is then much distress, the patient's muscles of forced inspiration come into play, the nostrils dilate, and all the symptoms of asphyxia are present. The inspiration is whistling and crowing, the voice is lost completely, and the cough is husky, while expectoration of fragments of membrane is attended with marked relief. The disease runs a remittent course, extending usually from two to six days, the child's breathing being noisy and difficult throughout, but with frequent exacerbations of suffocative distress. If the cough be loose, and the expectoration free, recovery may take place; but death may occur from suffocation, or from asthenia if the disease be severe and continued. The *prognosis* is, therefore, always grave.

In *nasal diphtheria* there is stuffing of the nose, and a purulent discharge which is often irritating. Sometimes there is swelling of the nose and face, with erysipelatous redness of the skin. The glands at the angle of the jaw may be swollen. Other *local* forms of diphtheria are otitis media, abraded skin, conjunctivæ, &c. Diphtheria of the larynx is sometimes *latent*.

The **post-diphtheritic** paralyses include the palate, the ocular muscles, the laryngeal muscles, and the muscles of the upper and lower limbs, and of the neck. Any group may be affected; and generally speaking, the paralysis occurs in relative frequency, in the order mentioned. The paralysis often varies in character from day to day. It may follow mild attacks. The muscles first lose their faradic, and later their galvanic irritability. Recovery is the rule, but sometimes there are fatal cases from asphyxia, pneumonia, or intercurrent affections. The paralysis may exist for several weeks only, but often it remains for several months.

The **prognosis** in diphtheria must always be guarded. The *toxic* cases are unfavourable; and extension of the membrane to the larynx is very dangerous, and usually fatal. A low temperature, with a slow, irregular pulse in septic cases, is very unfavourable. Sudden syncope during the course of diphtheria is very common.

In the **diagnosis**, the ordinary sore throats, and the syphilitic and scarlatinal throats must be noted. The dirty grey slough in diphtheria does not appear until after twenty-four hours; and in some cases there is no false membrane. Again, *all* sore throats accompanied by false membranes are not diphtheritic; but the bacteriological examination of a piece of membrane, and the discovery of the Klebs-Löffler bacillus, puts the matter beyond all doubt. The *laryngeal* form of diphtheria cannot be distinguished, *clinically*, from severe catarrhal laryngitis (catarrhal croup), unless false membranes be seen, or be coughed up.

In the **treatment** of diphtheria, attention should be directed to the local source of infection. The parts should be kept as clean as possible, and for this purpose chlorate of potash, Condy's fluid, solutions of borax, and other antiseptics are used, either as gargles or as local applications. *Chlorine mixture* is recommended; and carbolic acid, 20 per cent. in children, and 30 per cent. in adults. The nares may be syringed frequently with weak solutions of Condy's fluid. "Steaming" the nostrils and throat is soothing, and

freshly burned lime put into hot water and inhaled is often of great benefit. Spray douches are useful, and disinfectants may be used in this way. All medicinal treatment has given way to *antitoxin*. Five to eight minims of Klein's serum is injected once daily, or oftener. The diet should be generous, and alcohol should be allowed in fairly large doses, frequently repeated. The case should be thoroughly isolated, and great care should be taken to disinfect the discharges. The linen used by the patient should be burned, and the room should be thoroughly disinfected. For the paralytic affections iron and quinine, strychnine and phosphates, should be ordered. Galvanism of the muscles is useful. Tracheotomy may be necessary to relieve urgent dyspnœa; but as a remedy it has not been very satisfactory, as regards the reduction of the mortality. Intubation—keeping in view the great benefits of the "serum treatment"—may be of service.

CHAPTER XV.

GENERAL DATA, USEFUL FOR REFERENCE.

Contents.—Classification of skin diseases—Rules for the management of infants—Incubation periods, and the duration of infection; isolation and disinfection—Certifying the insane—Classification of the poisons according to the treatment—Signs of approaching death.

1. CLASSIFICATION OF THE SKIN DISEASES.

The author has not entered into the diseases of the integumentary system in this work, as he believes that a good skin atlas is preferable to short sketches of the skin affections, and more in keeping with the general objects of this handbook, as mentioned in the preface. The following classification, from Dr. Allan Jamieson's well-known *Diseases of the Skin*, is here appended, with his permission, as a guide.

CLASSIFICATION OF DISEASES OF THE SKIN.

CLASS	I.	**Morbi cutis parasitici.** Parasitic Affections.
,,	II.	**Morbi glandularum cutis.** Glandular Affections.
,,	III.	**Neuroses.** Neurotic Affections.
,,	IV.	**Hyperæmiæ.** Hyperæmic Affections.
,,	V.	**Exsudationes.** Exudative or Inflammatory Affections.
,,	VI.	**Hæmorrhagiæ.** Hæmorrhagic Affections.
,,	VII.	**Hypertrophiæ.** Hypertrophic Affections.
,,	VIII.	**Atrophiæ.** Atrophic Affections.
,,	IX.	**Neoplasmata.** New Formations.

