.

Embrocations.—A variety of drugs used locally have a very decided influence on the inflamed joints. Ol. camphoræ is the best application in acute forms, and this may be combined as follows :—

Tinct. opii	ʒiv.
Chloroform.	ʒij.
Ol. camphoræ ad	℥iss.

Mix, and shake before using.

Cajuput oil, turpentine, ammonia, tinct. capsici, lin. potass. iodidi c. sapone, and many other preparations will suggest themselves in individual cases.

All embrocations should be well rubbed in with a certain amount of friction or massage. Massage alone or ordinary rubbing of the painful joints will of itself do good, especially in muscular rheumatism.

RINGWORM.

Ringworm is a species of fungus and is highly contagious. It finds in children a congenial soil for growth. The disease occurs on any part of the body, but chiefly on the head. The diseased hairs become detached, brittle, and lustreless ; they break off close to the head, leaving a round bald patch, and, microscopically, are seen to be loaded with spores. Ringworm often long resists every mode of treatment. Six weeks is perhaps the shortest time in which a cure can be effected.

Treatment.

Hygiene.—The hair should, as a rule, be cut as short as possible, so that local applications may be thoroughly applied. Once every day the head should be thoroughly washed with carbolic soap and warm water to remove the fungus *débris* and applications of the previous day. All towels, brushes, and combs used by the sufferer should be kept separate.

Benzolin.—Rub the spots with cotton wool dipped in benzolin, then with cotton wool dipped in liq. hydrarg. perchlor. Do this morning and evening for three to six days ; then dress with ung. acid. salicylic.

Hydrarg. Oleatum.—The 10 per cent. oleate is perhaps the most effective of all parasiticide cures for ringworm. It should be pencilled lightly over the part every night.

Ung. Hydrarg. Ox. Rub. is an effective remedy for most forms of ringworm ; ʒss. to ʒj. of benzoated lard is about the correct strength to use for ringworm of the head, but for ringworm of the eyelashes (*tinea tarsi*) gr. x. to ʒj. would be sufficiently powerful.

Citrine Ointment.—The following plan is a good one. The part is first washed with warm water and soap and then soaked with a sulphate of zinc lotion (ʒj. to ʒj.), which is allowed to dry on, then a little of an ointment, composed as follows, is to be rubbed in :—

Creosoti	℥viij.
Ung. hyd. nit. dil.	ʒss.

This routine is to be followed every morning.

The following is a very safe and effective ointment :—

Sulphur. præcip.	ʒss.
Hydrarg. ammoniat.	ʒss.
Acid. salicylic.	ʒj.
Adipis lanæ	℥ss.
Paraffin. mollis	℥ss.

To be well rubbed in for ten minutes twice daily. All loose hairs should be pulled out.

Acids.—Certain strong acids have a reputation in ringworm treatment. The strong acetic acid, a strong solution of oxalic acid, and sulphurous acid are all reputed to cure. Acid. acetic. fort. combined with hydrarg. perchlor. gr. iv. to ℥j. is undoubtedly a good application. Carbolic acid (1 in 10 sp. vini rect.) and tinct. iodi (ʒss. to ℥j.) are also remedies which may be pencilled over the part with a view to destroying the fungus.

Cod-liver Oil Poultices.—In obstinate cases a cod-liver oil poultice will act like a charm, especially if the patient is weakly. Ol. morrhuæ is to be applied very freely under an oilskin cap until the head is practically as clear as a billiard ball. This removes not only any eruptions, but also all the hair, but the fresh growth is generally highly vigorous.

Chrysarobin is a useful remedy, but possesses the disadvantage that it stains both the skin and clothes. The powder itself may be used moistened with vinegar or lime juice, or chrysarobin ointment (℈j. to ℥j.) may be applied, or a solution of it in chloroform of the same strength.

Liq. Carbonis Detergens and **Sodium Ethylate** painted on have cured cases.

ST. VITUS'S DANCE.

The name of this disorder, with its convulsive movements and ludicrous gesticulations, has a curious origin. In the fifteenth century the population of Strasburg was attacked by a peculiar nervous affection, and the sufferers made pilgrimages to the shrine of St. Vitus. Faith and exercise cured them.

Chorea (as it is sometimes termed) prefers for its victims young girls. The patient is in constant agitation ; involuntary movements of voluntary muscles occur—the will cannot stop their action. Rheumatism has some connection with it. The complaint is infectious, children being highly imitative. Frights, irritation from worms or teething, and the influence of a neurotic hysterical mother are exciting causes. Nature is slow in effecting a cure, but if her efforts are stimulated by appropriate treatment, she will do her share to help.

Treatment.

Hygiene.—The patient should be encouraged to exert his will to control the involuntary movements. Firm, kind treatment will generally do wonders in these cases. Systematic galvanism or massage often aids recovery. If the sight is defective, the eyes must be attended to, and spectacles ordered if necessary. Absolute rest in bed in severe cases is essential, and massage is decidedly useful. Strong soups, beef juice, milk and egg, should be given every two or three hours.

Potassium Bromide is one of the best remedies, given in full doses and combined with chloral or succus conii, when the movements are continued during sleep.

Liq. Arsenic. is indicated in chronic cases uncomplicated by any other disorder. It should be given in gradually increasing doses. It may be combined with iron in anæmic cases thus :—

Liq. arsenic. hydrochlor. . .	♏iss.
Tr. ferri perchlor.	♏vj.
Glycerini	♏x.
Aquam ad	℥ij.

Pro dose.

In other cases it gives good results combined with ergot—liq. arsenic. ♏iss., ext. ergot. liq. ♏v. for a dose.

Calcium Sulphide, in doses of gr. $\frac{1}{10}$ or more, is specific in many cases, and may cure when arsenic and bromides fail.

Zinc Sulphate (gr. j. to gr. ij.), combined with belladonna (gr. $\frac{1}{8}$ of the green extract) in the form of pill, is valuable in very inveterate forms.

Sodium Salicylate, in full doses of gr. v. to gr. xv. every four hours, is the best remedy in cases complicated with acute rheumatism.

Calcium Chloride (gr. x. to gr. xx. in syrup) is excellent in cases where the tonsils are enlarged or a tendency to enlargement of glands exists.

SCARLATINA.

Scarlatina means a body full of special microbes, which by their irritant action inflame the throat and redden the skin with a scarlet rash, and subsequently cause a general exfoliation of the skin and linings of the kidney passages when the blood has ejected the bacilli.

It is not, perhaps, the deaths from scarlet fever itself that are to be most dreaded, as they are inevitable and to be expected in malignant forms of the disease. The sequelæ or after-effects of the fever in those who recover are most far-reaching in their power of maiming the structures of the body. Disease of the kidneys, permanent deafness, diseases of the joints, enlarged glands, are but a few of these sequelæ. The fever seeks out the weak points of the organism and starts them into unhealthy activity.

Treatment.

Rest in Bed.—Patients with scarlatina should always remain in bed, or in one room, out of draughts, until the skin-peeling has ceased. A chill induced by getting up too soon may bring on dropsy.

Isolation.—Where the patient lives in a densely populated district, or where there are other children in the same house, it is a wise measure to send the case forthwith to the hospital. If this is not done the patient can be effectually isolated in a room at the top of the house. Scrupulous attention to antisepsis will generally entirely check the spread of the complaint.

A sheet kept constantly wet with 1 in 40 carbolic lotion or formaldehyde lotion should be hung up outside the door of the room and suitable disinfectants plied freely in the room.

Diet.—Owing to the swelling of the throat and the state of the stomach, liquid nutriment of a kind suitable for fever patients must be alone given. Milk and lime water, grapes, jellies, barley water, and ice to suck are examples of suitable articles. Should the kidneys unfortunately become affected, the patient should be at once placed on an exclusive milk diet.

Inunction.—As soon as the skin begins to desquamate, it should be the attendant's object to prevent the germ-laden particles of skin from floating about in the air. This can be most effectually done by anointing the body freely with sweet oil or vaseline to which some disinfectant has been added. Inunction properly effected promotes skin action, eases the kidneys, and prevents the infection of others. A useful formula is as follows :—

Acid. carbolic.	℥ss.
Ol. eucalypt.	℥ss.
Vaselin.	℥iv.

Misce.

Aconite.—In the first onset of the disease, where the fever is high, aconite, in ♏j. doses of the B.P. tincture, combined with ℥j. liq. ammon. acetatis, is an excellent fever mixture to relax the arteries and promote skin action. A quarter of this dose should be given to children between two and ten years every half-hour for eight doses, then every two hours.

Bisulphite of Sodium gr. ss. every hour, in syrup, is a pleasant remedy, and is said to cut short, or at least to mitigate the severity of, the disease. It also greatly reduces the liability to after-effects. Sulphurous acid mixed with syr. aurant. is an equally pleasant remedy, and children like it.

Ammonium Carbonate.—A valuable stimulant in cases of the malignant type is ammonia, of which the carbonate is the best and most active salt to give. The dose is gr. ij. to gr. v., in a little syrup, or incorporated with an effervescing mixture.

Belladonna is strongly recommended by the homœopaths for aborting the disease.

Quinine is a favourite remedy with some practitioners, in doses of gr. ss. to gr. ij. of the sulphate every four hours.

Iron.—To prevent sequelæ, to promote strength, and improve the blood, iron is an invaluable remedy. It should only be given when the fever has subsided, and the syr. ferri iodidi, in doses of ɱxx. to ɱxxx., is the best form in which to administer it.

SCIATICA.

Neuralgia in the region of the buttock and back of the thigh is termed sciatica. The pain occurs in paroxysms shooting down the leg even to the foot. It is alternated with numbness, tingling, stiffness of muscles, and other highly unpleasant symptoms. The severity varies much in different cases. The sciatic nerve is the largest nerve in the body. It is deeply located in the buttock and back of the thigh, and is most difficult to reach by treatment. Sciatica arises in many ways, but the chief causes are constipation, rheumatism, and exposure to wet and cold. Uterine complaints, strains, or over exertion may likewise bring it on.

Treatment.

Rest in recumbent posture is essential in recent cases.

Antipyrin, in doses of gr. x. or more every four hours, is the best remedy for sciatica. It may be combined with other drugs to make it still more effective, such as gelsemium or actæa racemosa. Antipyrin is especially valuable in the early stages, and when the complaint is due to cold or exposure.

Tinct. Cimicifugæ, in doses of ɱxx. to ɱxxx. t.d., is also a remedy of known power. It acts well in combination with antipyrin.

Aperients.—A distended bowel is often the cause of sciatica. If constipation be present a brisk cathartic should be administered. Croton oil, in full doses, has been suggested

in such cases, but less violent aperients should be first tried. Guaiacum mixture (℥j. every four hours) is a useful alterative aperient to give.

Iodide of Potassium is a good remedy for sciatica caused by gout or rheumatism. Good mixtures are—

P.F. Vol. II. No. 8.	
Potass. bicarb. . . .	ʒij.
Potass. iodid. . . .	ʒj.
Spt. ammon. arom. . .	ʒiij.
Tr. colchici . . .	ʒij.
Aq. chlorof. ad . . .	℥vj.
Misce.	
℥ss. pro dose.	

P.F. No. 15.	
Pot. iodid.	ʒss.
Sodii salicyl. . . .	ʒj.
Vin. colchici . . .	ʒiss.
Magnes. sulph. . . .	℥ss.
Inf. gent. ad . . .	℥vj.
Misce.	
℥ss. pro dose.	

Sodium Salicylate in gr. xv. doses cures some, but fails in many cases. *Aspirin* is on the whole better. Give gr. x. in tablet form thrice daily.

Sulphur.—It has been suggested to wrap the affected part in bandages freely dusted with lac sulphur. This plan of treatment is undoubtedly efficacious in muscular rheumatism of the parts. It is equally effective in lumbago.

Blisters.—Embrocations of all kinds are of very little service. They do not influence the deeper parts where the nerve is located. Blisters applied alternately to the back of the hip, knee, and ankle are more effective, and seldom fail to reduce the pain. Even the actual cautery has been applied in inveterate cases, and with very satisfactory results.

Nerve Stretching.—By bending the thigh forcibly on the abdomen the sciatic nerve is put on the stretch, and cases of long standing have been cured at once by this procedure. Galvanism is sometimes of service, but often fails.

SCROFULA.

Consumption is scrofula affecting the lung, but scrofula may attack any other part of the body—the bones, the glands, and the joints. Scrofula is deposition of tubercle bacilli in a part, which cause it to increase in size and form a hard,

indolent swelling. The glands of the neck are the most usual sites for the germs to grow in. This disease attacks children worst, and may be inherited or acquired. Spring and autumn are its favourite seasons, and acute fevers bring it out if latent. Spinal curvature is due to scrofula of the vertebræ. White swelling is scrofula of the joints. Very enlarged glands and indolent ulcerations or abscesses signify scrofula of the glands,

TREATMENT.

Sea Air.—In the early stages, residence at the seaside, combined with judicious sea bathing, will generally work wonders. It may even completely annul the tendency. Margate has a high reputation in this respect.

Iodine.—The benefits of sea air and sea water are commonly attributed to iodine, but it is probable that the chloride of sodium and the greater preponderance of ozone have more effect, being relatively in considerable quantities. Still, iodine is a remedy having undoubted power in cases of scrofula. The tincture can be used locally as paint. Potass. iodid. and syr. ferri iodidi can be given internally at the same time. Burnt sponge (gr. x. to gr. xx.) was formerly much used as a remedy for scrofulous affections. It contains a small percentage of iodine.

Cod-liver Oil.—Those who suffer from scrofula are not necessarily thin, but their constitutions are weakly, and require support. Cod-liver oil or fats of a similar kind possess marked restorative properties. By improving the quality of the blood and strengthening the nervous system, the organism is put into a position to throw off this disease. Ol. morrhuæ is especially necessary in scrofula affecting the ear, eye, or nose.

Sulphur.—Many inveterate cases which resist other drugs yield promptly to sulphur : gr. iij. t.d. is the dose. It must be continued for a length of time, and, should it produce colic or diarrhœa, a carminative ought to be given with it. The internal treatment by sulphur may be combined with external applications, as in the case of iodine. The best way to apply sulphur outwardly is to make a paste of lac sulphuris

with water and apply it to the part on oiled silk or gutta-percha tissue, kept in place by a bandage. The influence of this is especially manifest in scrofulous disease of joints. For sores, abscesses, or ulcerating glands, the sulphides in doses of gr. $\frac{1}{10}$ to gr. ss. t.d. may act better than sulphur.

Arsenic.—When scrofulous glands require rousing, to stimulate them to healthy action, arsenic is one of the best drugs to give, in doses of ♏iij. to ♏v. of the solution after food.

Phosphorus.—To improve vitality and give the body power to drive out or throw off disease, resort should be had to phosphorus—the pure drug in doses of gr. $\frac{1}{50}$ to gr. $\frac{1}{30}$ in pill t.d. after food, or the hypophosphites in doses of gr. v. to gr. x.

Calcium Chloride.—Another exceedingly efficacious remedy in most forms of scrofula is chloride of calcium in doses of gr. x. to gr. xx. t.d.

Mercury.—It is a common practice in cases of white swelling to wrap the joint in what is called Scott's dressing—that is, ung. hydrarg. co. is spread on strips of lint, which are applied in rotation. Over this, adhesive plaster in strips is adjusted. Scott's dressing is most beneficial in the early stages of the disease.

Soft Soap.—In mesenteric disease or consumption of the bowels, in caries or inflammation of bone, and for enlarged glands, soft soap, combined with gentle friction, is a most useful resolvent.

Iodoform.—A usual remedy to apply to the indolent ulcerations of scrofula to promote healing is iodoform ointment. The same drug can be sprinkled on parts which are hardly accessible to a salve. It has lately been suggested to inject iodoform emulsion into chronic abscesses and scrofulous glands with due antiseptic precautions, and remarkable results are said to have been obtained.

Galvanism.—Where other remedies fail, strong electric currents passed through the part should have a careful trial. General or local massage and compression of indolent swellings are also of considerable absorbent and resolvent power.

SKIN (CARE OF).

A most important precept for the preservation of health is to care for the skin—to wash therefrom the dirt and excretions. If necessary ablutions are neglected the pores are half closed and unfit for their functions. More waste matter should be discharged through the skin than by the whole of the other excretory organs. If the glands are partly blocked the perspiration cannot get through, and the extra work of elimination must be done by the kidneys and lungs, and sometimes they are not capable of doing it. That marks the starting-point of a variety of unpleasant ailments.

The daily use of the cold bath in the morning is highly conducive to the preservation of health, not only by its cleansing effects—removing effete *débris* and keeping the pores open and capable of performing their natural function—but also by its bracing effect on the system generally, so fortifying it as to lessen the liability to take cold readily. Those people who cannot take the cold bath without a feeling of shivering afterwards should try the expedient of adding a little hot water to the bath, so as to 'take the chill off' and make it pleasant; and indeed this precaution should always be taken—in winter at any rate—as there are very few people to whom the shock of extreme cold is really beneficial. The use of the flesh brush before entering the bath is an excellent practice. It removes adherent *débris* from the skin, and by stimulating the vessels on the surface it tends to promote the afterglow which it is necessary should always be established.

The condition of the skin is a most important diagnostic indication in disease. When it is hot and dry it is a sure sign that there is something amiss, and when, either by the efforts of nature alone or under the influence of diaphoretic or sudorific remedies, it becomes moist and soft, this may be regarded as a favourable turning-point in the case. Hence the importance of this class of remedies. It can never be wrong, and may often be of inestimable advantage, to administer

such a remedy as liq. ammon. acet. whenever the skin is in the abnormal state mentioned, whatever may be the cause of it.

Soap and Water.—For a healthy skin there is nothing more wholesome and cleansing than soap and water. Rain or soft water is better for washing than hard water. It more effectually removes dirt and excretions, and it saves soap. Most hard waters can be made less hard by boiling or by adding a little washing soda. People who have naturally dry or delicate skins should be especially careful as to using both soft water and pure soap (or no soap). Many skin specialists insist strongly on the avoidance of all soap whatever in cases of disease of the skin. They recommend a thin gruel of oatmeal or starch for cleansing purposes (sometimes olive oil only), and they also forbid flannel next the affected part of the skin, and recommend that it should be replaced by, or lined with, linen or cotton cheesecloth.

Cosmetics.—From remote times there has been a demand, chiefly among the fair sex, for preparations 'to improve and beautify the complexion,' and the supply has been quite equal to the demand. There is good reason to suppose that many of these articles are of a simple and innocuous nature; but some of them contain ingredients which are far too dangerous for indiscriminate use. It will be in the recollection of many how one of them containing a dangerous proportion of hydrarg. perchlor. came to an untimely end a few years ago by a prosecution and conviction under the Pharmacy Act. A large number of cosmetics and face lotions will be found in 'Pharmaceutical Formulas,' Vol. I. The following is a useful 'face lotion' to obviate the injurious effects of sunburning and exposure :—

Zinci ox.	ʒij.
Glycerini	ʒiij.
Aq. coloniensis	ʒiv.
Liq. plumbi diacet.	ʒss.
Aquam rosæ ad	℥vj.

Misce.

Shake, and dab on the parts night and morning.

Lait Virginal is a celebrated cosmetic, which is made by pouring gradually simple tincture of benzoin into ordinary water until a beautiful perfectly white liquid is formed ; about ℥ss. to Oj. will be required. It is supposed to preserve the freshness of the skin, but in reality it merely, on evaporation, leaves a thin resinous stratum.

Exercise.—For cosmetic purposes exercise must be sufficiently brisk to allow of free perspiration. The skin all over while moist should then be rubbed dry with a cloth. This is nature's cosmetic—a wiping-off of dirt and *débris* when it has been dissolved or softened by the perspiration itself.

SMALLPOX.

An attack of smallpox comes on abruptly, with high fever, severe pain in the back, headache, and vomiting. The intensity of these symptoms is a gauge of the severity of the impending attack. In a mild case the eruption spots are distinct or discrete. In a severe form they are confluent or hæmorrhagic, running into one another to form one mass of conglomerate eruption.

Treatment.

A smallpox patient should be kept in bed in a well-ventilated and darkened room or ward. The more air he has the better will he progress. The room and everything connected with the patient should be freely plied with disinfectants, formaldehyde solutions being especially valuable, partly to keep down the sickening odour, chiefly to destroy contagion. Occasional change of posture tends to prevent bedsores. When the eruption begins to itch, the hands should be muffled or tied, especially during sleep. Scratching is the main cause of excessive pitting. Clothing and contaminated linen should either be burnt or thoroughly disinfected by boiling in some liquid antiseptic.

Diet.—The diet should be light, suitable to a fever patient—supporting, because the powers of life are weakened.

Antiseptic Treatment.—This being an acute microbic disease, the antiseptic treatment, both internally and externally, should be resorted to freely from the first to mitigate the severity of the symptoms, and to disinfect the human body when it most wants disinfecting. The two remedies which hold out the most hope of averting disfigurement are sulphur and mercury.

