A SYSTEM OF CLINICAL MEDICINE

CHAPTER I

CLINICAL METHODS

Preliminary Definitions—Case-Taking—Methods of Diagnosis, Prognosis and Treatment—Rules for Clinical Investigation.

§ 1. Definitions.—Disease is a departure from health, and is manifested in an individual during life by symptoms. These are of two kinds—"*subjective symptoms*," which are recognisable only by the patient, and present no external indication, such as pain, itching, or a feeling of chilliness; and "*objective symptoms*," [1] which can be detected by the observer—*e.g.*, abdominal enlargement or dulness on percussion. The word "symptom" is used in two senses. Sometimes it is used in a general sense to indicate all the subjective and objective evidence of a disease; but more usually it is employed in a narrower sense, as synonymous with subjective symptoms. Objective symptoms are usually spoken of as *signs*; and those objective symptoms which are made out by physical examination are known as *physical signs*.

Just as the value and significance of physical signs depend on the skill and experience of the physician who observes them, so the significance of subjective symptoms has to be weighed and considered in relation to the character and constitution of the patient who complains of them. Thus a certain symptom may appear trivial and unimportant to a patient of strong character not addicted to introspection, although serious disease may be present; whereas in women with a susceptible nervous system every subjective symptom, however slight, may cause great anxiety, exaggeration, and even real suffering. Submammary pain, for instance, in the first might indicate aneurysm; in the second, hysteria.

General (*or constitutional*) *symptoms* are those which relate to the whole body, such as debility or pyrexia.

A *latent disease* is one which is unattended by any very obvious symptoms. Thus, we speak of latent pulmonary tuberculosis when a patient suffering from tuberculosis of the lung has none of the more usual and constant symptoms of that disorder. Physical signs are not necessarily absent in latent disease, but they are often difficult to detect. Some writers speak of a malady as being latent when the pain, which is usually a prominent feature of the disease, is absent. Thus, pericarditis is ordinarily attended by a good deal of pain, but pain is absent in the latent

[1] These words "subjective" and "objective" are borrowed from philosophy. Subjective reality is reality which exists in the mind only, whereas objective reality is that which can be demonstrated by means of tangible, visible, or outward signs.

form of pericarditis which frequently complicates rheumatic fever, and in the latent peritonitis which complicates typhoid fever.

A *paroxysmal disorder* is one which comes on in the form of attacks separated by intervals of comparative health. Each attack or paroxysm consists of a stage of invasion (usually more or less sudden), leading to an acme, and followed by a gradual decline in the severity of the symptoms. As instances of paroxysmal disorders may be mentioned Paroxysmal Tachycardia, Angina Pectoris, Epilepsy, Nervous Faints and Flush Storms, and Paroxysmal Hæmoglobinuria.

§ 2. **Case-Taking.**—In clinical investigation, or case-taking, our object is, *first*, to elicit all the data of the case ; and, *secondly*, by reasoning based on those data to arrive at its Diagnosis, Prognosis, and Treatment. It will be found in actual practice that everything turns on the diagnosis ; that is our first and principal object ; the prognosis and treatment follow from this.

The investigation of a case consists of two parts : (A) The Interrogation of the Patient, and (B) the Physical Examination. Students should always accustom themselves to learn all that is possible by interrogation before proceeding to the physical examination.

A. By **Interrogation of the Patient** we learn—

(*a*) What is his *chief* or cardinal symptom ;
(*b*) The facts concerning the *present illness ;*
(*c*) The patient's *previous history ;*
(*d*) The patient's *personal history ;* and
(*e*) His *family history.*

Throughout the interrogation of the patient it is well to follow THREE GENERAL RULES :

(1) *Avoid putting what barristers call "leading questions"—i.e.*, questions which suggest their own answer—*e.g.*, "Have you had a pain in the back ?" suggests an obvious answer to the patient. It might be put thus : "Have you had any pain, and if so, where ?" The patient should be encouraged to tell his own story, without interruption. Moreover, the very words he uses should be recorded between inverted commas, and on no account should his words be translated into scientific terms. Some say that leading questions are permissible when the patient is very ignorant and stupid, but these are the very cases in which leading questions should be specially avoided. The only legitimate way of putting a leading question is in an alternative form—*e.g.*, "Have you suffered from diarrhœa or constipation ?" Time, patience, and tact are necessary to elicit the true facts of the case, without irrelevant detail. Our object is to learn what the patient *feels* and knows, not what he *thinks* of his disease ; and our patience is often sorely tried by a long story of his own or his previous doctors' views on his case. Our record should be comprehensive, including all important data, negative as well as positive, yet concise—*i.e.*, excluding irrelevant facts. Only experience and a knowledge of medicine can teach us what is or is not relevant. The beginner should strive after completeness rather than conciseness.