Class I.—Morbi cutis parasitici. Parasitic Affections.

A. Vegetable.

1. Tinea trichophytina (trichophytosis) (*parasite — Trichophyton tonsurans*)
   - corporis (tinea circinata).
   - capitis (tinea tonsurans).
   - barbæ (sycosis parasitica).
   - tinea kerion.
   - conglomerate pustular folliculitis.
   - cruris (eczema marginatum).
2. Tinea favosa (favus) (*parasite—Achorion Schœnleinii*).
3. Tinea versicolor (chromophytosis) (*parasite—Microsporon furfur*).
4. Actinomycosis.
5. Erythrasma.

B. Animal.

1. Phthiriasis (pediculosis)
   - vestimenti
   - capitis
   - pubis

   (*parasite—Pediculus*).
2. Scabies (*parasite—Acarus scabiei*).

Class II.—Morbi glandularum cutis. Glandular Affections.

A. Diseases of the Sebaceous Glands.

I. Due to faulty secretion or excretion of sebaceous matter.
1. Acne sebacea
   - oleosa
   - cerea
   - cornea
   - exsiccata (xeroderma),

   (seborrhœa).
2. Acne punctata
   - nigra (comedo).
   - albida (milium).
3. Acne molluscum (molluscum contagiosum) (?)
4. Adenoma sebaceum.

II. Due to inflammation of sebaceous glands with surrounding tissue.
5. Acne simplex (A. vulgaris).
6. Acne indurata.
7. Acne rosacea.
8. Acne varioliformis.

B. Diseases of the Sweat Glands.

I. As to quantity of secretion.
1. Hyperidrosis.
2. Anidrosis.

II. As to quality of secretion.
3. Bromidrosis.
4. Chromidrosis.

III. With retention of secretion.
5. Dysidrosis.
6. Sudamina.

Class III.—Neuroses. Neurotic Affections.

1. Zoster (herpes zoster, zona).
2. Pruritus.
3. Dermatalgia.
4. Hyperæsthesia cutis.
5. Anæsthesia cutis.
6. Dystrophia cutis (trophic disturbances).
7. Syringomyelia.
8. Morvan's disease.

Class IV.—Hyperæmiæ. Hyperæmic Affections.

A. Active.

1. Erythema simplex
   - idiopathicum.
   - traumaticum.
2. Roseola.

B. Passive.

1. Livedo mechanica.
2. Livedo calorica.

Class V.—Exsudationes. Exudative or Inflammatory Affections.

A. Induced by Infection or Contagion, and due to a Specific Infecting Virus.

1. Rubeola (morbilli, measles).
2. Rubella (rötheln).
3. Scarlatina.
4. Variola.
5. Varicella.
6. Vaccinia.
7. Pustula maligna.
8. Equinia (glanders).
9. Diphtheritis cutis.
10. Erysipelas.
11. Syphilis.
12. Framboesia.
13. Tuberculosis.
    - Lupus vulgaris.
    - Tuberculosis verrucosa cutis.
    - Verruco necrogenica.
    - Miliary tuberculosis.
    - Lupus erythematosus (?)
14. Leprosy.
    - Lepra tuberosa. — Elephantiasis Græcorum.
    - Lepra maculosa.

- **B. Of Internal or Local Origin.**
  - **I. Erythematous.**
    - 1. Erythema
      - multiforme.
      - nodosum.
      - induratum.
      - gangrænosum.
      - keratodes.
    - 2. Urticaria.
  - **II. Papular.**
    - 3. Lichen planus or ruber.
    - 4. Parakeratosis variegata.
    - 5. Prurigo.
  - **III. Vesicular.**
    - 5. Herpes
      - febrilis.
      - iris
      - progenitalis.
  - **IV. Bullous.**
    - 6. Dermatitis herpetiformis.
    - 7. Herpes gestationis.
    - 8. Hydroa vacciniforme.
    - 9. Pemphigus
      - vulgaris.
      - foliaceus.
    - 10. Pompholyx (cheiro-pompholyx).
  - **V. Pustular.**
    - 11. Folliculitis barbæ (sycosis).
    - 12. Ulerythema sycosiforme (lupoid sycosis).
    - 13. Acne keloid (dermatitis capillitii papillaris).
    - 14. Impetigo contagiosa.
    - 15. Ecthyma.
    - 16. Destructive folliculitis.
  - **VI. Multiform, *i.e.*, erythematous, papular, vesicular, pustular, &c.**
    - 17. Eczema.
    - 18. Seborrhœic dermatitis.
    - 19. Dermatitis
      - calorica.
      - venenata.
      - traumatica.
  - **VII. Squamous.**
    - 20. Dermatitis exfoliativa (pityriasis rubra).
    - 21. Psoriasis.
    - 22. Pityriasis rosea.
    - 23. Pityriasis rubra pilaris.
  - **VIII. Phlegmonous.**
    - 24. Furunculus (furunculosis).
    - 25. Anthrax (carbuncle).
  - **IX. Ulcerative.**
    - 26. Ulcus
      - simplex.
      - venereum.
    - 27. Onychia.