Mercury.—Solution of perchloride of mercury in iodide of potassium is probably the best form in which to administer this powerful germicide. The following would be a good formula to use :—

Liq. hydrarg. perchlor. . . .	ʒiv.
Potass. iodidi	gr. xl.
Aquam ad	ʒviij.

ʒj. every two hours.

This remedy would necessarily require more careful watching than sulphur, owing to its being an active poison to the economy, while sulphur is a disinfectant natural to the body and always in it, except when fevers use it all up. Ung. hydrarg., ung. calomel. (ʒj. to ℥j.), or calomel as a dusting powder can be applied locally.

Quinine.—An excellent remedy to restore strength when the eruption is subsiding is tinct. cinchonæ (ʒj. t.d. in water), or

Quininæ sulphatis	gr. j.
Ac. hydrobromic. dil. . . .	♏xx.
Tinct. aurant.	♏x.
Aquæ	℥j.

T.d.s.

Remedies to Prevent Pitting.—On the third or fourth day of the fever the smallpox eruption usually appears. It is in the form of small, hard pimples, feeling like shot under the skin. These gradually increase in size. At first they are watery (vesicles). Then they become filled with matter (pustules). Lastly they break down and become crusts, and the scars that they leave behind are called pits. To avoid pitting the pustules must be prevented from breaking, and many

means of effecting this have been suggested. Keeping the patient in a darkened room or with a mask on is a great help. Vesicles can be punctured with a needle dipped in solution of nitrate of silver (gr. xx. to ℥j.). Collodion, Carron oil, a mixture of zinc oxide and cream, or ung. zinci oxidi, by allaying itching and protecting the parts, would tend to prevent scratching and afford protection from the atmosphere. Such remedies can be used in conjunction with antiseptic treatment.

SORE THROAT.

In the great majority of cases, sore throat is merely one of the early symptoms of a common cold. The fauces become swollen and reddened, and there is dryness and pain in the act of swallowing. It is a simple ailment, and amenable to simple treatment. More serious forms of sore throat are when the parts either become ulcerated or take on somewhat of a diphtheritic aspect, having the white appearance characteristic of that affection, without, however, its constitutional symptoms being present. Further, it must never be lost sight of that sore throat is one of the symptoms of incipient scarlatina and diphtheria—two very grave diseases which may always be suspected, and which will be indicated by other constitutional symptoms.

Treatment.

When sore throat is one of the symptoms of a feverish cold, internal treatment by means of diaphoretics is necessary. Either the acetate or the citrate of ammonia will be suitable :—

Tinct. aconiti	♏xij.
Liq. ammon. acet.	℥iss.
Aq. chloroformi ad	℥vj.

A tablespoonful every hour or two.

Local treatment, especially in the initial stage, is best effected by means of salines, such as chlorate of potassium, borax, or sodii bicarb. The compressed tablet of the first of these is

a convenient and very effectual means of administering it. A tablet should be kept constantly in the mouth and allowed to dissolve, which it does very slowly. These salines may also be exhibited in the form of gargle, ʒj. of either of them being dissolved in ℥vj. of water, and a little glycerin added. An alternative mode of treatment is by astringents. Of these none is more useful than alum, and it may be used thus :—

Aluminis	ʒj.
Glycerini	ʒiv.
Inf. rosæ acid. ad	℥vj.

Ft. gargarisma. Sæpe utendum.

Tannin also will be found useful, either as gargle (gr. vj. or gr. viij. to ℥j.) or as glycerin of tannin applied with a large camel-hair pencil. Tincture of catechu may be painted on in the same way. Dilute sulphuric acid also makes a good astringent gargle (ʒj. in ℥iv. water), and many other astringents will suggest themselves. Capsicum, which used to be a popular remedy, both as lozenge and gargle, cannot be recommended, unless perhaps in very chronic cases, where stimulation is called for.

Such remedies as iodine, menthol, eucalyptus oil, and carbolic acid will be found useful in advanced stages of the complaint. The following is a favourite form for employing the first of them :—

Iodi	gr. vj.
Potass. iodid.	gr. xx.
Ol. menth. pip.	♏vj.
Glycerinum ad	℥j.

Shake and apply with brush night and morning.

Menthol can be used by means of a spray or atomiser, if dissolved in liquid paraffin, 15 or 20 per cent. Eucalyptus oil and carbolic acid are best exhibited along with steam by means of an inhaler, a few drops of either being added to the boiling water.

External remedies, with the view to drawing the irritation to the surface, may be employed with advantage. Lin. camph.

co. or some similar stimulating liniment should be applied until the surface is well reddened, or a handkerchief soaked in tepid water may be put round the neck at night, covered with another one dry, or by jaconette, and allowed to remain all night.

For the white sore throat—so-called diphtheritic—the best treatment is by chlorate of potassium, both internally and applied locally: gr. v. to gr. x. should be taken thrice daily, and a saturated solution, with the addition of glycerin (℥j. to ℥j.), used as a gargle frequently. In many cases the addition also of perchloride of iron (℥ij. tinct. to ℥vj.) may be made with advantage.

When sore throat takes the form of ulceration the best remedy is nit. argenti. A solution of ℈j. in ℥j. aq. destill. should be brushed over the affected part with a large camel-hair pencil night and morning. Permanganate of potassium is also an effective remedy in such cases. A solution of gr. j. to ℥j. water may be used frequently as gargle, or if made twice or three times that strength it may be applied with a pencil.

The following is Dr. Whitla's anæsthetic gargle, which is of great service when there is much pain in swallowing:—

Cocain. hydrochlor.	gr. viij.
Acid. carbolic.	℥j.
Glycerini	℥iv.
Aq. rosæ ad	℥xij.

S. et M.

TEETHING.

The temporary teeth are twenty in number, and commence to come through from the sixth to the ninth month. This is the order in which they usually appear: Two lower front incisors, two upper incisors, two lower lateral and two upper lateral incisors, four first molars, four canines, and four second molars. At the end of two years a child should have all its temporary teeth, but great variation in the time or order of cutting teeth is quite consistent with sound health. Delay

results from feeble health, improper feeding, and especially from rickets. Tardiness in talking or walking is frequently caused by delayed dentition.

A child may cut its teeth without any trouble at all. At other times it may be hot and feverish, restless, with tendency to diarrhœa, bronchitis, or convulsions. In the nature of things teething is not an ailment, but while it lasts the child often gets many troubles which are spoken of as 'teething.' It is not teething that induces gastro-intestinal catarrh, but gastro-intestinal catarrh that induces painful teething. The mouth as a part of the intestinal tract suffers at the same time as the stomach and intestines, and the tooth erupts through a gum already tender. The intestinal catarrh is to be attributed to dirty milk or other improper food. Similarly, convulsions are common in rickety children, and the slight reflex disturbance of cutting a tooth in an unhealthy child may determine a fit at that time; the complete eruption of the tooth is, however, seldom followed by immediate cessation of the fits. The gastro-intestinal condition is, again, of great importance. At present it is not proved that 'teething' by itself can give rise to feverish symptoms. It is noticed that such symptoms are followed by a failure of secretion of digestive fluids; local irritation of the gums causes food to be bolted, and the child's fretfulness is ascribed to hunger; more food is given to keep the child quiet, and the whole process ends in gastro-intestinal catarrh and diarrhœa.

Management.

Proper Food at Regular Times.—Children who are tardy in cutting their teeth are either weakly or improperly fed. The diet up to the time the first tooth is cut should consist entirely of milk. Thereafter a little farinaceous food may be given.

Sleep.—Regular habits of sleeping must be cultivated. Sound repose enables baby to digest food, and gives support to the rapidly growing structures.

Washing.—Every baby should be washed daily, and kept clean and sweet in every way. The child should have its head cool and its feet and hands warm.

Inunction.—Whenever a child is restless and peevish the best preliminary treatment is an oil bath—'inunction,' as it is called. This consists in rubbing the entire surface of the body from head to foot with olive oil or any kind of fat, and then wrapping the tiny sufferer in a blanket. Inunction is safe and harmless, and is far preferable to hot baths. It restores skin action, produces quiet refreshing sleep, and relief of congested deeper parts.

Laxatives.—Castor oil and magnesia—the latter either as the powder in milk or as fluid magnesia—are the best laxatives for young teething children. When there is gastric disorder, indicated by green or discoloured stools, hyd. c. cretâ, one or two grains, plain or combined with as much p. rhei, is a remedy which rarely fails to give good results; or teething powders, 'Pharm. Form.' II., 13, 15, 16, p. 367, will be found very useful. The following is an exceptionally useful powder, which stimulates the liver, opens the bowels, corrects acidity, and stops fretfulness, the last property being due to phenacetin:—

Hydrargyri c. cretâ	ʒj.
Pulveris rhei	ʒiss.
Sodii bicarbonatis	ʒiiss.
Phenacetini	ʒj.
Olei anethi	♏iij.

Triturate the oil with the grey powder, add the bicarbonate and other ingredients, and mix well.

Doses: Up to three months, 3 grains; up to six months, 6 grains; and half a grain for each additional month, up to 10 grains for a sixteen months' child.

When the stools lack colour, half a grain to one grain of calomel or grey powder, with twice as much sugar, at bedtime is effectual in opening the bowels and soothing the youngster to sleep.

Lancing the Gums.—When there is a tendency to restlessness and convulsions, caused by dentition, the points of

the irrupting teeth can be thoroughly rubbed through by means of a piece of lump sugar, or the gums may be lanced with a proper gum lancet.

Potassium Bromide.—The best drug to allay fever and irritability in teething is potassium bromide in gr. iij. to gr. vj. doses every four hours, combined with syr. aurant.; or teething powders Nos. 15 and 19, 'Pharm. Form.' II., p. 508. Chloral, syr. papav., and opiates are unsafe for this purpose.

Alkalies, such as magnes. carb., fluid magnesia, or creta præparata, combined with tr. zingib. and spt. myrist., are useful for the violent griping pains caused by acidity. Most of the carminative mixtures in 'Pharm. Form.' II., p. 484, will be found very satisfactory and quite safe.

Lime Salts.—When dentition is greatly delayed from improper feeding, rickets, or ill-health, lime to consolidate the bony structures is the best remedy. This can be given in the form of lime water mixed with food. In more severe cases the hypophosphite of lime in doses of gr. j. to gr. iij., or even more, t.d., will have a more powerful and quicker effect. As cod-liver oil may be regarded as a valuable food in these cases of faulty nutrition, emulsion of cod-liver oil with hypophosphites would be the best remedy to suggest.

THRUSH.

This is a fungoid growth which takes up its quarters in the mouth of a new-born infant. Baby's mouth is perhaps the most favourable site that a fungus could select to grow upon and flourish. Breathing supplies it with a current of air, and the temperature is warm and equable. Milk alone is the child's proper food, and it should not receive anything else until the saliva begins to flow, as the oïdium albicans—the 'thrush'—grows readily on any starchy or saccharine matter which adheres to the child's mucous surfaces. If the mould once takes hold, the particles of fungus are carried through the digestive organs, producing eruptions and interfering with digestion.

TREATMENT.

Diet.—Mothers and nurses should be urgently warned not to give sugar, butter, gruel, &c., to new-born babies. A child can go for three days without food until it obtains its natural milk, and it does not want anything till then. A child suffering from thrush must take the breast through a nipple shield, otherwise the nipples will become irritated.

Glycerinum Boracis is probably the best remedy for thrush. It is preferable to use glycerin, but the borax may also be used mixed either with honey or sugar, a little being gently applied with the finger to the affected surface.

Sulphite of Sodium.—A 1-to-8 solution applied early will arrest the growth before it has done much harm.

Change of Air should be tried when the complaint shows signs of ameliorating. It is often magical in its effect.

TOE-NAIL (INGROWING).

Those who squeeze their feet into tight boots suffer untold miseries in consequence : ingrowing toe-nail is one of them. Pressure from without forces the nail into the flesh. Neglecting to pare the nails timeously is also a frequent cause of this ailment. It is an exquisitely painful complaint, but is easily cured.

TREATMENT.

The best treatment is, undoubtedly, to pack carefully a thin strip of cyanide gauze between the nail edge and the nail fold, removing and re-packing each day until cured : some cases can be cured by packing the groove in a similar manner with powdered boric acid.

Boots or Shoes should be made from lasts moulded from the feet, and should fit well and comfortably, being neither too tight nor too large.

Grooving Nail.—By means of a small file or a sharp penknife a longitudinal groove or furrow should be made up the centre of the ingrowing nail. This practically divides the nail into two portions and at once takes the pressure off the

ingrowing part. The relief is immediate and lasting. Another plan is to scrape the upper surface of the nail for a little way in from the front, so as to make it *thin* and incapable of entering the flesh. Evulsion, or forcible removal of the whole nail, is seldom needed.

Liq. Ferri Perchlor. Fort. is an admirable remedy for ingrowing nails. With the aid of a match or splinter of wood, put a drop of the solution in between the nail and the raw flesh. The styptic property of the iron solution at once relieves the pain, and in the course of twenty-four or forty-eight hours the hydrochloric acid has dissolved out the lime salts, leaving nothing but dead cartilage. This can easily be removed by a sharp knife, and the nail pared down, so that no further pain will be felt for many months.

Cocaine.—A strong solution, 10 per cent. or more of the hydrochloride, may be used to relieve extreme pain.

TONGUE (FEATURES OF).

The tongue has always a tale to tell ; that is why a physician looks at it. The appearance of the surface demonstrates the inner workings of the organism. A clean tongue is a usual accompaniment of health, but a coated tongue is not necessarily a sign of disease. Some people with irritable systems and atonic dyspepsia have unusually clean tongues. They are difficult cases to treat satisfactorily. A coated tongue may arise from local causes, such as bad teeth, sleeping with the mouth open, excessive smoking, but the more usual cause, in the absence of a fever, is deranged stomach. Fur on a tongue is food *débris* mixed with epithelial scales and germs, and to remove it effectually attention must be directed to the stomach.

TYPHOID OR ENTERIC FEVER.

The specific typhoid microbe is introduced to the stomacq through the medium of food, of milk, and water. It singles out the glands of the bowel (Peyer's patches they are called)

for its destructive habitat. These glands become inflamed and ulcerated. It takes three weeks usually for them to heal up, and so the disease continues until they have cicatrised. During this time the characteristic symptoms are diarrhœa—the evacuations resembling pea soup, and often containing blood—and a sparse rose-coloured eruption over the abdomen appearing after the first week. The amount of fever, eruption, pain, or delirium depends on the severity of the ulcerative process. By a study of the symptoms the degree of ulceration can be gauged. Some victims die exhausted long before the turning-point has come, others bleed to death from the eating away of blood-vessels, or succumb to peritonitis the result of perforation of the intestine. Happily, the knowledge of the causation of typhoid fever is now so accurate that the extension of an epidemic is at once prevented. The medical officer of health, on a case being notified to him, forthwith institutes inquiries as to the water and milk supply of the neighbourhood, and the threatened epidemic is nipped in the bud.

Treatment.

Hygiene.—The patient should lie in a well-ventilated room, from which all superfluous furniture or drapings have been removed. In winter a fire will help ventilation. Great cleanliness must be observed, and all discharges which contain the contagion must at once be adequately disinfected. In severe cases with much delirium, two trained nurses must be procured, one for the night, the other for the day. The friends should notify the disease to the proper authorities, and take steps to ascertain the purity of their milk and water supply. It is a wise precautionary measure to boil both the milk and the water, to destroy any germs they may possibly contain. The patient should if possible lie on a water-bed, which reduces the chances of bedsores when he is at the most critical period. Also, if the fever is abnormally high, it is an excellent and safe procedure to reduce the temperature by placing iced water in

the bed. This is far preferable to the ordinary cold bath or cold sponging.

Expectancy.—It is the usual practice to subordinate everything else to scientific nursing and simple dieting such as suggested. This, it is thought, affords the patient the best possible chance of getting well. The physician merely, as it were, guides Nature while she makes her curative efforts to heal the ulcers.

Diet must consist entirely of milk, with or without lime, soda or seltzer water, and not more than three pints daily should be given. A little beef tea or meat juice may be permitted occasionally. All food must be administered at regular intervals and in measured quantity. No other food whatever must the patient have unless the doctor advises it.

Alcohol.—As a rule stimulants are prejudicial during the course of the disease, but, when convalescence has started, port wine or champagne jelly may be used to build up the strength by improving digestion.

Glycerin for sweetening purposes is useful as an aliment and as a mild antiseptic.

Opiates are called for to control excessive diarrhœa or pain and any severe complications. By its constipating effects in arresting peristaltic movements opium at times is invaluable.

Antipyrin gr. x. or more is employed to reduce fever if abnormally high, but only when the heart is strong.

Poultices to the right side of the abdomen, or, better still, hot poppy fomentations, are valuable for acute pain.

Ergotin hypodermically (gr. j. to gr. iij.) for hæmorrhage. Adrenalin has also been used successfully for this purpose.

Intestinal Antiseptics.—The remedies which hold out the greatest prospect of prevention or cure are those which act as antiseptics to the intestine, and thereby heal the ulcerated patches. Unfortunately the majority of these, such as arsenic, calomel, iodoform, salol, or salicylic acid, are so irritating that their use is attended with much danger. Antiseptics which hold out hope of cure are eucalyptus oil (mv. in emulsion),

quinine sulphate (gr. iij. every four hours), sulphurous acid, and Izal (mxiij. of medical oil).

Other Medicines.—Acetozone, or benzozone, is a typhoid remedy of value. It is said to be a germicide of great power and entirely non-poisonous. It is given in aqueous solution, 1–1,000, as much as the patient can drink. Naphthalene (gr. ij. in pill) also has a deodorising effect on the intestinal contents. Sulphurous acid, in doses of mxx. every four hours, has marked effect as an internal antiseptic, and is found of signal benefit in cases of typhoid fever. Various drugs used in the form of injections, such as alpha-naphthol, guaiacol, hyposulphite of sodium, partly by absorption, partly by neutralising the poisons of the rectum, are helpful to the liver. Suitable purgatives, such as cascara, aloes, and natural aperient waters, promote intestinal asepsis by carrying off effete matter.

ULCERS.

Whenever a portion of the living animal-substance is subjected to a process of disintegration or molecular death it is said to be ulcerating. An ulcer may be an outlet by which the system rids itself of poisonous retained products. Those who are debilitated by privation or intemperance, and those who are tainted with syphilis or scrofula, are most liable to ulceration. Whenever the circulation is languid or deficient, the parts that suffer most are the extremities. Ulcers of the leg are very common. Tall, stout persons are the greatest sufferers. Ulceration is Nature's way of curing certain diseases, or of removing diseased or dead portions of flesh or bone.

When a part is injured physically and the wounds are external, ulceration cures them. If a structure is naturally so diseased as to be partly dead, ulceration and disintegration of the weak part occur. This happens to the apices of the lungs in cases of consumption. An ulcer is always dangerous, and should, whenever possible, be healed.

Treatment.

Rest.—In leg-ulcers absolute rest in bed or on a sofa may be the only way of curing them. Standing or sitting with the legs down should be avoided.

Bandages.—Where there is much swelling of the surrounding parts, the support of a rubber bandage will do wonders. If but little discharge, and the ulcer is small, an elastic stocking is cooler and more ventilated. Strapping, by means of strips of adhesive plaster, is a favourite hospital treatment for bad legs.

Ung. Zinci Oxidi applied on lint is the best treatment for superficial inflamed sores. It may be mixed with an equal part of ung. hydrargyri ammon. if stimulation is needed.

Ung. Resinæ, alone or combined with an equal part of ung. calaminæ, is a good drawing stimulating ointment for indolent ulcers.

Ung. Hydrarg. Ox. Rub. (℥ss. to ℥j. adipis benzoati) is the most suitable application for chronic deep-seated ulcers of the leg.

Iodoform has extraordinary efficacy in healing ulcers if they have not advanced beyond the healing-point. It may be dusted on or applied as an ointment (gr. x. with ol. eucalypt. ♏v. to ℥j. vaseline). If the smell is much objected to, iodol or aristol can be substituted, but they are not so certain in their action.

Carron Oil, or equal parts of aqua calcis and ol. olivæ, is useful in recent acute ulcerations with much pain and inflammation.

Pepsin, dusted on or used as an ointment, has been suggested for unhealthy sloughing wounds to digest away the unclean portions. It does this effectually, but the application is rather painful.

Distilled Witch-hazel, on lint or wool, should be employed for blood-oozing or for bleeding from an injured or varicose ulcer.

Opium, gr. ss. to gr. j. in the form of pills, acts like a charm on the ulcers of aged people, whose lives are in addition frequently prolonged by its stimulant-sedative effect on the system. In a smaller degree alcoholic beverages act similarly.