(2) A *chronological order* should always be adopted, both in eliciting and in recording the facts. Nothing is more wearisome than to wade through a mass of verbiage which mixes up dates. Dates should be recorded always in the same terms. It is very common, for instance, to read in students' reports that "breathlessness began in the year 1922," "palpitation started when the patient was aged forty," "dropsy came on two years ago."

(3) Always adopt a kindly and *sympathetic manner*. Not only is it our bounden duty to be considerate and patient with those who suffer, but by entering into the spirit of the patient's sufferings we can often get at more important facts, and a truer narration of them, than can one whose harsh or abrupt manner causes the patient to shrink up like an oyster into its shell. Put your questions in as simple and non-technical a form as possible, and be sure that the patient attaches the same meaning to the words as you do. Much will depend on the tact of the physician, and two very good rules may here be added—viz., Never put questions bearing on venereal disease before the husband or wife of the patient; never inquire concerning a family history of tuberculosis or cancer before a patient whose illness is likely to be of that nature.

(*a*) The Chief or Cardinal Symptom.—The first question to ask a patient should always be the same: "What do you complain of?" Special attention should be paid to the symptom for which the patient seeks advice or is admitted to hospital, because it is this symptom which guides most of our subsequent inquiries. It should always, as far as possible, be recorded in the patient's own words. *This book is based upon the patient's cardinal symptom;* and in the following chapters I shall, after each cardinal symptom, allude to the principal conditions for which it may be mistaken. The best way to avoid error is to verify your observations by repeating your examination.

(*b*) The History of the Present Illness must be taken and recorded with care. It cannot too strongly be emphasised that in many diseases a full and accurate history of the illness may be the only method of arriving at a diagnosis, for physical signs may be absent or in abeyance (*e.g.*, in angina pectoris). Taking an average, it is fair to compute that of the information on which a diagnosis is ultimately founded, at least 50 per cent. comes from an accurate history, and rather less than 50 per cent. from the physical examination and subsequent special investigations. First ascertain when the illness started, by a question such as "When did you first notice or complain of this trouble?" and this being answered: "Did you ever have this symptom before?" Then the history should reveal (i.) the mode of onset, whether sudden or gradual, (ii.) what the patient was doing at the time, and whether he attributed the onset to any cause. In certain cases it is necessary to inquire into (iii.) the duration of the symptom, (iv.) whether it ended suddenly or gradually, (v.) its severity, (vi.) whether it has occurred since, and if so, how many times, and is it getting more or less severe; (vii.) what intervals of freedom have occurred, when the patient has been entirely free of the symptom;

(viii.) have other symptoms occurred in association with this chief symptom and if so, what they are; (ix.) what does the patient do during the time of the symptom to relieve it; (x.) has the patient found any measures of avail to ward off attacks, *e.g.*, drugs, diet, etc. In many cases, *e.g.*, in juvenile and unconscious persons, the history has to be elicited from near relatives or friends. It is useful also to know whether the patient has recently been, or is now, under medical care, not only because the symptoms may have been modified by treatment, but also because one of the most important ethical principles of the medical profession may be involved.[1] In all these inquiries the three general rules given above apply (p. 2).

(*c*) THE PREVIOUS HISTORY of the patient bears largely on the etiology, or *causation*, of his illness, and deals with any *illnesses* the patient may have had. Note in chronological order all ailments from which the patient has suffered prior to the present one, with the dates of their occurrence and their duration—*e.g.*, contagious diseases of childhood; and especially such ailments as venereal disease, rheumatism, and gout. If the attacks have been at all obscure, it is desirable to add a few of the leading symptoms to prove the nature of the alleged attacks, and in such instances inverted commas should be freely used. For instance "rheumatism" is a vague term which may mean any disease attended by pains in the limbs, such as alcoholism, syphilis, tabes dorsalis, or neurasthenia. The subject of syphilis should always be approached with delicacy in the case of women. Indirect information may often be gained by inquiring for prolonged sore throat, followed by loss of hair, by skin rashes, etc. In married women, a *series* of still-births, or children born with eruptions or snuffles, may have the same significance.