Class VI.—Hæmorrhagiæ. Hæmorrhagic Affections.

- 1. Purpura
  - simplex.
  - papulosa.
  - rheumatica (peliosis rheumatica).
  - hæmorrhagica.
- 2. Hæmatidrosis (bloody sweat).
- 3. Scorbutus.

Class VII.—Hypertrophiæ. Hypertrophic Affections.

- **A. Of Pigment.**
  - 1. Lentigo.
  - 2. Chloasma.
  - 3. Melanoderma.
  - 4. Nævus pigmentosus.
  - 5. Morbus Addisonii.
  - 6. Xeroderma pigmentosum.
- **B. Of Epidermis and Papillæ.**
  - 1. Keratosis pilaris (lichen pilaris).
  - 2. Ichthyosis.
  - 3. Cornu cutaneum.
  - 4. Clavus.
  - 5. Tylosis (callositas).
  - 6. Verruca
    - vulgaris.
    - senilis.
    - acuminata.
    - plana.
- **C. Of Connective Tissue.**
  - 1. Scleroderma.
  - 2. Sclerema neonatorum.
  - 3. Elephantiasis Arabum.
  - 4. Dermatolysis.
  - 5. Frambœsia (or yaws).
- **D. Of Hair.** 1. Hirsuties. 2. Nævus pilosus.
- **E. Of Nail.** 1. Onychogryphosis. 2. Onychauxis.

Class VIII.—Atrophiæ. Atrophic Affections.

- **A. Of Pigment.**
  - 1. Albinismus.
  - 2. Leucoderma (vitiligo).
  - 3. Canities.
- **B. Of Corium.**
  - 1. Atrophia cutis
    - maculosa (maculæ atrophicæ).
    - propria.
    - linearis (striæ atrophicæ).
  - 2. Atrophia senilis.
- **C. Of Hair.**
  - 1. Alopecia.
  - 2. Alopecia areata.
  - 3. Trichorexis nodosa (atrophia pilorum propria or fragilitas crinium).
  - 4. Moniliform hairs.
- **D. Of Nail.** Atrophia unguium.

Class IX.—Neoplasmata. New formations.

I. Benign New Formations.

- **A. Of Connective Tissue.**
  - 1. Keloid.
  - 2. Fibroma (molluscum fibrosum).
  - 3. Xanthoma (xanthelasma, or vitiligoidea).
  - 4. Darier's disease.

B. Of Granulation Tissue.	1. Mycosis v. Granuloma fungoides. 2. Rhinoscleroma. 3. Scrofuloderma (lichen scrofulosorum).
C. Of Blood-Vessels.	1. Nævus vasculosus. 2. Angioma (telangiectasis). 3. Angiokeratoma.
D. Of Lymphatics.	1. Lymphadenoma cutis. 2. Lymphangioma cutis.
E. Of Nerves.	Neuroma cutis.

II. Malignant New Formations.

1. Carcinoma	epitheliomatosum (epithelioma and rodent ulcer). papillomatosum (papilloma). Paget's disease of skin.
2. Sarcoma	idiopathicum. pigmentosum (melanosis).

2. RULES FOR THE MANAGEMENT OF INFANTS.*

1. **Warmth, Cleanliness, Fresh Air.**—Keep them warm: let the clothing be warm, but not tight. Wash them all over with warm water daily, wiping them thoroughly dry afterwards. Give them plenty of fresh air: send them out, at least for a short time, every day that the weather is fine; and, while they are out, air the room, by freely opening the window.

2. **Nourishment while the Child is under Seven Months old.**—The mother's milk is the most natural, and accordingly the proper food for infants. Therefore, if the mother has plenty of milk, let her suckle her child and give it *nothing else* till it is seven months old. If the mother has too little milk, still let the child have what there is; and, in addition, cow's-milk and water, as directed in Rule 3. Till the child is seven months old, milk must be its *only* food.