Potassium Chlorate, given internally (gr. xx. t.d.), and applied externally as a saturated solution, has been well spoken of in recent cases.

Potassium Iodide, gr. v. or more, for syphilitic or scrofulous ulcers, is unexcelled. The syr. ferri iodid. (ɱxx. to ɱxxx.) is a better preparation for the unhealthy ulcerations of childhood.

Lotions.—Some ulcers require lotions for their cure. The following are examples of these: Zinc chloride gr. xx. to Oj.; zinc sulphocarbolate gr. ij. to ʒj.; spt. vin. rect. used pure; alum ℈j. to ʒiv.; potass. permang. gr. j. to ʒj.; lotio rubra—*i.e.*, zinc sulphate gr. ij., tinct. lavand. co. ɱxij., aquæ ʒj.; acid. boric., saturated solution; calamine and lead lotion; lotio nigra. All such lotions have their uses, and will suit the peculiarities of a variety of patients.

In all cases of 'ulcer,' in addition to local remedies, constitutional treatment, varying according to the nature of the case, should be attended to.

URINE (INCONTINENCE OF).

The urine is an excretion derived from the blood during its passage through the kidneys. It is composed of water, holding in solution the soluble refuse of the tissues. A healthy person passes water about four times a day, but if the urine is perverted or irritating, it may be passed much more frequently. An inability to retain the water at night during sleep is a common symptom among children, of those with unhealthy constitutions, irritable brains, or of the carelessly brought up. A child should be taught early the necessity of regular habits. Systematic emptying of the bladder is almost as essential as daily action of the bowels. Incontinence may be caused by the irritation of worms; by errors of diet, such as too rich or

too stimulating foods ; or it may originate from mere indolence and bad habit. This same unpleasant symptom is noticed in diseases of the brain or spine, or as a result of the mechanical influence of extreme coughing.

Treatment.

Hygiene.—Bedwetters should avoid mental excitement. They should be allowed open-air recreation, and not do any home lessons, and they should be made to sleep on a hard mattress without many bedclothes. The child should be made to empty the bladder before retiring, and in order to avoid heavy sleep should be wakened in about two hours. To avoid lying on the back a cotton-reel may be adjusted over the lower part of the spine. Warm baths and cold sponging of the back are distinctly useful in cases of nervous origin, and may be combined if necessary with galvanism.

Circumcision.—If the ailment is due to physical causes or defects this operation may be confidently recommended.

Diet should be rigorously plain but wholesome—a very little meat and no rich dainties or sweetstuffs. Salted or acid foods are to be avoided. Alcohol, or tea and coffee are bad for children. No drink of any kind should be taken for at least an hour before retiring to bed.

A Blister to the nape of the neck can be safely suggested in cases of neurotic character.

Belladonna.—♏v. to ♏x. of the tincture twice or three times a day, or a belladonna suppository, is a most reliable remedy. Children tolerate this drug well. The addition of potassium bromide gr. x. to each dose of the tincture increases its efficacy. Iron also may be given along with it with great advantage in the case of delicate children. The following can be recommended :—

Tinct. belladonnæ	℥ij.
Ferri et ammon. cit. . . .	℥ij.
Syr. aurant.	℥iv.
Aquam ad	℥iij.

Misce. ℥j. t.i.d.s.

Strychnine to strengthen the action of the spinal centres; its use is indicated in cases where the nerves require to be toned or braced up.

Tinct. nuc. vom. . . .	♏j. to v.
Syr. aurant.	ʒj.
Acid. phosphoric. dil. . .	♏iij. to viij.

is a good combination. In adults full doses of the same remedies are largely prescribed in forms of paralysis affecting the bladder.

Tonics, especially syr. ferri iodidi (♏xx. to ♏xxx.), are useful to improve general health. Ol. morrhuæ may be given along with the syrup to delicate strumous children.

URTICARIA.

Urticaria, or nettlerash, is a transient skin eruption marked by the presence of wheals similar to those caused by nettle stings. Some persons have an irritable skin, and a slight cause will bring it on, such as scratching, rubbing, or bathing. Nervous worry, uterine irritation, a perverted liver, and other malign influences are exciting causes. The chronic form of nettlerash is very obstinate. Digestive derangement is the most frequent factor in producing the eruption. There are certain foods and drugs which act as veritable poisons to the skin, through the medium of poisoned blood and a system full of acid. 'Hives' is the name under which the urticaria of children goes. *See* p. 116.

Treatment.

Hygiene.—Great cleanliness must be observed. It is best to wash morning and evening, as the use of water removes wheals. Warm baths greatly soothe the skin. Alkaline or starch baths are used in obstinate cases, or a course of Turkish baths may be suggested in cases having a gouty or rheumatic origin. A piece of bacon fat rubbed on the part is said to remove wheals.

Diet.—All forms of shellfish are to be forbidden. The eating of such food is a frequent cause of nettlerash. Vege-

table acids, such as vinegar, pickles, sauces, or lemon juice, are highly prejudicial. An exclusive milk diet may be the only means of curing an inveterate case.

Acids Internally.—Dilute nitromuriatic acid (♏xx. t.d.) by eliminating uric acid, a cause of urticaria, is often beneficial. In this it differs markedly from its vegetable prototypes. It may be given in combination with tr. nuc. vom. or quinine and iron.

Acids Externally.—Strange to say, vinegar sponged on the parts greatly relieves the eruptive symptoms, or the parts may be rubbed with the freshly cut end of a lemon. Lotions of carbolic acid (1 to 40), chloral hydrate (℈j. to ʒj.), lead acetate and calamine (ʒj. of each to ʒiv.), or glycerin 1 to 7, are useful applications to allay the itching and tingling.

Alkalies.—What are called blood alkalies are curative, such as the bicarbonate or citrate of potassium (gr. xx.) or effervescent citrate of magnesia (ʒj.). The latter may be selected where a mild laxative is needed, or seidlitz powders may be suggested.

Aperients, such as podophyllin, rhubarb, cascara sagrada, by their tonic laxative properties, remove irritants and improve digestion.

Potassium Bromide is an excellent drug in urticaria of nervous origin, accompanied by headache or loss of sleep.

Arsenic, in inveterate cases, in the form of liq. arsenic. ♏iij. to ♏v. or liq. Donovani ♏x. to ♏xx. These are efficient, if powerful, remedies where alterative action is necessary. Tinct. iodi ♏v. or potassium iodide gr. v., combined with potassium citrate gr. xx., is even better.

VACCINATION.

Management.

The vaccination pocks are generally at their height on or about the eighth day. The child is apt to be a little fretful for a day or so. A shield, by protecting the parts from the friction of the clothing, helps to make baby more contented.

Parents should be strongly advised not to use an old shield or a borrowed one. If there be more inflammation than ordinary, a little zinc ointment applied on lint, and renewed frequently enough to prevent the lint sticking in, will generally suffice to abate it.

VARICOSE VEINS.

Every vein is possessed of valves, which enable the current to flow freely in one direction only. When a vein is dilated its valves cease to be efficient—it has become varicose. The vessels are seen under the skin ; they are dilated, tortuous, knotted, and the limb is discoloured and swollen. Varicose veins are almost exclusively confined to the superficial vessels of the lower limbs, or to the spermatic veins. The latter is called varicocele. Excessive standing, tight garters or stays, pregnancy, constipation, and disorders of the circulation are the most usual starting-points.

Treatment.

Serious and even dangerous consequences may result from the bursting of the affected veins. Should the bleeding be excessive, the limb should be raised as much as possible, and the bleeding treated as under 'Hæmorrhage.' A peculiarly obstinate ulceration also is often the result of this rupture, and it must be treated accordingly.

Stocking.—An elastic stocking affords that support to the vein which the valves can no longer give. The elastic pressure prevents them from getting worse. A stocking should fit well and comfortably. Prolonged exercise or standing should be abstained from. A varicocele requires the support of a suspender.

Laxatives should be given to obviate constipation, which always aggravates the complaint. Natural aperient waters and cascara sagrada are best.

Operation.—If the presence of varicocele is a bar to a candidate's entry into the public services, or if a radical cure is wished, an operation must be resorted to.

VENEREAL DISEASES.

GONORRHŒA AND GLEET.

Gonorrhœa is the most prevalent of all venereal complaints. A simple case may get well in a few weeks if cared for; but when neglected or in a severe form, complications often arise. Gleet (the chronic form of the malady), orchitis (swollen testicle), stricture (a narrowing or occlusion of the urinary passage), inflammation of the bladder, and blood poisoning are the chief after-effects of gonorrhœa in males. In women the perniciousness of the virus is equally marked. It inflames and cripples the sexual organs, and is an active cause of sterility in both sexes.

The first symptoms are heat and scalding in making water, and the discharge of a thickish yellow matter. In the course of time, and under appropriate treatment, this may pass away, or it may pass into the form of gleet, in which the inflammatory symptoms are abated, and the discharge assumes a thin and glairy consistence. This phase of the complaint often continues for a very long time, resisting almost every form of treatment, and may suddenly pass away without any apparent cause. A very painful symptom in gonorrhœa is often caused by an erection of the penis during sleep. This is called a chordee, and can be averted by a full dose of liq. morph. hydrochlor. at bedtime.

Treatment.

Rest.—Every sufferer from acute gonorrhœa should keep as quiet as possible and avoid exercise until the symptoms have subsided. In the military hospitals it is customary to keep patients in bed. A suspensory bandage should be worn, and the greatest attention paid to cleanliness locally.

Diet.—The diet should be extremely bland, with little meat and plenty of barley water and milk and soda water to drink. Alcohol in every form should be rigorously avoided.

Abortive Treatment.—If the disease be diagnosed within three days after infection—*i.e.*, during the incubation stage—the patient should take to bed, just as if he had a severe cold, and have the abortive treatment carried out under the supervision of a medical man. A good purgative is administered (calomel gr. v. and Apenta water), the action being maintained with a saline aperient (*q.v.*). The urethra is washed with strong silver nitrate solution (gr. xx. to ʒj.) after the parts have been anæsthetised with cocaine hydrochloride. This is to be done after micturition, morning and evening, for two days. On the second day the urethra is irrigated with boric acid solution (saturated and at body temperature) every four hours. If the patient's temperature is above normal (as is not infrequently the case), it is kept down with salol in gr. x. doses.

Copaiba, Cubebs, and **Sandal** are the specific remedies for gonorrhœa, and may be given in both acute and chronic stages, and they may be exhibited either singly or combined with one another. The capsule is a desirable mode of using copaiba, or a paste composed of it along with cubebs can be taken wrapped in wafer paper, *e.g.* :—

Pulv. cubebæ	ʒij.
Copaibæ	ʒj.
Ol. cubebæ	♏xv.
Pulv. cinnamomi co. . . .	ʒj.
Camphoræ	ʒss.
Ol. cassiæ	♏x.

Misce.

The bulk of a small nut, wrapped in wafer paper, thrice daily.

The sandalwood oil can be dissolved in spirit and taken plain, followed by a glass of water, as in 'Nisbet's Specific' :—

Ol. santali flav.	ʒj.
Ol. pimentæ	ʒj.
Ol. cassiæ	ʒss.
Sp. vini rect. ad	ʒiv.

Misce. ʒj. t.d.s.

Saline Aperients.—In the early stages where there is heat and swelling it is indispensable to employ cooling saline aperients, and these must be used at the same time as the specific remedies. Some medical men restrict their treatment of the earliest stage to these saline remedies alone, *e.g.* :—

Potassii acet.	ʒvj.
Potass. bicarb.	ʒiv.
Aquam ad	℥viij.

Misce. ℥ss. ex cy. aq. larg. quater die.

Sodii tartarat.	ʒij.
Sodii bicarb.	℈ij.

M. Ft. pulv. Omni mane sd. ex ℥vj. aq.

Liq. Buchu, Cubebæ, et Santal. Flav. is an excellent remedy in chronic forms which require stimulation, in doses of ʒj. t.d.

Injections.—These should not be used in the early stage, unless in the manner indicated above ; but when that has passed—indicated by the abatement of inflammatory symptoms and a change in the appearance of the discharge—they are of great service. A sufficient quantity to use is ʒij., after the patient has passed water—never before doing so—three times daily. The following are examples of suitable injections :—

Zinc Chloride gr. j. to water ℥j.

Zinc Sulphate or Sulphocarbolate gr. ij. to ℥j.

Mercury Perchloride gr. j. to water ℥vj.

Cocaine.—The addition of a few drops of 2 per cent. solution is useful to allay extreme pain after passing water.

Silver Compounds.—A large number of organic compounds of silver (such as protargol) have during recent years been introduced as anti-venereals, with the recommendation that they are less prone than the nitrate to favour the onset of stricture.

Medicated Bougies, made with cocoa-butter or gelatin, and containing iodoform and eucalyptus oil or other drugs,

will cure some cases of gleet when injections or internal remedies entirely fail. The passage of an elastic catheter will do the same.

Ext. Ergot. Liquid. (ɱx. to ɱxx.), combined with zinc. oxid. (gr. ij.), will occasionally arrest obstinate gleet. Tinct. ferri perchlor. in doses of ɱxxx. is a similar remedy.

SYPHILIS.

Only doctors can realise the widespread havoc caused by syphilis. No blood-poison disease is so universal, so destructive, and so far-reaching in its effects. Nature makes scarcely any attempt to rid the system of it. She is either unable or unwilling to cope with it. Syphilis is the most prolonged of all contagious diseases. It lingers in the system, and insidiously creeps into every nook and crevice of the body. It is, besides, hereditary, descending to the third and fourth generation. Syphilis first shows itself about three weeks after contagion, as a peculiar ulcer or sore, termed a hard chancre. This is the first indication of its presence. In one to three months more, the secondary symptoms appear: enlarged glands, sore throat, varied skin eruptions, loss of hair, and in severe cases disease and destruction of the nose and throat structures. Some years after this, slight causes will develop sequelæ or tertiary symptoms. The virus at this stage is not directly contagious except to the offspring, and its lesions may appear in any tissue or organ of the body. At the present time (1910) advances in knowledge of the prevention and treatment of syphilis promise a complete revolution in medical conceptions of the course of the disease.

Treatment.

Diet.—Much can be done to promote a cure by a purely hygienic and dietetic system. The sufferer must live the healthy outdoor life of an agricultural labourer, doing plenty of hard manual work, eating much the same sort of food, and strictly avoiding alcohol in every shape or form.

Mercury.—There can be no reasonable doubt as to the efficacy of mercury in syphilis, but its abuse in former days

has given it a bad name. Mercury should be given in small doses, such as hydrarg. c. cretâ gr. j. t.d., or hydrarg. iodid. virid. gr. $\frac{1}{6}$ to gr. j. t.d., continued for a length of time—for months at least. Any sign of salivation or tenderness in masticating food is an indication to diminish the dose. In this way, with due care exercised, the curative effect of mercury is really astonishing. Abuse of mercury undoubtedly aggravates the symptoms, and induces another disease—namely, syphilitic mercurial poisoning.

Potassium Iodide is especially valuable in removing secondary and tertiary symptoms. It must be given in doses of gr. v. to gr. x., or even more, to secure its full effect, and even when taken in large doses it is generally well tolerated. It acts best combined with an alkali, especially spt. ammon. aromat. or ammonium carbonate. In the secondary stages mercury and iodide of potassium go well together, thus :—

Potass. iodidi	ʒj.
Hydrarg. bichloridi	gr. j.
Aquam ad	℥viij.

℥ss. t.d.s.

By combining pot. iod. with mercury the latter is retained in a soluble form, and is thus more completely eliminated from the system.

Mercurial Applications.—Black wash is very useful for all forms of eruption, especially those of hereditary form in children, or calomel dusted on may be used instead. Adhesive plaster containing mercury may also be applied in slight eruptions, as thus :—Calomel ℥iss., ol. ricini ʒiv., resin plaster ℥vj., mixed and spread on moleskin. The perchloride as a lotion is equally good :—

Hydrarg. perchlor.	gr. iv.
Acid. hydrochlor. dil. . . .	ʒj.
Acid. hydrocyanic.	ʒj.
Glycerini	ʒij.
Aquam ad	℥viij.

Ft. lotio.

VERTIGO.

Vertigo, or giddiness, is the consciousness of a disordered equilibrium, and reeling is an instinctive effort to preserve the equilibrium. The seat of the nerve of hearing, called the labyrinth, controls equilibration. Anæmia, gout, migraine, indigestion, abuse of certain drugs, such as quinine, salicin, or caffeine, affect the blood-pressure in the ears, and so produce vertigo. In the majority of cases, giddiness is a symptom dependent on nervous weakness or digestive disorders. Where it is severe and unaffected by ordinary treatment, the symptom points to serious structural disease of some sort, affecting the eyes, ears, or brain itself. Wax in the ear is a common cause.

Treatment.

A patient suffering from vertigo, or noises in the head, should be warned of the danger of excesses of any kind. He should, if possible, take a few days' rest; overwork is a common starting-point of this symptom. The abuse of alcohol, tobacco, and tea frequently causes vertigo. When excess of uric acid is affecting the blood-pressure within the head, attention should be given to the gouty symptoms. When the stomach is disordered, treatment should be directed to removing the dyspeptic symptoms.

Constipation and sluggish liver are frequent causes of vertigo. In such cases a brisk purgative pill—pil. col. et hyos. gr. iv., podophyllin. gr. $\frac{1}{4}$—every second or third night, or a saline aperient every morning, will relieve it.

Nerve Tonics.—Nervous weakness is also a frequent cause of vertigo, and nerve tonics will be found to be the best remedies. Iron, quinine, and strychnine combined will be indicated. The valerianates of zinc, iron, and quinine are also good remedies. Cod-liver oil can be given to help the nerve tonics. Arsenic, in ♏j. to ♏v. doses of the solution after food, is also an excellent remedy.

Nerve Sedatives.—In very severe cases it may be well to give sedatives as a preliminary measure before resorting to nerve tonics. Tinct. gelsem., in doses of ♏x. or more t.d., is most effective in a great many cases. Dilute hydrobromic acid, in doses of ♏x. to ♏xx., and ammonium bromide gr. xx. to gr. xxx., are also good sedative drugs, and may be well combined with tonics.

VOMITING.

Mechanical pressure of the stomach brought to bear on it simultaneously by violent muscular contractions of the diaphragm and of the abdominal walls forcibly expels the gastric contents. Some people are more sensitive in this respect than others. They have what is called a delicate stomach, and a bad smell, a disgusting sight, or an unpleasant taste will make them sick. Improper food or too great a quantity, irritant substances or poisons, cause vomiting. Violent coughing entails considerable spasmodic contraction of the muscular parts of the body which are used in the process of vomiting. Termination in that act is sometimes salutary, as the bronchial tubes are thereby cleared of mucus. For this purpose vin. ipecac. is given to children suffering from bronchitis. Very acute pain of any kind, particularly that resulting from the passage of gall-stones or renal calculi, may put in motion the machinery of vomiting.

The various structures of the body have direct sympathies one with another. Irritation or morbid sensibility of one organ will largely influence the action of an entirely distinct portion of the economy. When the womb is inflamed or enlarging from natural causes during pregnancy, the uterine nerves are stretched and irritated, and the stomach may eject its contents in consequence. The severe shaking to which the brain, the eyes, and the sensitive ossicles of the sense of hearing are subjected from the unaccustomed movements of

a carriage or of a vessel at sea, induces that highly unpleasant and persistent form of vomiting known as sea-sickness.

Treatment.

Diet.—Small pieces of ice placed on the tongue and sucked or swallowed allay the sickness of a heated system. The stomach will retain bland liquid nourishment, such as beef tea, raw beef juice, milk and soda water, jellies, barley water, arrowroot, or grapes, when it will reject any other diet. As a rule, food should be given in small quantities frequently and iced. Lime water is a useful addition to milk, especially in the dietary of sick children; but sodium bicarbonate or fluid magnesia is better if the child is constipated.

Warm-water Emetics.—If vomiting arises from over-repletion or from indigestible food, it may safely be encouraged within reasonable limits by drinking warm water or tickling the throat until the peccant material has been expelled.

Effervescent Mixture.—The best all-round remedy for sickness is composed thus :—

Potass. bicarb.	ʒij.
Acid. hydrocy. dil.	♏xx.
Aquam ad	℥viij.

ʒj. to be taken with ʒss. of lemon juice every four hours.

Effervescent salines or effervescent caffeine salts are good in slight cases of nausea or bilious sickness. Carbonic acid gas, in the form of aërated water, has a wonderfully sedative effect on the irritated mucous membrane of the stomach. This is probably due to the fact that the sudden rise of temperature drives the gas out of solution, and its disengagement results in violent eructation, in the course of which it carries with it the irritating gaseous products of fermentation in the stomach.

Mustard, as a poultice or leaf to the pit of the stomach, relieves most forms of vomiting. If it fails, small blisters or galvanism will exert more powerful action.