(*d*) THE PERSONAL HISTORY must be inquired into: such as (i.) present and previous occupations; (ii.) previous residence abroad; (iii.) the home conditions; (iv.) habits as to alcohol and tobacco and in what form alcohol is taken (*e.g.*, wine, beer or spirits) and whether between or with meals, because more harm is done by alcohol before meals (especially cocktails) than many times the same quantity taken with meals; (v.) the appetite; (vi.) the state of the digestion and the bowels; (vii.) the weight, and whether this is constant, being gained or lost; (viii.) the general state of the nervous system, *e.g.*, depression, excitability, nervousness; (ix.) the orientation of the patient to his (or her) work and to home life, and whether there are any special anxieties attached to these; (x.) the amount and quality of sleep. (xi.) In women, the previous state of the catamenia, and the number of pregnancies, miscarriages, or still-births, should be noted.

[1] By-law CLXIV of the Royal College of Physicians of London runs as follows: "No Fellow, Member, or Licentiate of the College shall officiously, or under colour of a benevolent purpose, offer medical aid to, or prescribe for, any patient whom he knows to be under the care of another legally qualified Medical Practitioner." This is perhaps the most important guiding principle in the ethics and etiquette of the medical profession. On the other hand, this law gives us no proprietary right in a patient because we have once prescribed for him or his family. He ceases to be our patient directly he ceases our treatment for that particular ailment.

(*e*) THE FAMILY HISTORY may, like the previous history, have a causal relationship to the patient's malady. The age and state of health if living, age and cause of death if dead, of near relations, should always be noted—*i.e.*, father and mother, brothers and sisters, sons and daughters, also of husband or wife. Inquiry should also be made as to whether any members of the family (parents, grandparents, brothers, sisters, uncles, aunts, or cousins) have suffered from tuberculosis, cancer, acute rheumatism, gout, nerve diseases, insanity, asthma, heart disease, apoplexy, and especially those diseases to which the patient himself seems liable.

B. The **Physical Examination** (*i.e.*, the State on Admission, or the Present Condition) may with advantage be prefaced by a few general remarks on how and what to observe.

(1) Here, again, having learned by interrogation our patient's chief complaint, we should ask ourselves, IS THERE ANY STRIKING OR PREDOMINANT SIGN OR APPEARANCE (Latin *facies*)? The importance of INSPECTING our patient cannot be overestimated. In these days of scientific instruments we are too apt to forget to use our faculties. By simply using our eyes many important data may be learned besides the colour of the skin, the condition of the teeth and gums, the general nutrition, the attitude or decubitus, and the facial expression. For instance, the manner in which a patient answers questions is often the first clue to hysteria, and a peculiar mode of speech is one of the pathognomonic signs of general paralysis of the insane, disseminated sclerosis, and other diseases. Moreover, with experience we can by this means form a conclusion as to the kind of patient we have to deal with. Again, never be in a hurry; only by taking time can we fully appreciate all the points presented to us. This habit of "observing" the patient is only developed by long practice; it will never be developed if the young physician allows himself to be infected by the hurry of modern times.

(2) It is important always to commence our examination with that ORGAN TO WHICH THE SYMPTOMS ARE MAINLY REFERABLE. Some teachers direct their pupils to examine and report on the physiological systems always in the same order (first the heart, then the lungs, then the digestive system, and so forth), whatever may be the malady. But such a course has, to my mind, three objections: (i.) The student goes about his work in a mechanical fashion; (ii.) if the patient suffers from some serious disorder, such as peritonitis, he may be seriously injured by a thorough investigation of the chest and other parts; and (iii.) in many cases it is a waste of time to examine all the organs with equal thoroughness. The same educational advantages and experience can be obtained by the other method, and in that way we come to the most important facts first. As a general rule, the most important data should be mentioned first.

(3) In all cases EVERY ORGAN IN THE BODY SHOULD BE CAREFULLY EXAMINED; for although we may find in one physiological system sufficient mischief to account for the patient's symptoms, the other organs may reveal changes which considerably modify our treatment, our prog-

nosis, and even our diagnosis. Whatever order is adopted, the student should not wander from organ to organ, but examine each physiological system thoroughly before proceeding to the next. It is well to get into the habit of adopting some such order of physical examination as the following: *First*, note the general condition; *secondly*, examine the organ chiefly affected; *thirdly*, the other organs in the following order: Thorax (heart and lungs), Abdomen (alimentary canal, liver, spleen, and genito-urinary system), Head and Limbs (nervous and motor systems).