3. **How to bring up "by hand."**—If the child *must* be brought up by hand, it should be fed with milk and water out of a bottle. At first, there should be nearly as much water as milk; but when the child is a month old, two parts of milk should be mixed with one of water: after this, the proportion of milk should gradually still further be increased, till, at four or five months, it is given plain. If, at any time, the milk seems to disagree, a tablespoonful of lime water should be added to each bottleful. *Give the child no other nourishment whatever.* A very large number of the children that are brought up by hand die in childhood; and this mortality is for the most part due to the practice of beginning too soon with gruel, corn-flour, &c. These are not proper nourishment for children under seven months old, and should never be given to them. While the child is under a month old, do not give it more than half a teacupful of milk and water at a time. The bottle should draw easily. It should be very carefully washed out after every time it is used. Then bottle, cork and tube should be kept separately in a bowl of clean water till next time they are needed. If the bottle is not quite clean, the milk may sour, and may thus make the child ill.

4. **Importance of Regular Feeding.**—The child should be put to the breast *regularly:* for the first six weeks, during the day, in general not oftener than every two hours; afterwards about every three hours. During the night, it does not need to be fed so often. A child soon

*Used at the New Town Dispensary Edinburgh.

learns regular habits as to feeding. It is a very great mistake, to give the breast to the child whenever it cries, or to let it be always sucking, particularly at night: this is bad for both mother and child. If the child is brought up by hand, it should be fed with the same regularity: never give it the bottle *merely* to keep it quiet. If the child is weakly, the intervals between the feedings must be somewhat shortened, both during the day and during the night.

5. **Nourishment when the Child is over Seven Months old.**—If at seven months, the child is strong and healthy and has cut a few teeth, it may now have one or two meals a day of milk slightly thickened with good well-baked bread or well-boiled porridge. *It should still have*, besides this, *plenty of plain breast or cow's milk.* At ten months, it may once a day have a little meat-broth made with barley or rice, without vegetables. At twelve months, it should be taken from the breast. Till the child is two years old, no solid animal food should be given. *Even at two years, milk should still be the chief food.*

If at seven months, the child is weakly or sickly or is backward in teething, milk must remain the only food for some time longer.

6. **Avoidance of Stimulants, &c.**—Tea, beer, whisky, and other stimulants, cheese, fruit, and pastry, as also "soothing-medicines," "sleeping-draughts," "cordials," "teething-powders," &c., *should never be given;* and even ordinary medicines should, if possible, be given only after proper medical examination and advice.

General Rules for Infant Feeding.

From Keating's *Diseases of Children* (Rotch).

Age.	Intervals of Feeding.	Number of Feedings in 24 Hours.	Average Amount at each Feeding.	Average Amount in 24 Hours.
1st week	2 hours	10	1 oz.	10 oz.
1 to 6 weeks	2½ hours	8	1½ to 2 oz.	12 to 16 oz.
6 to 12 weeks, and possibly to 5th or 6th month	3 hours	6	3 to 4 oz.	18 to 24 oz.
At 6 months	3 hours	6	6 oz.	36 oz.
At 10 months	3 hours	5	8 oz.	40 oz.

3. INCUBATION PERIODS AND THE DURATION OF INFECTION. ISOLATION AND DISINFECTION.

Incubation periods (full extent).

Erysipelas,	7 days.
Diphtheria,	12 days.
Pertussis, Measles, Scarlatina, Roetheln, Small-pox	14 days.
Chicken-pox,	18 days.
Typhus fever,	21 days.
Mumps,	24 days.
Typhoid fever,	?
Influenza	?

A boy who has been exposed to infection, should be carefully disinfected and isolated, and should not be allowed to return to school until the full extent of the incubation period has elapsed. All books, &c., which have been exposed to infection, should be destroyed. In cases where the boy has been exposed to infection, but has previously had the disease, he must still be quarantined—except in the case of pertussis, roetheln, chicken-pox, or mumps, when one day's detention (with disinfection) will be sufficient.

Duration of infection; when disinfection, &c., is carried out. A boy may return to school as stated below, viz. :—

Erysipelas.—After desquamation has entirely ceased. Generally three to four weeks.

Diphtheria.—After recovery; and *not less* than three weeks from the beginning of the illness.

Pertussis.—When the spasmodic cough has gone—generally six weeks from its first appearance.

Measles.—When desquamation has entirely ceased—two to four weeks.

Scarlatina.—When desquamation has entirely ceased—six, eight, or even ten weeks.

Roetheln.—In fourteen days from disappearance of rash.

Small-pox.—In six weeks after the crusts have disappeared.

Chicken-pox.—In a week after the last crust has disappeared—generally three weeks from the appearance of the vesicles.

Typhus fever.—When convalescence allows of it—never less than fourteen days, in the very mild cases.