Belt.—Firm pressure on the abdomen by means of a flannel or other belt frequently abates vomiting.

Calomel (gr. $\frac{1}{12}$) or hydrarg. c. cretâ (gr. $\frac{1}{6}$), every four hours, is the treatment for vomiting accompanied by deranged bowels and deficient liver-action.

Bismuth Preparations are indicated when it is caused by gastric catarrh. A good formula is as follows :—

Bismuth. subnit.	ʒiss.
Syr. flor. aurant.	ʒiv.
Aquam ad	℥viij.

ʒj. c. cibo.

Cerium Salts have been much used in the sickness of pregnancy. The oxalate may be given as a tablet or powder (gr. v.), or in the following mixture :—

Cerii oxalatis	gr. v.
Tinct. nucis vom.	♏x.
Acid. hydrocyanic. dil. . . .	♏iv.
Spt. chloroformi	♏xv.
Aquam ad	ʒiv.

Sum. p.r.n.

Chloretone, in gr. v. or gr. x. doses, is an admirable remedy in the vomiting of pregnancy, and it is almost a specific for sea-sickness.

Potassium Bromide is a most efficacious remedy in severe vomiting of pregnancy where the ovaries are congested. Full doses of ʒss. or more are required.

Morphine.—An opium or morphine suppository is an excellent adjunct to treatment in severe uterine vomiting accompanied by much pain.

Creosote (♏j. to ♏iij. in emulsion) is useful in all forms of vomiting.

Zinc Valerianate (gr. ij., in pill form) is serviceable in hysterical or neuralgic vomiting.

Sulphurous Acid (♏xx.) is the best palliative for the sickness of cancer or extreme acidity.

Cocaine Hydrochloride internally (gr. $\frac{1}{6}$ to gr. j.) allays nervous irritability of the stomach walls, and is said to cure sea-sickness in consequence.

Chlorobrom, a combination of chloralamide and potassium bromide, is very efficacious in sea-sickness.

Menthol is efficacious in pregnancy vomiting, and may be given thus :—

Menthol.	gr. xv.
S.V.R.	ʒvj.
Glycerini vel mucil. trag. . . .	q.s.
Aquam destill. ad	℥vj.

ʒss. hourly if necessary.

Quinine Sulphate (gr. iij., with acid. hydrobromic. dil.) has been known to arrest uterine sickness when everything else failed.

WARTS.

Warts are small growths consisting of enlarged papillæ of the true skin. They mostly occur on the hands of children. If numerous they may come on the face by auto-infection, for they are often decidedly contagious. It is a curious fact that if one wart be removed the rest will occasionally follow.

Treatment.

Magnesii Carb. (ʒss. n.m.que for a fortnight) is said to be effectual. The warts drop off. Magnes. sulph. (gr. x. to gr. xx.) has the same effect. *Lime water* is also recommended.

Corrosive Acids.—*Nitric acid* applied on the end of a wooden match is the most powerful caustic ; care should be taken not to overdo it, as scars may be left. *Chromic acid*, three or four applications of the solution by means of wood or glass, will cause warts to disappear. *Acetic acid* (glacial), painted over the warts daily, destroys their vitality. *Salicylic acid*, in the form of collodion corn-paint, is also a sure remedy, and is to be used when the wart, or the skin immediately round it, is tender or sore, or when the excrescence is situated on a tender part, such as the nostril. *Nitrate of silver* should never be used. *Acetozone*, which, dissolved in water, forms peracetic acid, is used in solution ; the oxidising effect being sufficient in some obstinate cases to bring about a cure.

When the wart is long and pendulous the proper mode of proceeding is to tie a silk thread tightly round the base of it. This prevents it receiving nourishment from the body and ensures its extinction.

WHITLOW.

Some can wound or poison their flesh with more or less impunity. With others the veriest pin-scratch causes the most virulent inflammation and blood-poisoning. Persons tainted with scrofula, or who suffer from constipation and impure blood, are more prone to this than others. In such cases a slight injury of any kind to a finger or finger nail will start a painful inflammatory swelling called a whitlow. The pain is great, usually terminating in abscess, and if severe must be attended to at once, otherwise there is danger of its spreading up the hand, or causing necrosis of the finger bones.

Treatment.

The point of the finger should be well protected by wrapping it in cotton wool to prevent it coming into violent contact with any hard substance, which it is so apt to do, and which would increase the irritation, and render almost certain the loss of the nail, or even more serious consequences. It is well also to keep the arm in a sling.

Hot Fomentations or Poultices are usually resorted to for allaying pain and inflammation, or for promoting the formation and discharge of matter. The abscess should be freely laid open with the lancet, whenever it is ready for it.

Splints.—Where poisoning of the parts threatens to extend up the arm, absolute rest by means of a splint is called for, as well as prompt surgical treatment.

Pencilling all the point of the finger with strong tinct. iodi or argent. nit., if done at an early stage, will often arrest the further progress of a whitlow.

WHOOPING-COUGH.

Whooping-cough is supposed to be due to the action of a specific microbe which takes up its habitat in the throat. The infective material is probably contained in the expectorated mucus. The complaint is highly contagious. The cough of whooping-cough is distinguished from that of other disorders by the peculiar 'whoop' which accompanies it, by its violent paroxysmal character, and by its coming on at regular intervals, and terminating in vomiting or expectoration. Children know when the cough is about to seize them, and they run to their natural protectors for help. In itself whooping-cough is not a serious disease, but it makes children liable to graver complaints, such as pneumonia. In cases of ordinary severity whooping-cough is rarely of less duration than six weeks.

Treatment.

Hygiene.—Sufferers should be warmly clothed, and if weakly in the chest must be kept indoors during the acute stage. In severe cases the temperature of the room should be maintained equably (65° F.) night and day, as the paroxysms of coughing are frequently caused by the fire going out and consequent reduction of temperature. If the patients are strong, and the symptoms are subsiding, plenty of fresh air will be beneficial.

Diet should be light and nourishing, say some doctors; while others say, 'Feed well and often': by 'well' they mean good nourishing food, and by 'often' a small meal every two hours or so. Care must be taken not to overload the stomach, for vomiting is a frequent symptom of this complaint. Milk and lime water, milk puddings, and beef tea are the most satisfactory articles of diet to give habitually. Brandy ℥j. given in sugared water is useful to allay the restlessness of an incessant cough. Cod-liver oil and malt extract with cod-liver oil, or similar preparations, are valuable foods to remove the debility of convalescence.

Antipyrin, which has the advantage of being tasteless and well tolerated by children, is very effective in some cases, and may be given in doses of 2 to 5 grains every four hours.

Carbolic Acid.—In former days parents frequently took their children to inhale the fumes of burning tar, or to breathe the air in the vicinity of gasworks. Now, by means of carbolic acid, the same effect is produced within the sick-room. A quantity of the pure acid is either sprinkled on the floor repeatedly, or a sufficiency is placed in a saucer over a night-light to be slowly volatilised. Cresolene, used with the lamp supplied for this purpose, has a specific action.

Vin. Ipecac.—A paroxysm of whooping-cough often ends in vomiting, and great relief is thus obtained. To promote this, ipecacuanha wine may be given in emetic doses, or an expectorant mixture may be made containing a few drops in each dose, combined with oxymel or syrup of squill.

Codeine.—The bronchial secretion is usually plentiful in cases of whooping-cough, and ipecacuanha increases the secretion; codeine decreases it, and the following is an excellent mixture for children:—

Codeinæ	gr. iss.
Acidi hydrobromici dil. . . .	℥iij.
Spt. vini gallici	℥ss.
Syr. limonis ad	℥iij.

M.S.A.

Dose: Half to a whole teaspoonful every four hours.

Later, when the paroxysms become very severe, the addition of half a minim of dilute hydrocyanic acid to each dose is beneficial.

Embrocations.—Roche's embrocation has a world-wide reputation in whooping-cough, and it is undoubtedly of great service. A somewhat similar liniment is made as follows:—

Ol. succini rect.	℥iv.
Ol. caryoph.	℥ij.
Ol. camphoræ ad	℥ij.

Alum is an invaluable remedy after the acute stage has passed, especially if sickness is a troublesome symptom. It acts best combined with conium and belladonna thus :—

Pulv. alum.	gr. xxv.
Tr. bellad.	♏xxx.
Succ. conii	ʒj.
Syr. aurant. ad	℥iss.

ʒj. urgent. tusse.

Potassium bromide (gr. iij. to gr. x.) in some cases acts better than alum if restlessness or convulsions are threatening.

Change of Air, especially to the seaside, will act magically in completing a cure ; but if resorted to too early it may do harm. Seven weeks from the onset of the disease is the time usually allowed.

WORMS.

ROUND WORMS, THREADWORMS.

The presence of worms in the intestine may produce such distressing symptoms as to make life a burden, or may give rise to very little inconvenience. A child with worms may suffer from great itching of the nose and anus, thirst, a capricious appetite, shortness of breath, emaciation, cough, stomach-pains, and even convulsions or epilepsy may ensue. But every one of these symptoms may be, and often is, absent. Worms are generally contracted by eating raw vegetables or drinking water contaminated with the ova, and all children alike, and even adults, are liable to them. The round worm (*Ascaris lumbricoides*) resembles a garden worm, but is whiter in appearance. A threadworm (*Oxyuris vermicularis*) is from ¼ to 1 inch long, and looks like a piece of white cotton thread. The former dwell chiefly in the small intestine, where they live on the chyle. The latter take up their abode chiefly in the rectum and live on slime. The only proof of the presence of worms is the detection of the creatures or their ova in the dejecta passed.

Treatment.

Diet should always be simple. Cakes, pastry, sweetstuffs, and any rich food must be avoided. Salt should be eaten with meals. Drinking-water should be boiled or carefully filtered. Fruit or vegetables should be dipped in strong salt and water. Raw carrots and other raw vegetables are domestic remedies for worms. They pass through unchanged and sweep the worms onwards, but their use cannot be counselled.

Hygiene.—The general health of the child must be carefully looked after. Cold sponging in the morning, with vigorous rubbing afterwards, combined with plenty of open-air exercise, imparts vigour and directly aids local treatment. A child's finger nails should be cut to prevent scratching.

Injections.—Intestinal worms flourish in slimy tenacious mucus. If this is brought into a healthy condition they take their departure forthwith. Common salt (ʒiv. to Oj.) makes a simple and good injection to use for this purpose. It must be used at bedtime, when the bowel is empty, and it should be copious. Strong infusion of quassia is even more effectual than salt. Quassia has a deadly poisonous effect on lowly organised parasites of any kind.

Ointments such as lard or oil, or, better, ung. hydrarg. ammon. or some parasiticide salve, applied to the anus continuously, but especially at night, is most effective and simple. Light and air are necessary to the due propagation of thread-worms. It is said that the female discharges her eggs in the vicinity of the anus. Ointments destroy the larvæ, and in about eight days the child is free from its rest-disturbers.

Lime-water taken freely as a beverage, with or without milk, is the best medicinal treatment for the cure of thread-worms. It must be continued for several months. It clears the intestine of slime, in which they flourish.

Santonin in doses of gr. ij. to gr. v. is the best known remedy to destroy round worms. It should be given every night or every second night till three doses have been taken,

and a dose of castor oil should be given in the morning after the third dose.

Purgatives, such as scammony gr. ij. with calomel gr. iss., expel threadworms, but they irritate the bowel and increase the formation of mucus. In the long run they are prejudicial, and ought never to be given except as an adjunct to other treatment.

Rhubarb to tone the digestive organs and expel worms is invaluable. The following is good :—

Tr. rhei	℥xl.
Magnes. carb.	gr. xl.
Tinct. zingib.	℥xij.
Aquæ	ℨiss.

℥j. t.d.s.

Indian Pink, or spigelia, is an excellent remedy, combined with senna and aromatics:—

Worm Mixture. 'Pharm. Form.' II.

Ext. spigeliæ liq.	ℨij.
Ext. sennæ liq.	ℨj.
Ol. carui	℥v.
Ol. anisi	℥v.
Syr. aurantii ad	ℨiv.

M. ℥j. t.d.s.

Tonics.—Syr. ferri phosph. or vin. ferri, combined for weakly subjects with ol. morrhuæ, is always serviceable as a preventive measure after vigorous local treatment. Both of them promote a healthy state of the intestine, which is incompatible with the presence of worms.

Quassia.—Injections of strong infusion of quassia into the rectum have often been of great service for small worms.

ANKYLOSTOMIASIS

is a disease which afflicts miners, and is due to infection by *Ankylostomum duodenale*, a thread-like worm which has been imported into the coal and other mines of this country. This organism is copiously discharged during defecation, and if the miners select any spot for their dejections instead of using water-closets, the organism remains on the ground and infects

other men. The general condition produced is one of anæmia almost pernicious in character. The remedy for ankylostomiasis is thymol in doses of gr. x. to gr. LX., preceded by a purge with castor oil and followed by another dose of the oil. Thymol is similarly used for extirpating other intestinal worms.

TAPEWORM.

Tænia, or tapeworm, is a much more formidable variety than either round worms or threadworms. It is brought on by eating underdone beef or pork which contains the larvæ. The tapeworm takes up its quarters in the bowel, and there remains until dislodged, feeding on the food which its host provides. The parasite possesses a minute head and segmented body, sometimes extending throughout the whole length of the intestine—20 or 30 feet. It has no digestive organs, but waits until the partially digested food or chyle flows into the duodenum, when it takes its full share. The unfortunate host naturally gets thin, in spite of a voracious appetite. He is deprived of a large portion of his best nutriment, after he has had all the trouble of digesting it. The joints of the worm are continually thrown off and passed by the bowel. If eaten by a dog, pig, or calf, the gastric juice dissolves the membrane or shell surrounding the eggs. These become hatched, and penetrate to the animal's liver and other parts, and are known as hydatids. The process is reversed if a man inadvertently consumes the tapeworm eggs of a dog or other animal, as is frequently done in Ireland and elsewhere; then he himself suffers from hydatids, and not from tapeworm. These disgusting parasites are therefore propagated from one animal to another. Their history and mode of life are most curious, intensely interesting to those who study such topics.

TREATMENT.

Filix Mas.—Oil of male fern is the remedy most frequently given in this country. The patient should have a light tea, no supper, and at bedtime take a dose of castor oil. On the

following morning, when the bowels have acted, ol. filicis maris (℥j. for an adult), made into an emulsion with fresh milk, should be given. In a few hours, when the bowels act again, the worm will be expelled, and it is important to make sure that the head has come away.

Kousso.—℥ss. of the flowers made into a decoction with water, to be drunk with the dregs, fasting, and followed by an aperient. It is not always successful.

Oil of Turpentine, in doses of ℥ij. to ℥ss., is effective against all forms of parasites, including tapeworm.

Sulphuric Acid.—An old lady sufferer reasoned that by drinking the sourest thing she could find, she would rid herself of an inconvenient guest, and such proved to be the case. The following is her cure :—

Acid. sulphuric. aromat. . . .	℥j.
Aquam ad	Oiss.

Let the sufferer take as much as possible of this through a glass tube, from time to time during the day until all is consumed. It is a safe remedy, and on or before the third day the worm usually comes away in a fragmentary and partially digested condition.

Glycerin taken in large quantities is another harmless and thoroughly good remedy. It possesses the great advantage of being harmless except to the parasite.

Coconut is a simple remedy which is well spoken of. The milk and pulp of one coconut are to be taken, fasting.

Areca Nut is the usual remedy administered to dogs and other animals when they suffer from these parasites: ℥j. to ℥ij. of the powder mixed with a suitable vehicle, fasting. Thymol is equally serviceable.

SURGICAL HINTS.

Rightly or wrongly, the public has recourse, and there can be no doubt will always have recourse, to the pharmacist in those emergencies in daily life arising from accidents, and involving such injuries as incised or contused wounds, burns, bites of animals, &c., and it seems highly desirable that he should be able to afford such a response to the calls thus made on him as shall not discredit either his humanity or his ability. A little knowledge and experience will enable him to do this, and will also more readily show him the special cases which are beyond the limits of his capacity to treat, and which should be at once relegated to the surgeon. The 'ambulance' instructions which are given in many towns are excellent in this respect, and every chemist should avail himself of them when practicable. The following notes are given with the same view, and are meant to apply to such cases as are most likely to come before him in the course of his ordinary calling.

Incised Wounds.—There should be no difficulty in the treatment of slight wounds. A piece of court plaster applied after the bleeding has ceased is all that is required. The bleeding even from slight wounds is often troublesome, and as it prevents the plaster from adhering, it may be necessary to use simple means to arrest it. Pressure, or the application of cold water or a simple styptic, such as tr. ferri perchlor. or tr. benzoin. co., will generally be sufficient for this purpose. It is in the case of larger wounds that difficulty arises. There may be profuse bleeding which it is necessary to arrest, or the wound may be so wide that the edges must be brought together by artificial means, both to promote healing and to avoid a disfiguring scar. The most serious hæmorrhage proceeds from the severance of an artery. This may be known from the blood in that case being of a bright scarlet colour

and spurting out in jets. Venous blood, on the other hand, is of a dark purple colour and has an even flow. It will be recollected that the blood in the arteries is pure and its course is outward *from* the heart, while that in the veins is impure and its course is back *to* that organ. This fact will indicate that the pressure which is applied to arrest the hæmorrhage should be in the former case on the side of the wound *next* the heart, and that in the other case it should be on the side *away from* it. Any hæmorrhage can be stopped, at least temporarily, by firm pressure of the finger in the manner indicated above; but in arterial bleeding this pressure can be effected more thoroughly by tying a handkerchief round the limb (if the wound be on the arm or leg), inserting a bit of stick beneath it, and screwing it round so as to extemporise a 'tourniquet.' All cases of profuse bleeding, whether from an artery or large blood-vessel, should be relegated to the surgeon, but pressure will most probably arrest it until his arrival. When bleeding has ceased, the next step to be taken is to bring the edges of the wound together and retain them in that position. If the wound is not too wide—in which case it may require to be stitched by the surgeon—this may be accomplished by small strips of adhesive or rubber plaster placed across the wound, not quite close to one another, and covered with a bandage. When the edges of a wound adhere to each other at once, they are said to heal by the first intention; but without assistance this is a process of rare occurrence. Generally, through the access of microbic germs, suppuration is set up, and the process of healing becomes a much more tedious matter; and it is here that the antiseptic treatment comes in. Before the wound is closed either by strapping or stitching, it is well washed with some agent that has the property of destroying germ life, and afterwards it is covered with it, and by this means healing by the first intention is generally secured. There are many different agents of this description, but it is satisfactory to learn from the most recent deliverance of Lord Lister, who originated this treatment, that in his opinion carbolic acid best fulfils all the required conditions.

It should be used in solution (1 in 40). Sometimes it will be necessary to use a *dry* substance to dust over the part. In such cases iodoform or aristol will be most suitable.

Contused Wounds.—Bruises and sprains are of almost daily occurrence. Although trivial as far as health is concerned, they give rise to considerable discomfort and pain.

A severe blow or wrench creates resentment on the part of the tissues. They swell up, and blood is effused into the part if the blow is hard.

Bruises are mostly the outcome of violence applied direct. Sprains are generally the result of an indirect wrench of some muscle or sinew, which causes the parts surrounding it to be swollen and painful, and to impair movements. A bad sprain is often worse than a fracture, and more persistent.

Rest of the part affected by a sprain is indispensable.

Hot applications at first are always better and safer than cold ones, with some few exceptions. They promote absorption and relieve pain, and they do it more effectually than any other applications.

The chief use of cold lotions is to reduce the swelling quickly and with the view to preventing discoloration, when the bruises or sprains are on exposed parts, such as the face. Cold water, ice, raw steak, or cold evaporating lotions made with ammonium chloride, liq. ammon. acet., arnica, acetic acid, or liq. plumbi well diluted and combined with a certain quantity of rectified spirit, are all in common use. After the second or third day, when all bleeding into the parts has stopped, recourse should be had to hot applications to promote absorption of the blood-salts creating discoloration of the skin.

Stimulating applications are usually of great benefit in the later stages. Lin. camphoræ or equal parts of lin. camph. co. and tr. opii, or any other stimulating embrocation, with friction seldom fails to do good.

To impart tone to the injured tissues and restore them to their natural state, vigorous rubbing and douching with cold or sea water are generally resorted to. Pressure by means of flannel or elastic bandages is equally helpful.

Abrasions, where the superficial skin has been destroyed and the flesh exposed, are best treated by gold-beaters' leaf.

Chafing of the Feet by the boots or by excessive walking is cured by the application of emp. cerat. saponis renewed night and morning.