The examination should always be carried out *gently*, and *without undue exposure*. In serious cases, especially when the heart or lungs are involved, it is often well to postpone a thorough examination of some organs, so as not to risk harming the patient by exposing or fatiguing him. At the same time, the young physician should never allow modesty to prevent his making a thorough examination. This rule is especially necessary in patients of the better class, but a little firmness, tact, and a courteous demeanour will generally enable him to perform what is a duty both to his patient and to himself.

SCHEME OF CASE-TAKING

A. INTERROGATION OF PATIENT

(*a*) The patient's chief or **Cardinal Symptom.**
(*b*) Data concerning the **Present Illness.**
(*c*) The patient's **Previous History.**
(*d*) The **Personal History.**
(*e*) The **Family History.**

B. PHYSICAL EXAMINATION (*i.e., Present Condition—Give Date*) [1]

(*a*) **The general condition** may be summarised mainly under three headings: (i.) The Physiognomy or expression, especially in acute disease (Chapter II); (ii.) The Decubitus, Attitude, or Gait, especially in chronic disorders (Chapter II); (iii.) The Nutrition, General Conformation, and any Eruption on the skin (Chapter XVI). The temperature, pulse, respiration and weight should be noted.

(*b*) **Chest.**

I. Cardio-vascular System. (Chapters III to V.)

Symptoms.—Breathlessness, palpitation, cardiac pain.

Physical Signs.—Pulse: rate, rhythm, volume, tension, arterial wall. Heart: palpation, apex beat, percussion area, auscultation, dropsy.

[1] This scheme gives only the *chief points* which should be noted about the different physiological systems, with the object of excluding disease. For an exhaustive examination, such as must be made of the organ to which the patient's symptoms are mainly referable, the student should refer to the chapter dealing with the diseases of that organ.

II. Respiratory System. (Chapters VI and VII.)

Symptoms.—Cough, expectoration, dyspnœa, pain in chest.

Physical Signs.—Rate of respiration, inspection, palpation, percussion, auscultation.

Examine throat and nose.

(*c*) **Abdomen.**

III. Alimentary Canal. (Chapters VIII, IX, X, and XI.)

Symptoms.—Appetite, discomfort after food, nausea, pain, state of the bowels, colour of stools.

Physical Signs.—Examine mouth and tongue, gums, teeth and tonsils. Physical condition of abdomen as regards distension, and presence of fluid or tumour (inspection, palpation, and percussion). Rectal examination.

IV. Liver and Gall-Bladder. (Chapter XII.)

Symptoms.—Pain, jaundice.

Physical Signs.—Size (palpation and percussion), surface (if accessible), tenderness.

V. Spleen. (Chapter XII.)

Any enlargement (palpation and percussion) or local pain.

VI. Urinary System. (Chapter XIII.)

Symptoms.—Any undue frequency of, or difficulty in, micturition. Any dropsy or pain.

Physical Signs—(in catheter specimen when necessary).

(i.) *Urine:* quantity, colour, reaction, specific gravity, albumen, blood, sugar, bile, acetone, aceto-acetic acid, indican, deposit (microscopical examination).

(ii.) *Kidney.*—Any enlargement, mobility, or tenderness.

VII. Generative System. (Chapter XIV.)

Menstruation, frequency, duration, quantity, pain, intermenstrual discharge.

(*d*) **Head and Limbs.**

VIII. Nervous System. (Chapter XIX.)

Symptoms.—Headache, sleeplessness, neuralgia, etc.

Physical Signs.—Weakness or inco-ordination, muscular wasting, involuntary movements, gait. Reflexes, deep and superficial.

Sensation for touch, pain, temperature, joint and vibration sense.

Cranial Nerves.—Vision, fundi, pupils, movements of the eyes. Movements of the face, masseters, palate and tongue, sternomastoids. Hearing. Smell. Taste.

Sympathetic System.—Flush storms, trophic lesions, vasomotor system, perspiration.

(*e*) **Blood.**

In anæmic and some other cases examine the blood (Chapter XVI).

Progress of Case.—Notes (daily of acute or febrile cases, twice a week of subacute, and once a week of chronic cases) should be made of the progress of the case; and much care is required here to avoid redundancy on the one hand, and on the other to record completely all important changes, or any fresh symptoms, and the effect of the treatment adopted. In acute febrile cases there ought to be a daily note, and the pulse, respiration, and temperature should be charted every four hours. In chronic cases it will be sufficient to note, once a week, the persistence of the prominent symptoms or any change in the symptoms. In all cases any *sudden* change in the patient's symptoms or general condition should be recorded at once. Each note should have special reference to the previous one; and before taking a fresh note, the previous one should be read over. The treatment and its effects should always be incorporated; thus, if the patient has been ordered diaphoretics or purgatives, record should be made of the state of the skin or bowels.