Mumps.—In fourteen days after all swelling has disappeared.

Typhoid fever.—When convalescence allows of it—sometimes two or three months.

Influenza.—When convalescence allows of it—very variable.

Ringworm.—A week after effective treatment has been carried out; but the case should still be watched.

In the treatment of infectious disease, *isolation* of the patient, and *disinfection* of the sick-room, clothes, and person, &c., are of the highest importance. When the case cannot be removed to an hospital for infectious diseases, a room must be selected as far from the other members of the family as possible. All curtains, rugs, carpets, and hangings, should be removed; and old sheets, saturated with carbolic lotion, should be hung over the doorway both inside and outside. When possible, a room communicating with a bath-room and dressing-room should be used, and the whole suite completely isolated. The nurse should observe great care, when passing from the sick-room, that her dress does not convey infection outside. Her dress ought to be changed in the ante-room (bath-room or dressing-room) before passing through the passage or hall. If practicable, a separate entrance should be used.

In certain cases, the stools from the patient require disinfection before being cast into the closet. Sulphate of iron, or strong carbolic acid, may be used for this purpose. All crockery, &c., used at meal times, and required outside the sick-room again, must be washed and rinsed out with dilute carbolic lotion before being returned to the general household.

For the disinfection of the patient, the skin in many cases (as in measles and scarlet fever) requires to be daily anointed with carbolised vaseline. The linen used by the patient should be either burnt or placed in boiling water, to which some Condy's fluid has been added. In some cases, as typhus, small-pox, cholera, &c., the *burning* of the linen is imperative. When the patient is considered free from infection, there should be a final bathing with carbolic soap—special attention being given to the hair—and finally he emerges from the sick-room in a state of nudity to receive fresh linen and clothes in a different bedroom. It is well to arrange—in the case of children after scarlatina, for example—for the patients being sent direct to some place for convalescence, without coming in contact with other children for another week or two. For the final disinfection of the sick-room there is nothing like plenty of fresh air. The walls should be stripped of the paper, and after removing the irons, sulphur pastilles may be lighted and the doors tightly closed. The pastilles should be placed on spars of wood laid across tubs of water, as the sparking from them may be dangerous if not surrounded in this way. After a few hours, the doors and windows may be opened. The rooms are thoroughly washed and scrubbed with strong carbolic soap and water. All mattresses, bedding, and clothing which may not be destroyed, should be sent away to be subjected to a high dry heat, which is the most effectual means of destroying germs. In the severe infectious diseases it is safer to burn the bedding, &c. The room, after being thoroughly disinfected, should remain untenanted and freely ventilated for some time afterwards. The drains should be inspected, and thoroughly flushed with water and crude carbolic acid.

4. CERTIFYING THE INSANE.

Having first got the history of the case, proceed with the examination as if the man were sane. In extreme cases where it may be necessary to conceal the fact that you are a physician called in to examine the mental state, the conversation can only be general; but if known to him, then it is convenient to suggest that his friends consider his health to be impaired, and that he requires medical advice. No mention need be made that it is insanity that is suspected. The information supplied by the friends will often suggest the line of examination and save much time. When the patient, however, is suspicious, another visit may be necessary before a certificate can be conscientiously filled up.

During the conversation which follows, note the *expression of his face and eyes, attitudes, and manner*, &c. The expression may be *weak, silly, vacant, stupid, or imbecile.* Often there is extreme *restlessness and excitability*, and such cases are generally easy to certify, as the delusions very soon are manifest. The angry, morose, or suspicious subject is more difficult to manage; but *taciturnity, and refusal to answer simple questions* (put in a mild and soothing way) are accepted as evidence, and worthy of noting in the certificate. The best evidence to note in the "*facts indicating insanity observed by myself*"—is some *obvious delusion.* The *memory* should be tested in some simple and general way—as asking the day and date, his age, how long he has been in town, &c. The *speech* may be rambling and incoherent. A question may be answered absurdly, and the reasoning power may be quite lost. Many cases are *noisy*, the patient *shouting or outrageous and threatening* in his manner. Any *suicidal or homicidal* tendency should be noted. When a ridiculous statement is made be sure to add "which is a delusion," if it be not obvious. The *self-control* may be tested by contradiction, or otherwise producing some irritation in the patient. The temperature should be taken in all suspicious cases, as the delirium of fever may simulate a case of insanity.