Bedsores are a very distressing outcome of lengthened confinement to bed. The parts of the body on which the patient rests become tender and sore, and if the skin gets broken it is very difficult to heal, and is the cause of much suffering. More can be done in the way of preventing than curing this. The first consideration is perfect cleanliness. The patient's hips, shoulders, or other protruding parts should be washed daily with warm water and ethereal solution of soap. This careful attention in most cases averts breaking of the skin. The patient should lie on an air-cushion or a water-bed, and the parts, on any appearance of redness, should be dabbed with spirit to harden the skin. If the skin gives way, a dusting powder of equal parts of boric acid and starch is often useful. Emp. saponis or emp. cer. saponis affords great comfort to the patient in many cases.

Burns are treated of under that head, in the body of the work.

Bites of Dogs.—There is difference of opinion as to the propriety of cauterisation of bites. If there should be virus present, the absorption of it by the blood would be instantaneous, and it is difficult to believe that any remedy could be applied in time to neutralise it. On the other hand, in all cases the party bitten and his friends will be found to have a great dread of ill consequences, and the application of caustic, as it can do no harm, may go far to restore confidence to them, and it need not interfere with any other treatment.

Slight Injuries.—A particle of sand or grit in the eye is a frequent occasion for the chemist's assistance being required. If it is under the upper eyelid it may be removed in most cases, especially when recent, by taking hold of the edge of the lid and bringing it down over the lower lid, so as to let the inside surface rest on the cheek for a few seconds. On

restoring it to its natural position, it will be found to have left the offending particle behind. If it is in the lower eyelid, that should be everted so that the particle may be seen and removed with a hair pencil or the corner of a bit of paper.

Splinters of wood under the nail and foreign bodies in the nose are removed by taking hold of them with a pair of sharp-pointed forceps, care being taken in the latter case not to push them further up. If in the ear, they must be washed out by syringing with warm water. Needles that have broken off beneath the skin and cannot be grasped by forceps should be let alone, as they give no trouble after the first, and have a way of working themselves out spontaneously. The Röntgen rays may be brought into requisition to discover their whereabouts with a view to their removal by the surgeon.

If a sound tooth has been knocked out it should be replaced at once, as it generally sets firmly again. If merely knocked out of position, an attempt should be made to pull it into place again.

Resuscitation of the Apparently Drowned.—Loosen articles of clothing about neck and chest. Next pull tongue forward, and wrapping a portion of handkerchief round fore-finger, pass it well to the back of the throat and sweep out of the pharynx any mucus, mud, or weeds that may be there. Place the patient face downwards, keeping the trunk higher than the head, and press on sides of chest, so as to expel any water from the bronchi. Now turn patient on to his back, draw out tongue and fasten it, so that it will not fall backwards into the pharynx, and proceed to artificial respiration, alternately raising the arms and lowering them with pressure against the ribs, this being repeated about fifteen times per minute and carried on for a long time if necessary. Meantime, place hot bottles at patient's feet and warm blankets on the legs and abdomen. When voluntary respiratory movements are established, wrap the patient in warm blankets, place him in bed, and watch him carefully for some time. When consciousness returns he should be given a hot drink.

POISONING AND TREATMENT.

It is not desirable that the chemist should undertake the responsibility of the treatment of poisoning cases, and therefore his first duty on any such case coming before him should be to call in the assistance of a medical man; but as this involves loss of time, and as the success of treatment depends on the promptitude with which it is administered, it will be well at once to undertake at least initial treatment. The first and the most important step to take is to empty the stomach of its contents, so as to get rid of any of the poison which may still be there. This step is applicable in all cases except where any very corrosive poison has been swallowed, for in that case any further disturbance of the stomach will greatly aggravate the corrosive action already set up in that organ, and may even induce rupture of the stomach. Vomiting is effected most readily by means of emetics, and the best of these, owing to the rapidity of its action, is sulphate of zinc, which should be given in the dose of gr. xxx. in a glass of water. A tablespoonful of mustard in a cupful of tepid water is also a ready and effective emetic. An alternative mode of emptying the stomach is by means of the stomach-pump. This may be extemporised by using a $\frac{1}{2}$-inch indiarubber tube 5 or 6 feet long, with a funnel firmly attached to one end. Let the other end be dipped in glycerin and placed on the protruded tongue, and let the patient proceed to swallow it, assisting the swallowing by gentle pressure. From 2 to 3 feet, according to the size of the person, is as much as can be got in by the mouth. Next, hold the funnel above the level of the mouth and pour tepid water into it; when full, turn it quickly into a basin, and lower both the basin and the funnel. The tube acts as a syphon and empties the stomach. Repeat the process two or three times until the water returns in the same condition as it goes in. It is necessary to emphasise the importance of emptying the stomach at as early a stage of the case as possible; indeed, after some hours it is useless.

After this has been accomplished, recourse must be had to antidotes, either such as directly neutralise or decompose the poison, or such as produce physiological effects antagonistic to those of the poison. Stimulants also are often necessary to prevent collapse, and demulcents or emollients to allay the irritating effects of the poison. But it will be better to refer in detail to the poisons which are most in evidence, as it is impossible to cover them in a general reference.

Acetanilide or Antifebrin.—The symptoms of poisoning in this case are a blue appearance of the skin, depression of heart, fear of impending dissolution; and the treatment is by emptying the stomach, keeping the patient warm in bed, and giving stimulants—sp. ammon. ar. ʒj. in water, and brandy in small and repeated doses, according to circumstances.

Acids: Glacial Acetic, Hydrochloric, Nitric, Sulphuric.—These corrode and destroy all the mucous membrane with which they come in contact, from the mouth to the stomach, causing immediate and intense burning pain and generally vomiting. Neither stomach-syphon nor emetics should be used. The alkalies or their carbonates—magnesia, lime, soda—should be freely administered, and, except in the case of sulphuric acid, with plenty of water, or even water alone in copious draughts. Soap dissolved in water, oils, and milk may also be used as emollients. The mouth should be freely smeared with olive or other oil to allay the effects of the burning, some of it being swallowed. It may be advisable afterwards to give a sedative—ʒss. liq. morph. hydrochlor.

Acid, Carbolic.—This is a most deadly poison. It acts not only as a corrosive, but also as a narcotic. It whitens and shrivels the membranes wherever it comes in contact with them, and insensibility and coma rapidly supervene. As in the case of poisoning by the mineral acids, the stomach should not be emptied at first. The best treatment is large doses of spirit, either whisky or brandy, immediately administered. This is usually all that is required. Failing any spirit being at hand, the next best treatment is by emollients copiously administered—oils and white of eggs—then by washing out

the stomach carefully, by means of the syphon, with a solution of Epsom salt in tepid water, 1 to 10, afterwards renewing the emollient treatment and giving stimulants freely—sp. ammon. ar., brandy, strong coffee, &c. Another mode of treatment has been recommended—viz., by a direct antidote. The sulphates of soda and magnesia form with carbolic acid an innocent compound, and either of them is given in solution, following this up by stimulants as required. The carbolate of lime is also a comparatively harmless compound, so that lime may be used with the same view as the above. The saccharated solution in large doses, diluted, would be the best form to use. Oil neutralises the caustic action of the acid externally.

Acid, Hydrocyanic ; Potassium Cyanide.—These are so rapid in their action as poisons that it is almost hopeless to get a chance of coping with them. The stomach is to be emptied if possible at once, and the antidote is the hydrated peroxide of iron, which may be extemporised thus :—Liq. ferri perchlor., ℥j. ; liq. ammoniæ, ʒij. ; aquæ, ℥x. M. The whole for a draught. Besides this, cold affusion of the head, and stimulants freely, must be had recourse to.

Acid, Oxalic, and Oxalates.—The chief symptom here is severe burning pain in the stomach. Vomiting or emptying the stomach by means of the syphon is the first step in the treatment, then lime is given as an antidote, the oxalate of lime being an insoluble salt. The saccharated solution, diluted, will be found the most convenient way to give it ; but the carbonate will answer—ordinary whiting—or even plaster from the ceiling.

Aconite.—A peculiar tingling sensation, followed by numbness of the membrane wherever aconite has come in contact with it, is the characteristic sign of it having been taken. The stomach is to be thoroughly emptied first, afterwards stimulants freely administered, and the patient put to bed and kept warm.

Alcohol.—The symptoms in acute cases of alcoholic poisoning often resemble those of apoplexy and epilepsy, and

must be distinguished. The former can generally be known by the smell of drink about the mouth, and by the fact that the patient is capable of being roused to some extent. The treatment consists in washing out the stomach, applying cold affusion to the head and ammonia to the nostrils, and giving strong hot coffee either by the mouth or injected freely into the rectum.

Ammonia.—Diluted vinegar or lemon juice largely given is the treatment at first ; afterwards demulcents, as oil, gruel, or milk. Emetics and the syphon should be avoided, if the poison has been taken in any quantity.

Antimony, Chloride and Tartrate.—Butter of antimony comes under the category of corrosive acids, and poisoning by it is to be treated in the same way. In poisoning by tartar emetic vomiting is almost sure to be present ; if not, it must be induced, and then the antidote is tannin, gr. xx. or gr. xxx. in water Oss., and repeated, or a vegetable astringent, as tr. catechu or tr. kino ; afterwards warmth and stimulants, and probably ♏xxx. liq. morph. hydrochlor. will be required.

Antipyrin.—The symptoms are the same as in the case of acetanilide, and the same stimulant treatment is to be followed.

Arsenic.—The symptoms of arsenical poisoning are severe pain in the stomach, vomiting and purging, great thirst, and dryness in the mouth and throat. The stomach is to be emptied at once ; then a tablespoonful of dialysed iron given in water frequently for ten doses, each followed by a little common salt in solution, or ℥ss. tinct. ferri perchlor. may be given in a tumbler of water along with ℥ij. magnes. calc., or a little of a solution of washing soda. Cases have been treated successfully by magnes. calc. in large quantity. After this emollients must be used liberally—white of eggs, oil, &c.—and ice to allay thirst, and stimulants freely, according to circumstances.

Belladonna and Atropine.—Symptoms are great dilatation of the pupil and excessive dryness of the mouth and throat. Emetics or stomach-syphon are the first step in the

treatment ; then morphine or jaborandi is to be given as the physiological antidote, either by the mouth or by hypodermic injection, in the latter case using pilocarpine ; afterwards stimulants, as ammonia, brandy, and strong coffee.

Camphor taken in excess is a not infrequent cause of grave poisoning symptoms, which are to be treated by emptying the stomach, and by the exhibition of stimulants, as ammonia, and by keeping the patient warm.

Cantharides.—The symptoms of poisoning are burning pain in throat and stomach, with constant desire to micturate. The treatment is first by emetics or stomach-syphon, and then by demulcents—white of eggs, gruel, or milk—and by stimulants and morphine for the pain.

Carbonic-acid and other Respirable Gases.—The symptoms are increasing insensibility, death following from asphyxia. The treatment is fresh air, oxygen inhalation, artificial respiration, injections of ether and strychnine, and stimulating beverages.

Caustic Potash and Soda come under the same category as ammonia. Emetics and stomach-syphon are to be avoided.

Chloral Hydrate.—Drowsiness and stupor, and failure of the heart's action, are the symptoms of chloral poisoning. The stomach must be emptied first, and then strychnine administered, ♏v. of the solution for three or four times at intervals of an hour. The patient must be kept warm, and prevented from falling asleep. Cold affusion of head, stimulants, and an inhalation of amyl nitrite may also be necessary.

Corrosive Sublimate and other Mercurials.—There is dryness of mouth and throat, severe burning pain in the stomach with vomiting and purging. Albumen forms an insoluble compound with hydrarg. perchlor., therefore administer white of eggs in unlimited quantity. Afterwards empty the stomach, and continue the white of eggs. Liq. morph. hydrochl. ♏xxx. should be given for the purging and pain.

Lead, Acetate and Carbonate.—Dry throat, great thirst, and cramp are symptoms in acute lead poisoning. Chronic

poisoning is a different case altogether, and is not noticed here. In the former, emptying the stomach must be the first care, then it should be washed out with solution of magnes. sulph., as for carbolic acid. Afterwards give a good dose of magnes. sulph. or sodium sulph., and repeated ♏xx. doses of acid. sulph. dil. diluted, the object being to form the insoluble sulphate of lead. Demulcents, white of eggs, and morphine for pain will also be necessary ; and, lastly, a full dose of castor oil.

Morphine and Opium.—Great contraction of the pupil, drowsiness, and stupor are characteristic symptoms. The first step is to empty the stomach. Emetics are slow to act from the inhibiting action of the drug, therefore the stomach-syphon is to be preferred, but if not readily procurable, gr. xxx. zinc. sulph. should be given in a glass of water, followed by plenty of hot water to encourage its action. The liquid used for washing out the stomach with the syphon should be a solution of permanganate of potash, gr. xx. to Oij., and this solution should also be given afterwards internally in ℥j. doses. Atropine is physiologically antagonistic to morphine, and should be used hypodermically, or given by the mouth in full doses. Above all, the patient must be kept from yielding to sleep, by walking him about, loud noises, strong coffee, cold affusion of head, and inhalation of ammonia.

Nux Vomica and Strychnine.—The first characteristic symptom of strychnine poisoning is recurrent spasmodic twitching of the muscles, increasing rapidly to a painful degree, with lockjaw and convulsions. Treatment : First empty the stomach by means of an emetic or the stomach-syphon ; then give chloral hydrate ℥ss. with potassium bromide ℥ij. in water, and repeat in an hour. Convulsions are treated by the inhalation of chloroform.

Paraffin Oil.—Poisoning by this agent is marked by great distress, followed by coma. The treatment consists in emptying the stomach, and then administering stimulants—ammonia and ether—every hour, and keeping the patient warm.

Phosphorus.—This poison may be recognised by the strong oniony flavour which it communicates to the breath. Other symptoms are intense burning in the stomach, diarrhœa, and bloody stools. First use stomach-syphon or give an emetic—by preference cupri sulph. gr. iij.—every five minutes till it acts ; then purge with Epsom salt, and give demulcents freely (warm milk with magnesia), avoiding oils and fats.

Ptomaines, Animal Alkaloids, Poisonous Meat and Fish.—The symptoms are vomiting, diarrhœa, dryness of tongue, mouth, and throat, puffiness of face, swelling of lips and tongue ; tremor, congestion of lungs ; cyanosis, weak fluttering pulse, cold sweat, collapse, convulsive seizures. The antidotes are emetics, castor oil, and stimulants, and injections of solution of strychnine ♏iij. with ether ♏xxx.

Silver Nitrate.—One ounce or so of common salt in a cupful of water should be given at once, and repeated if much of the poison has been swallowed. It forms insoluble chloride of silver. Afterwards zinc sulphate ʒss. as an emetic, or the stomach may be washed out with the syphon. Lastly, give white of eggs and demulcents.

Tobacco.—Intense nausea and prostration are the symptoms of nicotine poisoning. Empty the stomach first ; then give gr. xx. or xxx. tannin, or ♏v. solution of strychnine, repeating either in half an hour ; afterwards stimulants freely.

Vermin-killers are usually composed of arsenic, phosphorus, or strychnine, and cases of poisoning with them are to be treated in accordance with the poison in them.

Weed-killers.—Many preparations contain arsenic either in strong alkaline or acid solution. The treatment should be for arsenic, without the stomach-pump.

Zinc Chloride and Sulphate.—Chloride of zinc is a strong corrosive poison. In cases of poisoning by it, reliance should be placed on sodium bicarbonate—half a teaspoonful in water or milk, repeated frequently—and then on demulcent drinks, white of eggs, and morphine if required. Sulphate of zinc will in all probability supply its own treatment by producing free vomiting.

SURGICAL AND MEDICAL APPLIANCES.

There are various appliances which it is expected that the chemist should be able to supply and explain, especially in those localities where a surgical instrument maker is not to be found; and it therefore becomes important that the former should be acquainted with the nature of the ailment for which they are required, and the principle on which their action depends. The object of the following notes is in some measure to afford this information.

Air and Water Cushions.—In cases of long-continued confinement to bed, the comfort derived by the patient from these appliances is inexpressible, and they also afford the best protection against the justly dreaded 'bedsore.' The air cushion or pillow is also a great comfort on a long railway journey. Articles that are air and water proof are made in a great variety of shapes and sizes, as cushions, pillows, mattresses, &c., to suit different parts of the body and different circumstances.

Bedpans and Urinals.—Provision for emptying the bowels and the bladder while the patient is confined to bed is made by these vessels. The bedpan is chiefly of two kinds—round and slipper-shaped—and of course must be flat, to admit of being pushed under the patient. The principal thing to be seen to in choosing one is that it admits of being readily cleaned (on this account earthenware is better than metal), and that it is provided with a good lid to be put on immediately after use. Urinals are made of glass, earthenware, metal, and indiarubber, and in a great variety of forms. Perhaps the most approved is the glass one, which is shaped so as to lie comfortably between the legs, and is only removed for the purpose of emptying it. For using only on occasion a different form will be more convenient—one of a

shallower make. All the varieties are made both for male and female use. Indiarubber urinals are so made as to be adapted for all occasions—for day use, for night use, and for travelling. One very ingenious arrangement has a tube passing down the leg with a stopcock at the lower end, by which it can be emptied at a convenient opportunity.

Belts.—There are various kinds of belts made to give support and warmth to different parts of the body. Elastic material is not suitable for them, except in the way of an insertion to adapt them to the form of the body. They are best made of a more rigid or a warmer material, and generally they are contrived so that they can be expanded or contracted by an arrangement of buckles or otherwise. **Abdominal Belts** are principally for ladies' use during pregnancy and after accouchement. **Cholera Belts** are intended to maintain a moderate warmth over the lower part of the abdomen, and so to obviate any predisposition to cholera, and they will be found useful to wear by those who have any tendency to irritation of the bowels. They should be made of some woollen material, and they are to be had either with buckles or in one piece to draw on. **Lumbago Belts** should also be of a warm material. The cholera 'drawing-on' belt answers very well for lumbago too. Those who are subject to lumbago should wear them habitually. **Riding Belts** are best made of a stout material, and they may have a whalebone insertion at the sides, so that they may be more rigid and give greater support to the back. On the same principle as the foregoing, various other appliances are made, such as wristlets, corsets, breast supports, &c., which it is necessary only to mention.

Bougies and Catheters are instruments chiefly for passing into the bladder by the urethra. They are of silver, gum elastic, or indiarubber, and are made of various calibres. Bougies are for dilating the urethra, chiefly in cases of stricture, and they are also sometimes made for dilating the rectum and for the œsophagus. Catheters are employed for drawing off the water when that cannot be passed naturally.

A small size should be used at first, and the size gradually increased. Passing these instruments is a matter demanding some skill and care, as there is great risk of wounding the urethra; but the ability to use them can easily be acquired either by the patient or by an attendant, which is a fortunate circumstance, as many people require the habitual use of them. They should be kept scrupulously clean, and dipped in an antiseptic oil before use.

Breast Appliances.—There are various appliances for the breast and nipples for use when a child is being suckled. It is often necessary to draw out the nipple, so that the infant may be able to get hold of it better. This is accomplished by a glass cup adapted to fit over the nipple and provided with a receiver, suction being applied either by the mouth through a tube or by an indiarubber exhauster properly adapted. The same arrangement is utilised to relieve the breasts by drawing off milk when there is a redundancy of it. In this latter case it is necessary also to wear nipple shells when the infant is not suckling, to catch the milk and protect the dress. There are various kinds of shields to protect the nipples when they become sore, chiefly of glass, but sometimes of indiarubber or zinc, and a feeding arrangement can be attached to the glass and rubber shields by means of a teat and tube in the same manner as in artificial feeding.

Bronchitis Kettle.—This is an arrangement for moistening the air of the sick-room by impregnating it with steam. This is effected by means of a tin kettle with a long spout from which the steam issues, the water being kept boiling continuously, either the fire or a Bunsen burner being used as the source of heat.

Elastic Hosiery.—There are various appliances of elastic material which are of great service to the legs, especially in cases of varicose veins, and which act by exerting firm and continuous pressure. Entire stockings from the thigh to the foot, and also appliances for different parts of the leg, are made of this material—thigh pieces, knee caps, calf pieces, anklets, &c. These are generally kept in stock in various

sizes, but sometimes it is necessary to get them made to measure. The following is the *modus operandi*: The circumference of the limb is carefully measured at several points, and also the length to be covered from top to bottom; and the article should be made about an inch less than the lateral measurements, to allow for the expansion of the material when in use. Inconvenience is often experienced in wearing these articles from the stoppage of circulation at the line where they end at the top and bottom, and the wearer should be advised to open down the seam for an inch or two at these points and insert a small gusset of linen. This elastic material is also sometimes used for making wristlets, and for abdominal supports suitable in pregnancy and other conditions of the womb.

Eye Shades are intended to relieve the eyes, when they are in a weak condition, from the strain that is put on them by exposure to the glare of light or heat, and to cover them in the case of disfigurement from blows. They are made for one eye or for both, and also plain and concave. There is likewise a very useful eye shade which gives great comfort in reading.