History Sheets, Charts, Diagrams, etc.—A history sheet for recording the history of a patient should be ruled with one vertical line down the page one-third from the left-hand margin, so as to give space for information learned subsequently. It should have printed headings and spaces at the top, thus:

Diagnosis. (Space here for primary and secondary disease, filled in by physician afterwards.)

Name.....**Age**.....**Sex**..... **Occupation** .....

Address.....Date of admission.....

Date of discharge (or death) .....

Chief symptom on admission.....

Temperature charts are of the greatest use to record the temperature and other features of diurnal variation.

Outline diagrams or rubber stamps of the various regions of the body can be purchased, and are very useful.

A kind of shorthand code for physical signs is advocated by some authors, and, once learned, may be useful in saving time and space.

§ 3. Examination of Children and Infants.—Here the same general rules apply as to interrogation and physical examination, and we should first endeavour to ascertain the child's leading symptom, either from the patient or the relatives. There are, however, certain additional rules upon the adoption of which much of our success with children will depend.

1. First endeavour to establish friendly relations with your little patient. This may be done sometimes by appearing not to notice the child at first; after a while it may make advances and investigate your watch-chain and be given a toy. A child dislikes being stared at. Time should always be given for the child to become accustomed to your presence, and anything like abruptness will defeat your aim.

2. The questions put to the child should always be of the simplest character—*e.g.*, "Where does it hurt you?" Interrogation of the mother is essential to learn the age up to when the child remained healthy, the symptoms of the present and previous illnesses. In the case of an infant, inquire whether it was a full-time child, if born with instrumental aid, whether it was born healthy, its weight at birth and subsequently, and details about the methods of feeding. If the child is past early infancy, the same questions may still be put, and in addition inquire when it began to walk and talk, and when dentition commenced. Carefully record its present and past

diet, as to its appetite, and the state of the bowels. Ask also how long it sleeps, bearing in mind that children require much more sleep than adults. Then ask for any recent illness in other members of the family.

Physical Examination.—Valuable as *attentive observation* may be with adults, it becomes quite indispensable with children, who cannot accurately describe their sensations. Much may be learned while you sit and allow the child to get accustomed to your presence. Notice its expression, the brightness of its eyes, its attitude, the colour of its skin, the state of nutrition, its size as compared with age, its movements, the condition of its lips (moist or dry), the character of the breathing, the sound of its voice. If it cries, inquiry should be made whether this is constant or only at times. Congenital syphilis may be plainly depicted on its face or skin. If the child be asleep when first you enter, do not wake it, but notice all the above before it is disturbed. When awake, the limbs of a healthy child should be constantly on the move; drowsiness, dulness, and listlessness are signs of pyrexia, and especially that of the contagious fevers. The hands are instinctively moved towards a seat of pain—*e.g.*, the head in meningitis. The state of the temper is altered in the prodromal stage of most diseases; but it is markedly peevish in the prodromal stage of meningitis. For other facial alterations, see **Facies** (§ 11). When the child is undressed for examination, the back of the chest should be examined first, while the child looks over the mother's shoulder at some one who attracts its attention with a bright object or a bunch of keys. Percussion should be delayed until the end of the examination.

§ 4. Methods of Diagnosis, Prognosis, and Treatment.—Diagnosis, prognosis, and treatment are the objects we had in view in eliciting all the facts concerning the patient by the process of "Case-taking." Of these three, **Diagnosis**—which, as the Greek word (*διαγνωσις*) implies, means the distinguishing or discernment of the disease—is by far the most important. Everything necessarily hinges on this, for without recognition of the disease, rational prognosis and treatment are impossible. It is well, therefore, to consider how the data we have elicited may be utilised in order to arrive at a diagnosis. Several different methods are employed:—

The method usually adopted, which is the outcome of the student's studies in systematic medicine, is to erect a *hypothetical diagnosis*, and to see whether the patient's symptoms tally with the description of the disease. When a child, for instance, with disorderly movements comes before us, the diagnosis of chorea at once occurs to our minds. The age of the patient, character of the movements, and all the obvious features of the case appear to correspond with that disorder. It does not seem necessary to consider any other suggestion. This method answers well enough in straightforward, well-marked, typical cases; but in cases presenting anything unusual or atypical considerable difficulty may be experienced.