The facts recorded by others should always have the name of the informant included in the certificate, and it is well to read over the whole certificate carefully after filling it up, as the omission of certain parts may be important from a legal point of view. Clouston suggests that the following conditions should be noted and excluded in the examination of the insane, viz.:—"Drunkenness, drugging by opium or other narcotics, meningitis, cerebritis, brain syphilis, the fevers, sunstroke, traumatic injury to the head, hysteria, the cerebral effects of gross brain diseases, simple *delirium tremens*, the temporary cerebral effect of moral shock, or the delirium which precedes death in many diseases and in old age." He adds, however, that "many of these conditions and diseases may lead to, or be associated with, real mental disease, and require treatment as such."

5. CLASSIFICATION OF THE POISONS ACCORDING TO THE TREATMENT.

From the author's *Synopsis of Therapeutics*, published by Y. J. Pentland.)

POISONS.

All cases of poisoning require *general*, and most cases require also *special*, treatment.

General Treatment.

This depends upon the condition and symptoms manifested by the patient, and consists of the proper use of the following, viz. :—

1. **Stimulants.** — Brandy. Ammonia. Camphor. Coffee (an enema if necessary). Rousing. Cold. Battery.
2. **Sedatives.**—Morphia. Chloroform (for spasms, &c.). Demulcents (gruel, arrowroot, barley-water, milk, raw eggs, linseed tea, or oil). Warmth. Poultices. Recumbent position.
3. **Artificial respiration**—may be necessary.
4. **A purgative**—may be required.

Special Treatment.

The poisons may be classified thus :—

DIVISION I.—POISONING NOT TREATED WITH EMETICS, NOR WITH THE STOMACH TUBE.

Group 1. **Acetic Acid.** **Sulphuric Acid.** **Oxalic Acid.** (Oil of Lemons.) **Tartaric Acid.** ***Hydrochloric Acid.** *** Nitric Acid.** — Give quantities of *Soap* and *Water*, *Chalk*, *Whitewash*, or *Magnesia*.

Group 2. **Caustic Potash.** **Caustic Soda.** **Ammonia.** — Give *Vinegar*, *Oil*, and *Demulcents*.

Group 3. **Carbonic Acid** (Carbonic Oxide). **Chlorine Gas.** **Coal Gas.** **Sewer Gas.** — *General Treatment.*

*The bicarbonates of potash or soda, and ammonia (well diluted), are even better antidotes for hydrochloric and nitric acids, but *not* for oxalic acid.

DIVISION II.—POISONING TREATED WITH EMETICS AND STOMACH TUBE.*

Poisons with Special Antidotes.

Group 1.

Arsenic.—Hydrated Peroxide of Iron (freshly prepared, by adding Carbonate of Soda to Steel drops and filtering).
Barium.—Epsom Salts or dilute Sulphuric Acid.
Belladonna (Atropia, Henbane, &c.).—Pilocarpine (hypodermically, in ½ gr. doses, and repeated if necessary).
Carbolic Acid (and Creasote).—Epsom or Glauber's Salts well diluted, or Saccharated Lime. White of egg (raw).
Chloroform (swallowed).—Carbonate of Soda (well diluted). Nitrite of Amyl (inhaled).
Chromic Acid (and Bichromate of Potash).—Chalk. Carbonate of Magnesia.
Copper.—Eggs (raw). Milk.
Curara.—Strychnia.
Cyanide of Potassium. — Sulphate of iron (well diluted). Atropia.
Mercury. { Corrosive Sublimate, Red and White Precipitate, } White of egg (raw).
Iodine.—Starch.
Lead. — Dilute Sulphuric Acid. Epsom Salts. Glauber's Salts.
Phosphorus.—Sulphate of Copper. FRENCH Oil of Turpentine. *N.B.*—Do not give oils or fat. Use Epsom Salts as the purgative.
Picrotoxine (Cocculus Indicus).—Chloral. Bromides.
Silver.—Salt. White of egg (raw).
Stramonium.—Pilocarpine.
Zinc (Burnett's Fluid).—Carbonate of Soda or Potash (well diluted). Tannic Acid. Eggs.

Poisons with Atropia as the chief antidote. (Use ⅟₁₀ gr. hypodermically, and repeat the dose within 20 minutes, if necessary.)

Group 2.

Aconite.
Benzoine.
Caffeine.
Calabar Bean.
Gelsemium.
Jaborandi.
Muscarine (Poisonous Mushrooms).
Mussel.
Nitre.
Nitrite of Soda.
Nitrobenzol.
Nitroglycerine.
Opium and Morphia.
Prussic Acid (Oil of Bitter Almonds).
Resorcin.

*Sometimes these cannot be used, and often they are not required,—*e.g.*, in strychnia, jaborandi, curara, gelsemium, nitroglycerine, and zinc poisoning.
In poisoning by carbolic acid and cyanide of potassium give the antidote before the emetic.