Inhalers are required chiefly for the application of steam to the throat and chest, and frequently medicinal agents are applied in this manner—*e.g.*, carbolic acid, eucalyptus, &c. Such agents must of course be of a volatile nature, and they are added to the hot water in the inhaler. This is simply a vessel to contain boiling water, with an aperture for the admission of air, and another fitted with a mouthpiece for inhaling by. The principal thing to be attended to about an inhaler is that it be of ample size, so that the boiling water may not cool down too quickly. For this reason, too, it should be well warmed before the boiling water is poured into it. It is also of importance that the mouthpiece should be of ample width. It is astonishing how little effort is necessary for inhaling from a wide aperture, as compared with a narrow one, and this is often a matter of great moment in cases where inhaling is required. It is also desirable to conduct the steam

from the inhaler to the mouth by means of a wide indiarubber tube about 12 inches long, armed with a mouthpiece. By this means the inhaler can be kept at a distance from the patient while it is being used—a great advantage if he is confined to bed. Several ingenious instruments have been devised for the inhalation of chloride of ammonium. Hydrochloric acid and ammonia are placed in separate vessels, and their fumes are caused to unite when inhalation is required. There is also a convenient dry inhaler for menthol, eucalyptus, &c., and it is applicable either to the nostrils or to the mouth.

Injection Apparatus.—It is often necessary to throw up liquids of different descriptions into the bowel or the vagina, and this is done by means of various instruments. Half a century ago the only available ones besides the ordinary syringe were the brass piston pump and the primitive 'bag and pipe,' which consisted of an ordinary bladder fastened on to a bone pipe ; but both of these have been ousted from their position by the different varieties of indiarubber instruments now in use. This is almost to be regretted from one point of view, for it is not an unknown case to find that one even of the best rubber instruments after it has lain disused for some time has become useless owing to the perishable nature of the material, and this is a most disconcerting discovery in an emergency. The pear-shaped indiarubber bottles are still in vogue, although their use for enemas has become greatly superseded by more convenient instruments, but for vaginal washing they are still much employed, and the older forms are the best for children, as well as where a small quantity of injection is used, as in feeding by the rectum, &c. They also answer admirably for the nose, ear, and urethra. The instrument which has come into almost universal use is the Higginson's enema type, with a bulb in the middle, prolonged at each end by a tube with a valve, effecting respectively entry and exit of the injection. By pressing and relieving the central part the liquid is alternately sucked in and thrown out at the different ends, and an arrangement can be made by which this action is rendered continuous. D'Eguisier's 'Irrigateur,' a cylindrical

vessel with a flexible tube and stopcock attached, is much favoured by the French. The injection is put into the cylinder, and the arrangement is such that on opening the stopcock the injection is thrown out with considerable force and in a continuous stream. In this force lies the English objection to it. All these instruments can be used also for the vagina with a suitable pipe. The vaginal douche consists of a receptacle placed at a height with a long tube connected with it and fitted at the other end with a suitable pipe. By this means a continuous stream and considerable force are obtained. The douche, fitted with a suitable pipe, is used also for the rectum.

The principal use of enemata is to clear out the bowels in the case of obstinate constipation. For this purpose warm water alone, or with a little soap rubbed down in it, or castor oil added to it, is injected, and it must be done in considerable quantity—not less than 2 pints, or even more—the object being to dilate the bowel freely, so that it may soon return the injection used, and along with it the solid contents of the bowel. In other cases, such as in dysentery, and for nutrient purposes, where the effect depends on the retention of the injection, the quantity ought to be as small as possible.

Invalid Feeding.—There is often difficulty and always inconvenience in feeding invalids who are confined to the prostrate condition, and various are the contrivances for overcoming it. The best is the feeding cup, which is made with a lid half covering it, and a spout in front, or simply with a long spout. These are of china or glass, and glass tumblers are also made on the same principle. The ordinary acid tube can also be made available for this purpose, the attendant holding the cup or glass containing the food. An elastic tube, one end of which is fitted with a mouthpiece and the other dips into the vessel containing the liquid, is suitable for self-use. Another plan may be recommended in cases of extreme weakness, as it involves the least possible exertion to the patient. Attach a little bit of sponge firmly to the end of a pencil or penholder and soak it in the liquid, and then insert it in the mouth. 'Mouth sponges' on this principle are sent

out by the sundriesmen. The principle on which infant feeding is conducted is so simple and yet so perfect in its application, as seen in the infants' feeding-bottle, that it seems unnecessary to say anything on the subject. Some people still prefer the old fashion of attaching the teat to the bottle itself (indeed, there are some who still cling to the old calves' teats, eschewing indiarubber) ; but the intervention of the indiarubber tube is all but universal, and surely the advantage it confers of leaving the infant's head free to move about is a sufficient ground of preference. In this connection it may be well to emphasise the necessity of punctilious cleanliness with regard to every part of the apparatus.

Pessaries are used to give mechanical support to the womb in cases of prolapsus or 'falling' of that organ. They are made of vulcanite or indiarubber, and in a great variety of shapes. A number of medicated pessaries are used in obstetric practice. These are made of a conical form, with concrete oil of theobroma or gelatin as a basis. The rectum is subject to a like prolapsus, which takes place after stool or after undue fatigue. When it occurs the protruded portion must be carefully replaced with the finger. This is often all the treatment that is necessary, but there are appliances for the purpose of giving support as in the case of the uterus, and the tendency can be cured by an operation.

Sprays for the Throat and Nose are designed to throw medicated liquids, in the form of fine spray, into those organs. This is done in a continuous stream by adopting an ordinary spraying arrangement. Many forms of spraying apparatus for use with aqueous and oleaceous liquids are now on the market, some of them producing a fine cloud of the liquid.

Suspensory Bandages are employed for suspending the scrotum when from a varicose condition of the veins in the testicle, from swollen testicle, or any other cause, it becomes enlarged and produces a dragging or bearing-down sensation. They are used also to obviate the possible bad results of severe exertion, as in hunting, rowing, or cycling.

They are made of many different patterns, but the principle of them all is the same. They consist of a band passing round the body just above the hips, with a bag of silk or cotton network attached in front. This bag is often fitted with under-tapes, which pass between the legs and are brought round and fastened to the band. Such an arrangement is meant to keep the bag securely in place, but this can generally be effected sufficiently in a well-made bandage without it. Of course it is essential that the bag should be well fitting, and it should be fitted in the morning before the scrotum becomes enlarged. It is often furnished with tapes by means of which it can be contracted or enlarged.

Trusses.—Hernia or rupture is a protrusion of a portion of the bowel through the abdominal wall. This occurs in different parts of the abdomen, and it takes its name from these parts. The most common form is 'inguinal hernia,' from its occurring in the vicinity of the groin, where the abdominal wall is thinnest and gives way most readily. There is also 'femoral hernia,' from its happening near the thigh; 'scrotal,' in which the bowel descends to the scrotum; and 'umbilical,' from the umbilicus or navel. Rupture appears as a swelling beneath the skin, and it is generally brought on by violent exertion, by straining at stool, &c. On the patient lying down, the protruding part of the bowel can generally be pushed back into the abdomen. This is 'reducible' hernia. When this cannot be done it is called 'irreducible,' and both kinds require the constant wearing of a truss. There is another form of irreducible hernia, where the protruded portion gets strangulated by the muscles. This demands instant surgical treatment, for if not attended to it is rapidly fatal. The object of the truss is to exercise pressure continuously and sufficiently firmly to prevent the protrusion recurring. For umbilical hernia a bandage with a pad in front of it is used. For other hernias the trusses used generally consist of a pad and a metal spring going round the body: the former is to keep the bowel from protruding, and the latter to keep the pad firmly and evenly applied. These vary in shape according

to the nature of the rupture. Sometimes the rupture occurs on both sides, and then it is necessary that the truss should have two pads. In fitting a truss one takes each end of the spring, pulls it out and slips it round the body; release first the pad end, placing it gently on the ruptured part. The strap should fit about midway on the button of the pad; if not, a larger or smaller truss must be selected. The patient should feel the truss quite comfortable upon him. Sometimes the spring is too strong or too weak; in either case the comfort of the patient should be considered. The measure required for a truss is the circumference round the hips, bringing the ends of the tape to meet. In ordering, the side upon which the rupture is should be stated. Trusses should be put on before getting out of bed in the morning, and not taken off until after lying down in bed at night. It is advisable to wear the truss during the night also, if it can be done, especially in the case of children. It will be readily seen that the proper and comfortable fitting of a truss is a matter of the utmost importance. Umbilical hernia is most frequent in children. Trusses are made to bring pressure to bear on the rupture, or this may be effected in an extemporised way by binding a raisin or a convex bit of cork over the opening. Under the application of this pressure the rupture will generally disappear, and it is very desirable that this end should be attained in early life, especially if the patient is a girl, for otherwise the results may be inconvenient in after-life, when the uterus has to perform its natural functions.

DENTISTRY FOR DRUGGISTS.

In this degenerate age ('degenerate' as regards the teeth) Dentistry has greater demands than formerly on her for service to suffering humanity, nor can it be said that she has not been equal to the occasion, for she has kept fully abreast in the great advance of science and art during recent years. She has adopted anæsthetic and antiseptic treatment in her major surgical operations, and she has availed herself of the highest resources of art in the mechanical details of preserving and replacing the teeth. It is, however, beyond the scope of this article to enter in detail on these higher walks of dental practice. A due acquaintance with them can only be attained by a practical training in the technical details of the profession. There is, however, short of this, ample scope for the exercise of the dental art, and the chemist's back shop is a time-honoured 'house of call' in dental emergencies. The present article is intended only for beginners and as a stepping stone to the higher branches of the art, and accordingly it treats only of the following : (1) extraction ; (2) stopping ; (3) scaling ; (4) preliminary operations for artificial teeth. First, however, we may consider

Toothache.

One of the penalties we have to pay—and it is not a light one—for our advancing civilisation is a great deterioration in our dental apparatus, it being an admitted fact, howsoever we may account for it, that a perfect set of 'ivories' is as rare amongst ourselves as it is almost universal amongst savage races. Fortunately the resources of Civilisation are available to meet the evil which she herself has brought about, for modern dentistry can do much more in the way of preserving and replacing these invaluable organs than could have been dreamed of long ago.

Toothache in all its agonising phases is, in the great

majority of cases, brought on by decay of the external hard parts of the teeth and the exposure of the sensitive inner pulp ; then irritation is set up by hot or cold liquids, pungent or sweet foods, or by the impact of any hard substance in the process of mastication. In the early stage of decay the pain is intermittent, and sometimes occurs in very severe paroxysms. As the decay proceeds and the pulp becomes more and more affected, and, at a further stage, when the inflammation extends from the tooth to the tissues inside the socket (periodontitis), the pain becomes continuous and dull, and is much increased on tapping the tooth, which is loosened and slightly raised out of its socket, so as to feel 'longer' than its neighbours.

Mr. J. Howard Mummery, M.R.C.S., L.D.S., thus summarises the exciting causes of toothache :—

1. Irritation and exposure of the pulp from caries, erosion, or attrition.

2. Secondary deposits in the pulp—as 'pulp stones' in caries—sometimes giving rise to odontalgia, but very frequently to referred neuralgic pain.

3. Localised suppuration of the pulp. Very severe toothache is caused by local suppuration in the pulp, especially when confined under a filling. Intense local pain is often experienced when the pent-up pus is allowed to escape on removal of the filling, the alteration of blood pressure in the pulp appearing to be the cause of this very severe paroxysm.

4. Direct traumatism—exposure by fracture of the tooth.

5. Exostosis—cementosis. The pain is both local and diffused, percussion causing distinct pain in the tooth.

6. Periostitis, due to direct injury or septic extension from the pulp. The pain in inflammatory conditions of the peridental membrane is of a more continuous character and associated with great local tenderness.

7. Alveolar abscess.

8. Pain from exposure of the cementum in pyorrhœa.

9. Necrosis of the root.

10. Pin-point absorption of the end of the root, in which the irregularity of the process of absorption leaves sharp spicules of cementum and dentine surrounding the nerve trunk, that cause severe local pain, especially on pressure—a condition of the tooth very difficult to diagnose.

11. Difficult eruption and malposition of teeth, as from impacted wisdom teeth. The pain from this cause would, however, usually fall under the head of neuralgia.

Gumboil is caused by inflammation at the root of the fangs of the teeth, when the pus formed can find exit only through the gums.

Treatment.

Preventive.—The toothbrush should be used night and morning by everyone, both young and old. It prevents the permanent lodgment of particles of food, and their subsequent decomposition, which is perhaps the most frequent cause of caries. A simple tooth-powder should be used. The precipitated carbonate of lime and the heavy carbonate of magnesium are both typical tooth-powders, and a little orris or otto of rose, or other perfume, may be added to render them more agreeable. Those who have bad teeth or spongy gums should also use twice daily an astringent tincture composed of the tinctures of myrrh, cinchona, and camphor, with the addition of a little pellitory or 1 per cent. of carbolic acid. A teaspoonful of this in a wineglassful of tepid water should be used as a mouth wash, or a little of the tincture may be rubbed along the gums with the point of the finger.

All acids, when used medicinally, should be taken through a tube, to prevent them touching the teeth. Without this precaution their use is a very frequent cause of mischief to the teeth.

Extraction.—In former times this was very generally resorted to, but more recently a conservative principle has come into vogue, and extraction is regarded as the exception, the rule being to preserve the tooth as long as there is a hope of its being able to perform its natural function. This can be done by 'stopping' the tooth—an art which has attained great perfection, but which requires the exercise of the highest skill and care on the part of the dental expert.

Carbolic Acid.—In toothache of the early stage of decay this is perhaps the best application to relieve the pain. It should not be used in the pure form, on account of the risk of corroding the gum or cheek, but it should be diluted with an equal volume of rectified spirit, and applied on cotton-wool or

with a pencil—or a convenient way is to mix it with half as much collodion. Thus combined it forms a jelly, a little bit of which on cotton-wool should be placed in the decayed tooth. The cavity should be carefully dried out with absorbent cotton before this and all other applications.

Chloroform is also a favourite application. Many dentists prefer it when saturated with camphor ; and another way of using it is to make a saturated solution of mastic in it. Applied thus on cotton-wool it soon forms a 'stopping' which excludes external influences for a longer or shorter time.

Oil of Cloves, Creosote, and many similar remedies are also constantly in use. Many prescriptions for toothache essences, tinctures, &c., will be found in 'Pharmaceutical Formulas.'

Chloretone dissolved in oil of cloves is an excellent remedy.

Tincture of Iodine and Aconite, in equal parts, will be found the best remedy in periodontitis, when the tooth is loose and painful to the touch. The gum should be carefully dried, and then pencilled with it.

Aperients.—An old-fashioned remedy for simple toothache—and often a very effectual one—is a strong dose of purgative medicine—*e.g.*, mist. sennæ co. ℥ij.

External Remedies.—Chloral and camphor pencilled on the cheek is useful when the pain takes the form of facial neuralgia. Laudanum sprinkled over a bit of flannel, or a mixture of whisky and pepper or similar stimulants, applied in the same way to the cheek, often relieves the pain of toothache ; and a drop of liq. ammon. fort. applied on the cheek, just opposite the spot where the pain is felt, is often an instantaneous cure.

The best treatment of gumboils is hot water or hot fomentations of chamomile and poppy, applied both internally and externally, and the application of a roasted fig to the gum, with a view to the maturation of the abscess.

Extraction.

It may be as well to state at the outset that extraction ought to be a minor part of dental practice. Formerly the 'have-it-out' doctrine was in vogue, and involved the loss of many a good tooth whose aching, after due treatment, might have been permanently cured by a proper stopping. Nowadays, when diseases of the teeth are fast on the increase, the conservative treatment is all the more necessary; indeed, it may be laid down as a rule that extraction ought to be the exceptional course, and that a tooth should never be sacrificed while there is a possibility of it still doing service. Before anyone can become a competent and expert extractor it is necessary that he should possess an anatomical knowledge of the teeth, and should also be acquainted with the difficulties and complications that may be expected in the operation. A tooth is divided into three parts—viz., the crown, which is that part of it above the gum; the neck, which is situated at the margin of the gum; and the root or fang, which is the part concealed beneath the gum and enclosed in the alveolus or socket. The solid structure of the tooth is composed of three substances—dentine, enamel, and cementum. Dentine is the material of which the crown and fang are mainly composed. It is a hard, elastic substance, translucent in its normal condition, but becoming opaque in disease. Enamel forms the hard covering of the crown of the tooth. It is thickest on the grinding surface, and thinnest towards the neck, where it terminates. Cementum greatly resembles bone, and forms the outer covering of the roots of the tooth. The pulp cavity is contained in the crown, and is prolonged down the centre of each fang, opening out of the end thereof. It is completely filled with the dental pulp, a soft cellular structure in which exist the blood-vessels and nerves.

There are thirty-two permanent teeth—viz., four incisors, cutting or front teeth (I); two canines, or eye teeth (C); four pre-molars, or bicuspids (B); and six molars (M) in each jaw. They are arranged as follows :—

	M	B	C	I	C	B	M		
Upper . . .	3	2	1	4	1	2	3	= 16	32
Lower . . .	3	2	1	4	1	2	3	= 16	

The four upper incisors have single and round fangs tapering gradually from the neck to the apex : the central are much larger and stronger than the lateral incisors ; the lower incisors have also single fangs, but they are smaller and flattened from side to side. The fangs of the eye teeth are larger and stronger than those of any of the others ; they are like a flattened cone in shape, grooved at the side, and are very firmly inserted in the sockets. They are the most lasting teeth in the head, and should only be removed as an extreme resource. The upper bicuspids have the fangs either single and much flattened from side to side, or with a disposition to divide the fang into two, lengthwise, one externally, the other internally. The lower bicuspid fangs are round and tapering. The upper molars have three fangs ; the lower, two only. Two of the three fangs of the upper molars are situated towards the cheek, and the third towards the palate (palatine root), the latter being the largest of the three. Of the lower molars the anterior or backmost one is the largest, and the fangs of the lower are as a rule larger than those of the upper molars. Occasionally the anterior fang may be found divided into two, making three distinct roots to the tooth. When this is the case, the third root interferes with the inner blade of the forceps going down, thus causing a risk of breaking the tooth. This abnormal division applies more particularly to the first or six-year-old molar tooth, which is the largest of the three under-molars.

The operations involved in tooth-extraction are such that they require skill, judgment, experience, and a thorough knowledge of the parts involved. It should be remembered that practice makes perfect, and that, however carefully directions may be given, success can only be obtained by actual practice. The yielding of the alveolo-dental membrane and surrounding bone of the socket gives a sensation which is readily perceived. A skilful operator will judge in what direction

the loosened tooth is coming most readily, and he should put the greatest pressure in the direction of least resistance.

The instruments required should be of modern make and up to date. The forceps should be so tempered as not to bend or break, and the beaks should be so adapted as to fit the necks of the teeth in such a manner as not to slip off or cut the teeth off instead of extracting them. They should also be made at such an angle that when they grip the teeth they should slide into the necks and begin extracting even before the operator commences to lever them backwards and forwards. Very often the single-fanged teeth jump right out by merely closing the forceps.

The second lower molars and wisdoms should be levered inwards towards the tongue, as the lower jaw thickens very much externally near the angle. The smallest equipment of forceps that an extractor requires is as follows :

1 straight pair for the six upper fronts and roots.

1 slightly curved for upper bicuspids and roots generally.

2 pairs for upper molars, right and left. These also do for upper wisdom teeth.

1 pair of Hawksbills which answer for right and left lower molars.

1 pair of Hawksbills for lower incisors, canines, bicuspids, and roots generally.

1 pair laterally set for lower wisdoms where the Hawksbills cannot reach.

The upper molar forceps usually sold often slip round and off the tooth, but if made with the palatine beak divided they

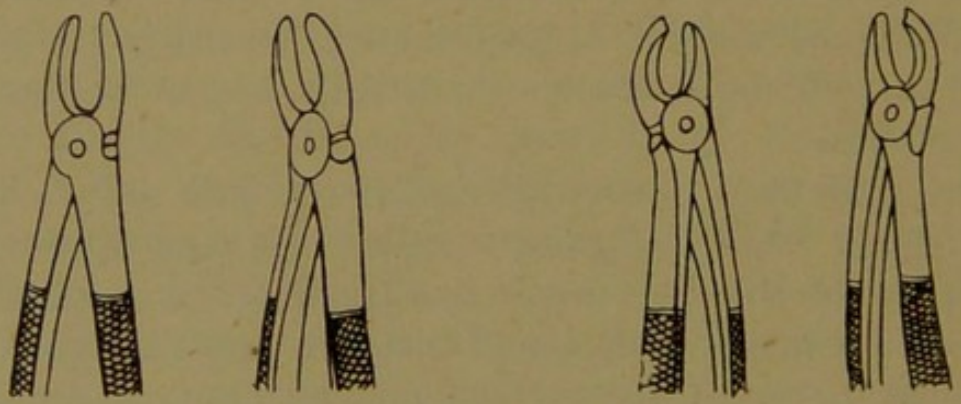


FIG. 1. FIG. 2. FIG. 3. FIG. 4.