N.B.—Additional antidotes are, Digitalis for Aconite; Morphia for Caffeine; Chloral and Strychnia (in bad cases, $\frac{1}{60}$ gr. of the sulphate, hypodermically), for Calabar Bean; and Ergot for Nitro-glycerine.

Poisons with Tannic Acid as the chief antidote. (Use 30 grs. for a dose.)

Group 3.

- **Antimony.**
- **Colchicum.**
- **Conium.**
- **Digitalis** (and Convallaria).
- **Ergot.**
- **Lobelia.**
- **Strychnia** (and Nux Vomica).
- **Tobacco** (and Nicotine).
- **Veratria.**

N.B.—Additional antidotes are, Aconite for Digitalis; Strychnia ($\frac{1}{60}$ gr. of the sulphate, hypodermically), for Lobelia; Bromides and Chloroform for Strychnia.

Poisoning treated on general principles (*see ante*).

Group 4.

- **Alcohol.**
- **Arum Maculatum** (Lords & Ladies, &c.).
- **Bryony.**
- **Camphor.**
- **Cantharides.**
- **Chloral** (and Paraldehyde).
- **Colocynth.**
- **Croton Oil.**
- **Laburnum.**
- **Nightshade.**
- **Nitrite of Amyl.**
- **Paraffin Oil.**
- **Privet.**
- **Savin.**
- **Turpentine.**
- **Yew.**

Vermin Killers—generally contain Strychnia.
Crayons—contain Lead, Arsenic, Chromic Acid, &c.
Fly Papers—contain Arsenic (generally).
Hair Dyes—contain Lead (generally).
Rat Pastes—contain Phosphorus and Arsenic.
Neuraline—contains Aconite.

N.B.—**Liniments** are often compound, and complicate the treatment; as Liniment of Aconite, Belladonna, and Chloroform; Liniment of Belladonna and Morphia, &c.

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6. SIGNS OF APPROACHING DEATH.

In the progress of a case, the recognition of unfavourable symptoms is of great importance. In "sudden" or "unexpected" deaths, there are no warnings; although there may have been some premonitory symptoms, or a short illness which has not excited any alarm or anxiety. It is, however, during the *course* of a disease—especially of a chronic case—that one should be on the alert for a "change,"

or for the development of signs which indicate the approach of a fatal termination. Towards the end of a case the symptoms shade into one another, no matter what system of the body is originally affected; but they differ in the early stages.

In diseases of the *circulatory organs*, any alteration in the character of the breathing, or gradually increasing dyspnœa, is significant. The expression becomes intensely anxious, and the patient requires to be propped up in bed. The breath becomes cold. The heart-sounds, and murmurs, may be distinct enough, owing to the excited action of the heart; but they become feeble towards the end. The pulse becomes irregular, rapid, and feeble. The veins are distended and pulsating. Ultimately, the breathing becomes more and more shallow, and if some bronchitis be present—as is usually the case—the mucus collects in the bronchial tubes and trachea, and the râles are loud and coarse. The extremities become cold and pale. Cold sweat often breaks upon the skin and forehead. Sometimes there are slight convulsions, and there may be angina pectoris. Gradually the patient becomes unconscious, the eyelids are half-closed, and the eyes fixed and glassy. Sometimes the termination is more sudden (syncope); and when clots obstruct the pulmonary vessels the dyspnœa (or convulsions) becomes urgent, and the end quickly takes place. When any of the secondary complications of heart disease are present, there will be additional symptoms according to their character. Sometimes a heart case terminates by *collapse*. In such cases, the features become pinched, shrunken, and livid. Cold perspiration breaks out upon the body; the breathing becomes shallow, irregular, and sighing; the pulse, quick, irregular, feeble, or imperceptible; and often there is hiccough or vomiting. Transient delirium or convulsions may supervene.

In diseases of the *respiratory organs*, the heart is often secondarily affected, and the train of symptoms ushering in death, may be similar to those above described. In many cases death takes place from carbonic acid poisoning, the accumulation of mucus or inflammatory products interfering with the aëration of the blood. The râles in the trachea become distinct; and they become less and less removed by coughing. The breathing becomes more and more difficult, and the patient gradually becomes unconscious, and dies from asphyxia.

In *renal disease* the manner of death may depend upon the nature of the complications. These may be relieved during the course of the case, or they may prove directly fatal. In chronic cases, when the complications do not immediately threaten life, death is due to the non-elimination of effete matter, so that the gradual onset of *uræmia* with its train of symptoms, must be carefully watched, and delirium, eclampsia, and coma may terminate the case.