Fig. 1, Upper Straight Forceps, for incisors and canines, and roots ; they may also be used for premolars, but fig. 2 is more suitable. Fig. 2, Upper Forceps for premolars ; beaks slightly curved. Fig. 3, Right Upper Molar Forceps. Fig. 4, Left Upper Molar Forceps. (Notice outer blade of 3 and 4 fits in between the two buccal roots of molars.)

never slip. Beginners who wish to be good extractors should get upper and lower jaws from a disarticulated skull and study the formation—where the bone is thickest and thinnest. When extraction is required there is always more or less disease in the sockets, and it is a good plan to give an antiseptic mouth-wash to be used frequently.

The following are concise instructions for the extraction of the different kinds of teeth :

Upper Incisors.—Fix the forceps to the neck of the tooth, push the beaks under the socket margin, then with a firm but slight twist of the wrist (without jerk) break the connection of the membrane, and remove the tooth with a direct pull.

Lower Incisors.—Press the forceps gently under the margin, grasp the tooth firmly, then give a slight inwards and outwards motion, cautiously performed. They will be found to give most readily in the outward direction.

Canines.—Treat like incisors, with more outward pressure than circular movement.

Bicuspids.—Break adhesion of upper roots by pressing outwards and inwards, then remove the tooth. In the case of the lower follow the inward pressure by slight rotary motion if necessary, then lift out.

Upper Molars.—Place the forceps carefully on the tooth, press so as to push the point of the beak up between the external fangs, then with outward and inward motion and downward pull remove the tooth.

Lower Molars.—Carefully place the forceps on the actual tooth (so as to preclude extraction of the adjoining tooth). Take the jaw in the left

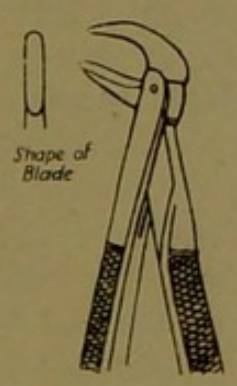


FIG. 5.

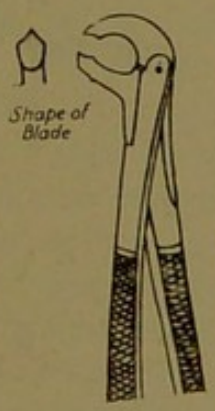


FIG. 6.

FIG. 7.

FIG. 8.

Fig. 5, Lower Forceps for incisors, canines, and premolars, and roots. Fig. 6, Lower Molar Hawksbill Forceps (notice shape of blades, which fits in between the two roots of the molars). Fig. 7, Lower Molar Straight Forceps (these are applied from front of mouth, not side as with the Hawksbill molars). Fig. 8, Upper Bayonet Root Forceps (very useful forceps).

hand, press the instrument firmly down into the alveolus, grip firm, press the tooth inwards and outwards, and lift out when you feel the connection broken.

Stumps.—Get a firm grip, and when this is done pull like the whole tooth ; or use the elevator, which is pressed between the root and its socket, then remove the stump as you would a nail.

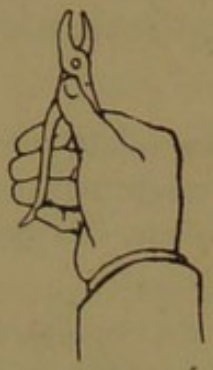


FIG. 9.

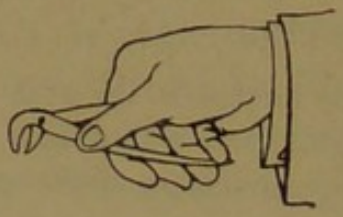


FIG. 10

FIG. 11.

Fig. 9, Method of holding Upper Forceps. Notice position of thumb and little finger. These act as a regulator, and from the feeling the operator can judge how much pressure he is putting on tooth, and they also prevent him closing forceps too tightly and thus excising the tooth. Fig. 10, Method of holding Lower Forceps (fig. 5) and Lower Molar Hawksbill (fig. 6). Notice position of thumb and little finger. Fig. 11, Method of holding Lower Molar Straight Forceps.

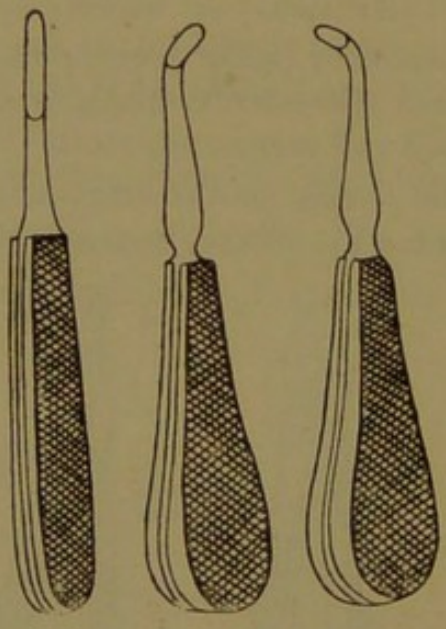


FIG. 12. FIG. 13. FIG. 14.

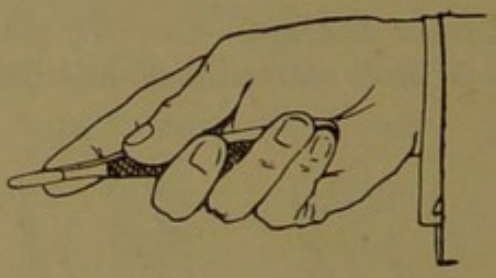


FIG. 15.

Figs. 12, 13, 14, Elevators, used principally in lower jaw, very rarely in the upper jaw, although 13 and 14 with the right and left angle are sometimes useful for loose roots and temporary teeth in either jaw. Fig. 15, Method of holding the Elevator. Notice position of forefinger, which rests about ½ in. from the end of blade. This acts as a guard in case instrument should slip, and at the same time gives steadiness.

Figs. 1 to 15 are after Small and Colyer's 'Diseases of Teeth' and Coleman's 'Extraction of Teeth.'

Anæsthetics.

Extractions are nowadays never performed without some anæsthetic being used to relieve the pain. Anæsthetics may be divided into two main groups, general and local. By a general anæsthetic is meant one which is taken by the respiratory canal, and during which the patient is rendered unconscious. Those used in dentistry are nitrous oxide (commonly known as 'gas'), ether, and ethyl chloride. These may be used separately or combined in various proportions. Chloroform, although still used in many cases, should be debarred as much as possible. Very little need be said here as regards general anæsthetics, as no one should think either of giving one or operating under one without a special knowledge and training for the same. The anæsthetics may either be applied, sprayed, or injected into the area to be rendered insensitive. The following is a concise statement as to their use.

Of applications, there are a great number of calorifics on the market. The method of using is to dry the gums thoroughly, and then apply the anæsthetic to the gums, around the tooth to be extracted, with a pledget of cotton. As might be expected, this method is not very successful with firm teeth, but it is extremely useful where there are several loose roots lying in the gums, and the operator may wish to reserve most of his injection for more difficult teeth.

Spraying or Freezing the Gums with ethyl chloride is sometimes resorted to. The gum is thoroughly dried, and the tooth to be extracted is shut off from the lips, tongue, and cheeks by pads of cotton-wool or other suitable material. The spray is applied in a small jet, and continued until the gum is rendered white on both sides. The extraction is then quickly carried out. This method should not be used if acute inflammation of the mucous membrane or periosteum is present, or where there is an exposed pulp or even sensitive dentine, as the severe cold would give acute pain. It is of more use in extracting front teeth than teeth at the back of the mouth, owing to the difficulty of isolating the latter from the surrounding tissues. Occasionally sloughing occurs after ethyl spray.

Injecting the Gums.—The drug most commonly used is cocaine or one of its substitutes. Most men have their favourite drug or preparation, and when they have found one efficient they do not like changing to any of the other preparations on the market. One-per-cent. solution of cocaine is now most used, as it is found to be less toxic under these

conditions and a larger quantity can be employed. The injection should be made slowly and gradually. The needle may be left *in situ* for a few seconds even after the barrel has been discharged. If but little resistance is offered when injecting, it indicates that there has been leakage of the solution outside the tissues, or that the needle has not been properly inserted. If it is found that the piston cannot be driven in, the needle should be reinserted, as this generally indicates that the eye of the needle has become occluded by the alveolus of the jaw. A successful injection is well known by the resistance offered when injecting, and also by the blanching of the gums, which should be well marked, especially when adrenalin is combined with the solution. The best position to insert the needle is obliquely into the gum near the neck of the tooth and between the tooth to be extracted and its neighbour. After injecting a few minims the needle may be pushed further in towards the apex of the tooth. One injection on either side of the gum is usually enough for a single-rooted tooth, but with the molar teeth it is advisable to inject in two or three places on the outer side and one or two on the inner side. Pressure with the finger on the top of the gum may be applied, as this helps to diffuse the anæsthetic and prevents leaking of the solution out of the gum after the needle has been removed. How long to wait before extracting will depend on the preparation used. From two to three minutes is generally needed, and five minutes is recommended in the case of novocaine. In the use of cocaine as an anæsthetic it must not be forgotten that unfavourable symptoms do not depend on the quantity used. The absorption of $\frac{1}{2}$ grain will, generally speaking, do no harm to most patients, and yet quite unexpectedly you may come across some person who shows distinct symptoms of cocaine-poisoning. The toxic symptoms are : Patient becomes pale and faint, and may fall forward in the chair unless caught ; trembling of the limbs, especially the legs ; headache, a cold moist skin, perhaps nausea, vomiting, unconsciousness, dilated pupils, epileptic attacks, finally disturbance of the circulation, ending in dyspnœa and asphyxia. The treatment of these symptoms consists mainly in giving stimulants and restoring the circulation. If the patient is in the chair, he or she should be put in the supine position at once, air freely admitted, and some alcoholic stimulant (brandy, whisky, or sal volatile) quickly administered. If unconsciousness continues, a drachm of ether should be injected subcutaneously. The patient must be watched particularly, and artificial respiration resorted to if there is any sign of respiration failing. The first measures are those of most importance—*i.e.*, position and warmth.

The Syringe.—The 'all-glass syringe' has lately come into a great deal of favour, but whatever syringe is used it should be powerful. All junctions must fit accurately ; preferably the shaft and hilt should be in

one piece, thus saving a joint. It must be made to take to pieces easily, every portion thus being capable of thorough sterilisation. The upper part of the barrel ought to have a stout cross-piece so that the operator can get a good hold while pressing the piston home in the act of injecting. The syringe-needle especially should always be kept antiseptic, and sterilised before use in every case.

A topical application is sometimes used, under the name of 'Calorific fluid,' for producing local anæsthesia. The following are good preparations of this kind :—

Chloroform	1 oz.
Rectified spirit	2 oz.
Citronella oil	6 minims
Oil of bergamot	30 minims

Mix.

Chloroform.	ʒiv.
Tr. aconiti	ʒiv.
Tr. capsici	ʒij.
Ol. caryoph.	ʒss.
Camphor.	ʒss.

Misce.

To be applied to the gums as a fine spray, or on absorbent cotton.

Stopping

is a most important part of dental practice, the effort of the dentist nowadays being to save the teeth, if that is at all possible. To do the work properly requires both knowledge and much experience, so as to be able to diagnose the condition the tooth is in before filling. Carelessness in this particular will certainly lead to a bad result, as the filling may be far worse than leaving alone. Pain in a tooth generally means an inflamed nerve or pulp, and to stop and seal up this inflammatory matter makes the condition worse. The inflammation will extend to the lining membrane of the socket ; and if the stopping is not taken out the tooth will have to be sacrificed. The pulp must therefore be removed, and there are various ways in which this can be done. The arsenic method used to be common, but it is sometimes accompanied by great pain, which lasts for twenty-four hours or longer.

A method has recently come into vogue by which live pulp may be devitalised and removed without pain in from one to three minutes. The originator, Dr. Clyde Davis, thus describes the process :—

1st.—Apply to the cavity one drop of adrenalin-chloride solution 1 : 1000 (best applied by taking some up in the operating pliers, between the points of which it will be retained by capillary attraction).

2nd.—Place in the cavity a few crystals of cocaine or a small $\frac{1}{6}$ grain soluble tablet of the drug.

3rd.—Apply one drop of a 40-per-cent. solution of formaldehyde.

Finally, apply pressure with a rubber plug, at first very lightly, though steadily, but not so firmly as to cause the patient any pain. Gradually increase the pressure until at the end of forty to sixty seconds the rubber can be kneaded into the cavity with the amalgam burnisher, with the necessary force, which should cause the patient no pain. Now remove the covering of the pulp-chamber, and pass a broach slowly toward the apex. If there is a tendency to much hæmorrhage, or the patient should feel in the slightest degree the movements of the broach, repeat the method again, being sure not to omit the formaldehyde, when you can remove the pulp of any tooth without the patient feeling the operation. In cases in which the tooth is slightly sore to percussion, as in the advanced stages of pulpitis, the soreness will have disappeared. Many times I find that the peridental membrane has lost its tactile sense. In cases in which the apical foramen is large and hæmorrhage recurs, apply the adrenalin only, with pressure, for fifteen seconds, after which not another drop of blood will be discharged. Those who prefer can now proceed with root-filling. I prefer to place in the root a non-irritant dressing (mine is campho-phenique), which remains for twenty-four hours, and then to fill.

The advantages of the above method are :—(1) It is painless. (2) It saves time. (3) The colour of the tooth is never changed. (4) The after-soreness is slight, and many times wanting. (5) The application is a powerful antiseptic.

The pulp having been extirpated, all the decayed parts of the tooth are completely removed by means of small steel chisels or excavators, of which there are many forms to suit the different angles which caries forms in the teeth. These are not difficult to use after a little practice, but the operator should always take care not to let the excavator slip when in use, otherwise the mouth or gums might be damaged. After excavating all the dead matter the clean

surface may be treated with an antiseptic, such as mercuric chloride, sozoicdol, or iodoform and eucalyptus oil inserted on a tiny bit of cotton wool and sealed over with a mastic covering. Allow this to remain in for a day before putting in the stopping. White guttapercha is the simplest stopping, is easiest inserted, and sometimes lasts for many years. A piece a little larger than is required should be used. Immediately before heating it in a spirit-lamp, remove the antiseptic from the tooth, insert a piece of dry absorbent cotton, dry the surrounding gum, and insert a roll of absorbent cotton between the gum and the cheek, so as to prevent the saliva wetting the tooth. Then dry out the hollow of the tooth thoroughly, and insert the stopping, pressing it well into the hole. When it sets trim off the surface with a sharp chisel or knife. Cement stoppings are now extensively used, and are undoubtedly superior to all others for front teeth. They are composed of a siliceous powder and a solution of phosphoric acid or chloride of zinc. They require considerable skill and special apparatus in manufacture, so that it is advisable to buy them ready made. The powder is provided in various tints from white to grey, to suit different coloured teeth. The powder is mixed with the liquid at the moment the cement is required. Its insertion presents little difficulty, the chief points to observe being to have a thoroughly clean and dry tooth, and the cement in the condition of a soft pill mass when inserted. Amalgam fillings are deservedly losing their popularity, as they stain the teeth black in the course of time. Gold fillings are the most esteemed. They are made by hammering gold leaf into the tooth, and to insert them properly one requires special training in a dental hospital. There are special instruments for stopping.

Scaling.

The removal of tartar from the teeth is a simple operation. Tartar is a deposit of hard calcareous matter at the base of the crown, and is generally seen on front teeth. When deposited in large quantity tartar should not be allowed to remain;

not that it has in itself any destructive influence on the teeth, on the contrary, were it not that it created inflammation of the gums, and assisted the lodgment of food and other matters, it might be allowed to remain as forming a protective covering for the teeth ; its presence very often, indeed, imparts a distinct alkaline tendency to the fluids of the mouth, which is favourable. A set of scaling instruments (say half a dozen of Bell's pattern, fitting into one handle) is required. Having selected one of the proper shape, it is inserted a little way below the gum under the tartar, which with firm pressure can be scooped off. Several applications of the instrument are required in order to remove the whole of the tartar. There is little fear of hurting the enamel, as it is much harder than the scaling instrument. After removing the deposit, the enamel may be polished with pumice-stone moistened with peroxide of hydrogen, but this is not always necessary. After this the gums between the teeth should be carefully injected with aromatic sulphuric acid, so as to create a healthy condition, and to make the gums grow firmly round the necks of the teeth. The gums generally bleed when the teeth are scaled.

Artificial Teeth.

The fitting of artificial teeth is a department of dental practice which chemists must learn practically under a mechanical dentist, a month under whom is as good as a whole library of books. Moreover, most chemists will be content to know what to do up to the point of making the 'case,' and leave that part of the work to one or other of those manufacturing dentists who make cases to chemists' orders. The first thing to do with a patient who wishes, say, an upper case is to examine the mouth, and adopt all the conservative measures possible. Imagine, for example, that one or two of the molars and the canines are partially decayed, and the rest hopelessly gone. In these circumstances the canines, at least, should be saved by stopping, for they are a great assistance in retaining the artificial denture in its place. The molars also should be saved, for they assist mastication. Other back teeth

should be extracted, unless a little of them appears above the gum. In that case, if they are not sensitive, they should simply be brought down to the level of the gum by removing the protruding points with the excising forceps. If the incisors have to be replaced by artificial teeth, it is preferable, if the stumps be sound, not to extract the teeth, but simply to break off the crown with the excising forceps, extract the nerve with a serrated needle, and insert an antiseptic dressing for a few days before finally drilling and stopping the stumps. The advantage of this course of treatment is that no artificial gum is required—an advantage quite worth the trouble which the operator has, and the intense pain which the patient experiences.

A somewhat extensive selection of drills, burrs, and burnishers is required for treating the front stumps. These are used with the hand, or preferably with a dental engine, which is worked by the foot, and which by rotating the instrument at a rapid rate cleans out the hollow in a remarkably short time. The crown surfaces of the stumps have also to be filed smooth before the stopping is inserted. If any teeth have been extracted it is advisable to wait for a fortnight or three weeks before the impression is taken.

The operator requires not fewer than twelve impression-trays of various shapes and sizes that fit the mouth as closely as possible. For special cases, where a good impression cannot be taken in the ordinary way, trays are very often made to suit by striking up a temporary tray on zinc and lead die and counter. Where plaster of Paris is used as the impression material, special trays of Godiva or wax are always made for this purpose. An impression of the mouth is taken in the usual manner, and this is scooped out over the palate and gums to the depth of at least one-eighth of an inch. This is then roughened so that the plaster may hold. It is best for the beginner to get an 'old hand' to select them for him—in fact, by the time the reader reaches this stage of dental practice he will no doubt be ready to take lessons from some teacher of the mechanical parts of the art of dentistry. Mechanical

dentists who make the artificial teeth for operators advise as to the composition to use. Composition, such as Godiva or Stent's, is undoubtedly excellent, but there is no material for impression-taking to beat plaster of Paris. This, of course, cannot be used in every case, especially when teeth are standing, but it should always be used in edentulous mouths. It gives an exact representation of the jaw, and when removing from the mouth has to crack to come out, and does not yield in the way the composition does; the fault of this yielding in composition being that, although elastic to a certain extent, it may not return exactly to proper position. A suitable tray, nearly fitting the patient's mouth, should be selected; the composition softened in water just hot enough to bear the hand in, then nicely smoothed and placed in the tray and smeared with vaseline. If the surface of the composition in the tray be passed over a spirit-lamp flame to give it a polished-looking surface, it takes a much sharper impression without vaseline. It should then be carried steadily into place, and held for a couple of minutes until moderately hard, then removed by depressing it first at the back and pulling gently down—in the case of the upper jaw. A good impression being obtained, the next thing is to take a correct 'bite,' which, in the case of partial sets, is done by making the patient close the jaws on a piece of moderately stiff composition, taking notice that the lower jaw does not shoot too far forward; it is impossible to bite too far back. For a complete upper and lower set it is necessary to take 'elevations.' These the mechanic will make to the models, and the operator places them in the mouth and sees if the jaws close naturally without a strained appearance. If too deep, some of the upper or lower is cut off, and then the upper is warmed on the edge and the lower made to bite into it. By this method a correct bite is obtained, and the next process is to set the teeth up and articulate them with the teeth on the opposing jaw, and these on some future visit of the patient are tried in to see if the bite is correct, and if the teeth are the proper size, shape, and colour. The shade and shape of the patient's teeth should be matched at the

time when the impressions are taken, and the correctness of the selection proved when trying in, as stated above. For instance, a square or round face requires a square tooth, a long, thin face an almond-shaped one. Everything being correct, the teeth are now ready for flasking, vulcanising, and finishing; each of these different processes being a study in itself, and requiring always careful attention and care in each particular step. Vulcanite is now the material which is most in use for making cases. This is owing to its relative cheapness, as compared with gold or dental alloy.