In diseases of the *digestive system*, the acute cases may terminate in collapse. In the chronic cases which prove fatal the changes are very gradual. Leaving out of consideration the special symptoms peculiar to each disease, death generally results from emaciation and failure of nutrition. Such affections as are associated with

vomiting and diarrhœa, or cases of stricture of the œsophagus and stomach, &c., often terminate by starvation. The patient gets weaker. There is languor, a feeble circulation, and coldness of the extremities. The hands, feet, nose, and ears get dusky. The breathing gets more and more shallow. The pulse at last becomes almost imperceptible, and any attempt to sit up or move produces faintness. Such symptoms are common to all chronic diseases in which there is slow wasting away.

In fevers generally, the *typhoid state* is the commonest mode of termination.

In diseases of the *nervous system*, the chronic spinal affections either terminate ultimately in extension to the vital parts, or by some intercurrent affection. In brain disease, the termination of acute cases is generally by coma, and often by convulsions. The patient becomes gradually unconscious, in many cases; the breathing becomes irregular and stertorous; secretions accumulate in the bronchial tubes; and death appears to end by asphyxia.

In simple *senile decay*—beyond the obvious appearances of gradual failure—it is often impossible to detect any physical sign which would indicate that death was near at hand. There is often mild delirium; and in many cases there is wild and noisy excitement for a few days before the unconsciousness which supervenes and ushers in the fatal termination. Many cases, certainly, run a course similar to the chronic wasting diseases already described; but others, again, when much debilitated, seem to die of sudden failure of the nervous apparatus of the heart. The previous visit may not have enabled the physician to detect any change in the circulatory organs.

CHAPTER XVI.

POST-MORTEM EXAMINATION.

(Summarised, by permission, from Woodhead's *Practical Pathology*.)

In some cases it is advisable to get a history of the case, and especially when the death has been a suspicious one, or due to some accident, &c. Note the time the patient died, and the interval between the death and examination. Note the colour of the various parts of the body; the *post-mortem* lividity; the appearances of wounds, abrasions, &c.; and the degree of *post-mortem* rigidity. In systematic examinations, the *post-mortem* case-book—containing important headings, as name, age, height, &c.—should be followed.

Head.—After the external examination, an incision is made behind the ear and carried over the vertex of the skull to the same point on the other side. The scalp is then dissected and reflected forwards and backwards until the eminences over the frontal sinuses and the occipital protuberances are exposed. After examination of the soft parts, carry the knife round the skull at the level above indicated. The saw is then used carefully, and the skull-cap loosened by the aid of the chisel, mallet, and lever. The skull-cap can generally be removed by dragging on the fore part; but sometimes the adhesions render a good deal of force necessary. A small opening is made in the dura-mater on each side, just above the bony margin, and a blunt-pointed bistoury is introduced, and the incision carried round to the mesial line on each side, backwards and forwards; then cut through the attachment of the membranes to the *crista galli*, and draw them back. After examination of the inner surface of the membranes, remove the brain. Introduce the fingers of the left hand beneath the frontal lobes, and gently tilt the brain backwards, severing in the following order, the olfactory bulbs; optic nerves; internal carotid vessels; third, fourth, and sixth pairs of nerves—the latter being divided along with the tentorium. The fifth and seventh pairs are then divided, and the incision carried along the margin of the tentorium, dividing that membrane from the petrous portion of the temporal bone. Cut through the eighth and ninth nerves, and then cut through the cord as low down as possible, and tilt the brain out carefully. Examine the inner surface of the dura-mater at the base of the skull. The dura-mater may afterwards be detached and the bones examined—especially the petrous portion of the temporal bone.

The Brain.—"With a long thin narrow-bladed knife cut horizontally from within outwards into the hemisphere, just above the level of the corpus callosum, leaving the upper part of the brain attached to the lower by the pia mater only, at its outer margin; make a similar incision into the opposite hemisphere." Examine the lateral ventricles and their contained fluid, by cutting vertically down into the corpus callosum, at a distance of one-sixteenth of an inch from the mesial plane. The depth is only about one-eighth of an inch. Extend the incision backwards and forwards, to expose the ventricle, and note the quantity of fluid which escapes. Then divide and subdivide the upper portions of the cerebral hemispheres already turned outwards—cutting from within outwards, and never completely separating the lamellæ. To open into the anterior horn of the ventricle, cut horizontally into the frontal lobe a little below the level of the body of the cavity, removing the brain substance above the incision. The posterior horn is opened in a similar way. Separate the pons, medulla, and cerebellum from the large brain, "by cutting towards the mesial line in a plane, the anterior border of which is just in front of the pons, the other border lying immediately behind the posterior pair of the corpora quadrigemina; a similar incision is made from the opposite side." "Having determined the contents of the lateral ventricles, the state of their walls and venous plexus, and the condition of the septum, the latter is taken hold of with the left hand, close behind the foramen of Monro, the knife is