Further information regarding dental practice may be obtained from the following works :—

Hunter's 'Mechanical Dentistry' (Crosby Lockwood, 7*s.* 6*d.*).

Cole's 'Manual of Dental Mechanics' (Churchill, 7*s.* 6*d.*).

Sewell's 'Student's Guide to Dental Anatomy and Surgery' (Churchill, 5*s.* 6*d.*).

Tomes's 'Dental Anatomy' and 'Dental Surgery' (Churchill, each 12*s.* 6*d.*).

Fillebrow's 'Text Book of Operative Dentistry' (C. Ash & Sons, 10*s.* 6*d.*).

Dr. Richardson's 'Practical Treatise on Mechanical Dentistry' (Ash & Sons).

Flagg's 'Plastics and Plastic Fittings' (Waite, Liverpool, 13*s.* 6*d.*).

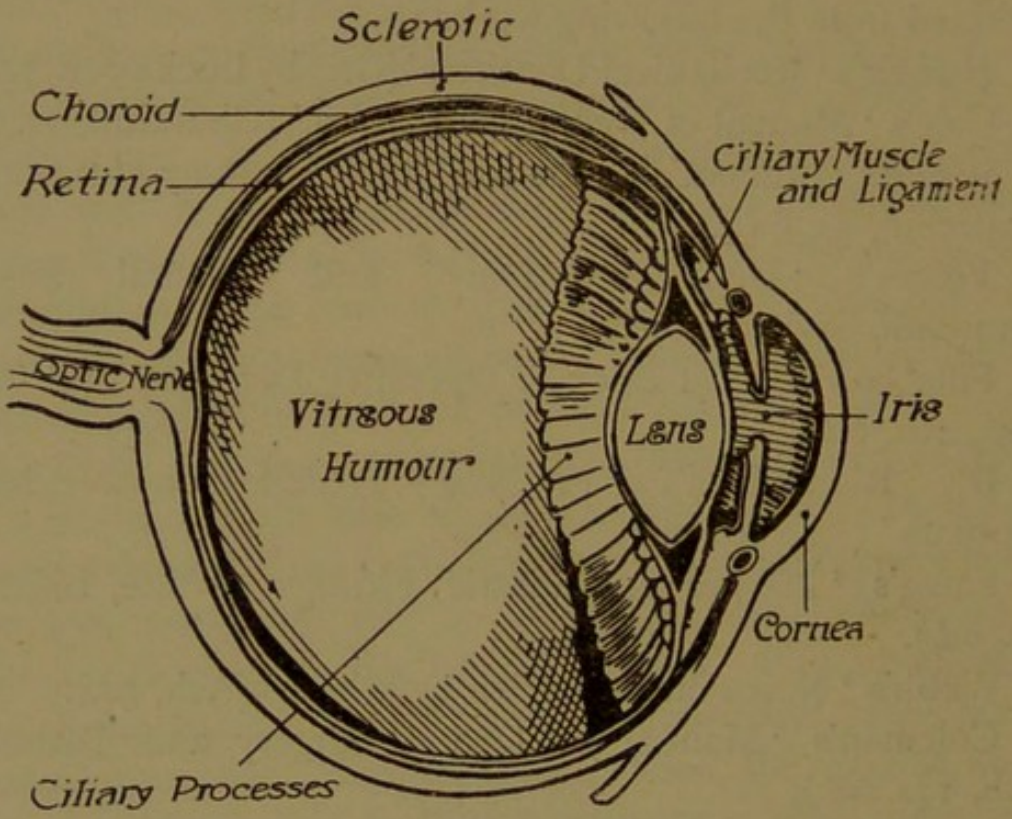
Webb's 'Notes on Operative Dentistry' (Ash, 9*s.*).

Coleman's 'Manual of Dental Surgery and Pathology (Ash, 12*s.* 6*d.*).

Barrett's 'Dental Surgery for Medical Practitioners and Students of Medicine' (Lewis, 3*s.* 6*d.*).

SIGHT-TESTING.

The testing of sight and the fitting of spectacles are now a well-recognised part of the chemist's business. About thirty years ago *The Chemist and Druggist* called the attention of the drug-trade to the profitable nature of the spectacle business, and gave hints on the scientific adaptation of these necessary aids to perfect vision. A considerable amount of scientific training is wasted which might be profitably turned to account in this direction. It should be noted that it is no part of the



functions of the chemist-optician to treat diseases of the eye—a point which, if made clear, will do away with the objections that some medical men have to chemists testing sight.

The globe of the eye is placed in the cavity of the orbit, and is held in place by the muscles which surround it, the eyelids, and the optic nerves. In shape it is nearly a sphere; its horizontal transverse diameter measures 22·824 mm., or very nearly an inch. The above diagram will explain the structure of the eye.

The retina is a transparent layer that covers the choroid, extending from the optic nerve to the lens. Microscopical examination of the retina reveals in its $\frac{1}{50}$ inch of thickness eight layers. Of these layers the one immediately behind the pigmented layer, composed of millions of rods and cones, is the portion of the eye which receives light-impressions. The eye possesses, amongst other marvellous arrangements, the power of altering its focus for different distances, this being known as accommodation. The change is produced by alterations in the convexity of the crystalline lens—the surfaces, chiefly the anterior one, becoming more convex by contraction of the ciliary muscle, which allows the elasticity of the lens to assert itself. The maximum amount of accommodation is found in children between the ages of ten and fifteen, and then decreases with age until at forty-five presbyopia or old sight results, and spectacles are needed to correct the difficulty in accommodating the eye for reading purposes. Paralysis and spasm of the accommodation sometimes come before the notice of the optician, but should be referred to a medical man for treatment. Near point measures are used to tell the shortest distance from the eye at which small test-type can be read, and from this deducing the strength of lens required for correction ; but it is better to adopt the method of testing with trial-lenses, which will be explained presently. The eyes work together in a linked action producing binocular vision, or the union in one single impression of the images received on both retinas. This turning together of the eyes towards an object is termed convergence. This power is intimately related to that of accommodation, and although quite separate functions, pain or discomfort is produced if they are dissociated.

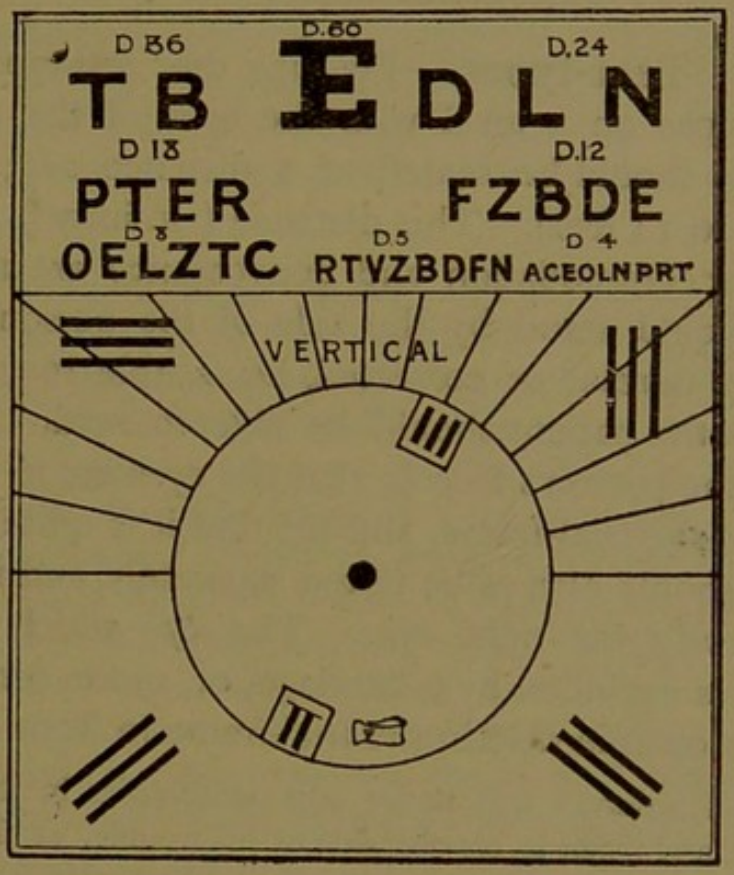
Refraction is the effect the eye has on light entering it when accommodation is at rest. In an emmetropic or normal eye parallel rays are focused exactly on the retina. Hyperopia (long sight or hypermetropia) is the name given to the condition of the eye in which the principal focus is behind the retina, or, in other words, the axis of the eye is shortened. Hyperopia is a congenital defect, and often hereditary. Myopia

(near-sight, short-sight, or brachymetropia) is the condition of refraction in which the retina is situated behind the focus of the dioptric system of the eye. It is often acquired, but is in some cases congenital. The lengthening of the axis of the eye by 1 mm. causes 3D of myopia. Astigmatism is a defect of the eye due to anomalies of curvature of the cornea, the refraction of the several meridians differing. It is a very common defect, but often passes unnoticed until the strain produces headache. The varieties of astigmatism are simple (when only one meridian is at fault), compound (when both meridians are faulty), and mixed (when both meridians are faulty—one hyperopic and the other myopic). When the crystalline lens is absent the condition is known as aphakia; whilst anisometropia is the name given to that state in which the refraction of the eyes is unequal.

The lenses used for correcting defects of vision are spherical and cylindrical, the former being either convex or concave. Convex lenses are thicker in the centre than at the edges. They converge rays of light passing through them, so that the rays meet at a point called a focus. The sign + (*plus* or positive) is used to signify convex lenses. Concave lenses are thinnest in the centre; they cause light rays to diverge. Objects seen through them are diminished and seen smaller. The sign — (*minus* or negative) signifies a concave lens. Cylindrical lenses have the curvature of a cylinder—that is, they are sections of a cylinder. The curve of the opposite sides of the lenses begins on each side of the centre, and the central part where no curvature exists is called the axis of the cylinder.

Under the old system lens numbers indicated in inches the curvature of the surface, the standard being a 1-inch lens. The metric system now in use indicates the refractive power of the lens. The standard of unity is a lens having a focal distance of 1 metre. This is called a dioptry (D). The series of lenses ascends with successively increasing refractive power, the principal focus becoming shortened. The lenses are numbered in quarters of a dioptry up to 3D, and by half-

dioptries from 3D to 6D, and afterwards by dioptries. Weaker lenses than 1D are in use, these being 0·125D, 0·25D, 0·375D, 0·50D, 0·625D, 0·75D, and 0·875D. The strength of lenses is measured by spherometers, a convenient form being the Geneva lens-measures. The various kinds of lenses are distinguished by the simple method of looking through the lens at an object, such as a window-bar, and noting what takes place when the lens is moved slowly sideways or up and down. Through a convex lens a window-bar appears enlarged, and



when the lens is moved slowly the object appears to move in the opposite direction; with a concave lens the window-bar seems to move in the same direction as the lens.

For testing sight a trial-case of lenses and test types and charts are needed. The trial-case is the most important item of an optician's outfit, and it is cheap in the long run to buy a good case at the outset. A good trial-case can be had for from £10 to £15, containing a trial-frame for holding the lenses before the eyes of the patient. The test-types are obtainable in great variety, a combination chart being figured above.

This can be used as a test for hyperopia, myopia, and astigmatism. Small reading types are also required for completing the test for myopia and presbyopia. The testing-room should be about seven yards long, but where this is not possible a series of reflecting types may be installed. These, in one form, are fastened on the side of the wall behind the patient, and read on a mirror on the wall in front.

PRACTICAL SIGHT-TESTING.

With Test-types.—Fix up the test-types with the smallest types on a level with the eyes of the person being tested, who should be seated at a distance of 3 to 4 metres (about 10 to 14 feet). This distance ('infinity') is chosen, as then the accommodation and convergence are at rest. The optician should stand by the side of the person, as, his own sight being normal or corrected, he is able to judge at once what types the patient should be able to read. Fit the trial-frame on the person's face so that the eyes are in the centre of the eyes of the trial-frame, and see that it is quite comfortable. Each eye should always be tested separately, and it is advisable to begin with the right eye. The eye which is not being examined is excluded by a bandage, or, more conveniently, by placing an opaque disc in the trial-frame in front of the eye.

A careful observer will notice any peculiarities in the person under examination and listen to his own tale of his trouble, as from observation much may be learned. Persons with rugged, irregular features may have astigmatism; in long-headed persons myopia may be suspected, and the contrary defect when the distance from the back to the front of the head appears to be narrow.

Some operators begin by placing the stenopaic disc before the eye which is being examined with a view to finding whether faulty vision is due to the refraction or disease. If due to refraction-errors the vision is improved, but it is not improved in cases of, say, opacity of the cornea or cataract. In ordinary cases this procedure may be left till endeavours to improve vision by lenses are found of no avail.

The one eye having been obscured, direct the person to read off the letters on the test-chart, beginning at the largest,

and noting how far he can correctly read. Do not prompt him, as mistaking one letter for another often gives a clue to the presence of astigmatism. If he does not read the type as far as he ought to at that distance, place a + 0·5D lens in front of the eye and ask him if he can see *as well* or *better*.

Convex lenses are used first so as to avoid calling the accommodation into play. Where obviously high degrees of ametropia exist it will not be necessary to begin with as weak a lens as 0·5D, and, again, cases are met with which require for correction a lens of less power even than this.

Hyperopia.—If this lens improves the sight or the person sees as well, the case is one of hyperopia, and needs for correction *plus* lenses. Now change the + 0·5D for a + 0·75D, and so on until the lens is reached which gives normal vision.

The reason why a hyperopic eye sees as well with a convex lens is because the accommodation which was being exerted is relaxed by a convex lens. 2D is the most common error requiring correction in a hyperopic eye. This test will only correct the 'manifest' hyperopia, and on this account the *strongest* convex lens found by this method is ordered. The 'latent' hyperopia can only be tested after the accommodation has been paralysed by a mydriatic. In children, owing to the very active state of the accommodation, it will not be possible to estimate the refraction without atropising the eye, which cases are better referred to an oculist as being out of the province of the optician. With adults there is not the same difficulty as with children, and the latent hyperopia is not of great importance if the precaution is taken of ordering the strongest lenses the patient could use, as even under atropine only a quarter of the latent hyperopia is, as a rule, corrected.

Now proceed to test the other eye, and having found the two suitable lenses place them in the trial-frame, one before each eye, and ask the person if he sees all right. If he does, the case is one of simple hyperopia, which is further demonstrated by placing an astigmatic chart in front of the test-types, and finding that all the lines look black alike; if, however, the person says that some lines look black and others grey, there is astigmatism present, and the methods given under that head further on must be followed. Now try the person with the reading-types, which should also be distinct and clear.

The lenses thus found will be the ones required for both distance and reading, except in very low degrees of hyperopia, when they will only be necessary for reading or near work. Sometimes stronger lenses may be borne for binocular vision, and they may require slightly increasing after a while when more hyperopia becomes manifest.

Myopia.—If on placing the + 0·5D lens before the eye the person says he cannot see so well, change it for a — 0·5D lens, and if this improves matters the case is one of myopia. The — 0·5D lens is changed for stronger ones in the same manner as was the + lens in testing for hyperopia, but in this case it is the weakest lens with which the person sees clearly that is the measure of the myopia.

The other eye is then tested, and the two tried together by placing the appropriate lenses in the trial-frame.

Acuteness of vision must be increased by the concave lens to be sure that myopia is present. An emmetropic eye would, with a concave lens, see the test-types smaller and blacker, but no better than with the naked eye, the accommodation being brought into play to overcome the divergence of the lens. It is owing to this effort of the accommodation being provoked that the weakest lens that gives good vision is used, and care should be taken not to allow the use of the too strong lenses which myopes would often prefer if left to choose for themselves.

It should also be noted that some myopic persons become so accustomed to their myopic condition as to be unable to bear the full correction. Distinct images on the retina soon tire, and some persons with a high degree of myopia object to the necessarily diminished size of the images produced by concave lenses. In such cases the lenses must be reduced to such a strength as is compatible with fair distance vision.

If the concave lenses required by this test are not over — 3D, the glasses will probably be comfortable for reading as well as for distance, but over that strength will probably not be tolerated for reading, and two pairs of glasses (or bifocal ones) will be required, the reading-glasses weaker than the distance ones. For instance, if — 4D is required for distance, — 1·5D or — 2D will suit for reading at 33 cm. In like manner — 6D for distance will need — 3·5D for reading, — 8D (distance) = — 5D (reading), and — 9D (distance) = — 6D (reading). The

person's occupation must be taken into account when adjusting the glasses for near work.

In low degrees of myopia glasses will only be wanted for distance, but in medium and high degrees the correction should be worn constantly. Care is also to be taken, as when testing for hyperopia, to see if there is any astigmatism present.

Astigmatism.—We will assume that the best results with + or − lenses have been obtained that can be, but still the patient does not see all the radiating lines of the astigmatic chart clearly, which will show that astigmatism is present, and that cylindrical lenses are required either alone or in combination with sphericals, according to the variety of astigmatism.

The test is conducted with each eye separately, and the cylindrical lenses are added in front of any spherical lenses which may up to now have been found necessary to give clear vision. Begin with a 0·5 cylinder.

The trial-frame must be fitted with a rotating-groove, by means of which the axis of the cylindrical lens can be rotated, as the meridional defect may occur at any degree. Ask the patient to point out which lines of the chart are least distinct. In a case of simple astigmatism it is the lines of the chart which are parallel to the plane of the defective meridian that the patient sees most distinctly.

The defective meridian is at right angles to that in which the axis of the cylindrical lens is placed. Also note that the meridians of greatest and least defect in an astigmatic eye are at right angles to each other. If a + spherical lens was required when testing with the test-types, a + cylinder will be needed, as a rule, if there is astigmatism. In like manner a − spherical having been required, a − cylinder will be called for if astigmatism is present.

In cases of compound hyperopic and myopic astigmatism, especially if only weak sphericals were required, it may be that only simple astigmatism is present, but has been over-corrected in one meridian by using a spherical. This has the effect of reversing the meridian of the blackest chart lines. The effect of taking away the spherical in cases where the defect was found should always be tried, as the case may often prove to be one of simple astigmatism. It may also be found that the

spherical lens when combined with the cylinder needs reducing in strength. As a precaution that the proper axis has been found, rotate the axis of the cylinder from, say, the horizontal to the vertical, and the patient will at once tell you that his vision is made worse. A slow rotation should also be tried, asking the person to tell you when that meridian is reached at which he sees the clearest. Another way of locating the meridian of astigmatism is by means of the stenopaic slit, which is placed in the trial-frame and rotated till a position is found in which the best vision is given, and a cylindrical lens adopted accordingly. The correction for astigmatism is the same for both distance and reading, and astigmats should wear their glasses always in cases above 0·5D so as to avoid eye-strain. If the correction is above 3D, the full strength is often not well tolerated, and the person will need a weaker glass at first. In cases of astigmatism caused by corneal ulcers or conical cornea, it can often only be improved by the use of stenopaic spectacles.

Presbyopia.—As has been said before, loss of power to accommodate, which comes on after the age of forty-five, needs convex lenses to bring back the near point to a convenient distance—33 cm. is a usual distance—but different occupations may need this varying. For the presbyopia of emmetropes one rule is to give glasses of the strength of + 1D for each five years above forty. By this a person of forty-five years needs + 1D, fifty years + 2D, fifty-five years + 3D, sixty years + 4D, and seventy years + 4·5D; but the table is quite an arbitrary one, and only a guide as to what lenses are likely to be required. The convex glasses ordered for presbyopia should render the type clear and distinct without magnifying it. The reading-types are needed for testing presbyopia.

If the lenses are too strong, they will be uncomfortable after a while and make the eyes water and ache. If it is convenient, the person should be allowed to read in the trial-lenses for half an hour before finally settling on the glasses for permanent use.

A presbyopic person may have been myopic or astigmatic, which should be found out by the distance-type, and it is

obvious that a myopic person will not become presbyopic as early as an emmetropic or hyperopic person. The astigmatic correction is the same for both distance and reading, and is required over and above the convex lenses which the presbyopia requires for correction. Bifocal lenses can be adapted for use by myopic and presbyopic persons.

The above may be taken as the outline of the method of testing sight which is now in vogue. Much fuller information is given in a treatise entitled 'The Chemist-Optician,' published by *The Chemist and Druggist*, price 4*s.*, by post 4*s.* 3*d.*

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SPOTTISWOODE AND CO. LTD. LONDON
COLCHESTER AND ETON