Another method of making a diagnosis is by a *process of exclusion*; that is, after studying the diseases which might possibly be in operation, we arrive at our diagnosis by excluding those which the disease least resembles. In such diseases as typhoid fever, where symptoms are few in number, this may be the only method possible. The patient, for instance, is suffering from a moderate degree of pyrexia, the illness came on gradually; that is all we may know about the case. There are many possible causes of such a condition, but we arrive at the conclusion that

it is probably typhoid fever, because all the other possible diseases are rendered improbable for one reason or another.

The third method consists of *noting the cardinal symptoms* and *balancing the evidence* for and against all the possible causes which might give rise to it. In this method, after having elicited all the facts of the case, we return to the patient's *cardinal symptom*, enumerate in our own minds the various causes which might give rise to that symptom, and balance the evidence adduced by the other facts of the case for and against each one in turn. It may strike some as being a little tedious, but it is not so when we have got into the habit of employing it. It is certainly the one best adapted for the elucidation of obscure or atypical cases; and under all circumstances it presents a truer picture to our mind, because diagnosis can never be a matter of absolute certainty. At most a diagnosis is only a strong probability, and this method enables us to ascertain the exact amount of probability in each disease. Even in the simplest and most typical cases it is a good mental exercise for us to keep in mind the other lesions which might produce the same symptoms, and then we are always on the look-out for possible errors, and ready at any moment to review the diagnosis—a correct mental attitude when in the presence of Nature's phenomena. The chapters which follow are based on this method.

Having aimed at a tentative diagnosis, it is advisable to confirm this, whenever possible, by X-ray examination or by special methods of pathological investigation. It should be remembered that these are by no means infallible, but are useful aids in diagnosis. Sometimes radiological evidence lags behind clinical findings. *X-ray and pathological examinations* should only be used in confirmation of a clinical diagnosis and *should never be used in place of clinical methods* of arriving at a diagnosis.

EXAMPLE.—Let us suppose, for instance, that the patient, a pale young woman, aged twenty-three, comes to us complaining of **vomiting blood** (*i.e.*, hæmatemesis).

First, we ascertain and verify this, the leading symptom, and find that she has really vomited a considerable quantity of blood.

Secondly, we INTERROGATE her as to the history of her present illness, her previous and family histories, and we find that she has suffered for several years from symptoms pointing to dyspepsia, and that latterly there has been severe pain in the epigastrium. There are always four features we have to investigate about every pain—its position, character, degree, and constancy; and we find that this epigastric pain is a sharp pain, not constant, but coming on shortly after taking food, and that it is followed *and relieved* by vomiting. The other details of the case we will omit for the sake of brevity.

Thirdly, we proceed to the PHYSICAL EXAMINATION, first of the abdominal organs, but this reveals nothing abnormal. Then we go through the other physiological systems in order, observing (*a*) her General Condition (noting, for example, how pale and thin she is, and how weak she seems); (*b*) examining the Chest (Cardio-vascular and Respiratory systems); (*c*) the Head and Limbs (Nervous system); (*d*) the Blood must also be examined, because anæmia may be inferred from the pallor of her skin and mucous membranes.

Having elicited all the data by interrogation and physical examination, we return to the *cardinal symptom*—hæmatemesis [1]—and consider its various causes (see the section on Hæmatemesis) *seriatim*, taking the most probable cause first.

[1] Here there was no difficulty about identifying or selecting which was the chief or most important symptom; but in another case the anæmia (or the vomiting or

(*a*) SIMPLE ULCER OF THE STOMACH.

For : (i.) The profuseness of the hæmatemesis ; (ii.) the character of the pain (brought on by food, relieved by vomiting) ; (iii.) the history of dyspepsia ; (iv.) the age and sex of the patient.

Against : (i.) No tenderness in the epigastrium.

(*b*) CANCER OF THE STOMACH.

For : (i.) The vomiting of blood ; (ii.) pain in the stomach ; (iii.) pallor and emaciation ; and so on.

Against : (i.) The blood vomited was too profuse, and had not the character special to cancer (coffee grounds) ; (ii.) the pain was only produced by food, and entirely disappeared after vomiting ; (iii.) age of patient much too young.

(*c*) PORTAL OBSTRUCTION.

For : The profuseness of the hæmatemesis.

Against : (i.) Absence of abnormal signs in the liver ; (ii.) absence of ascites, piles, and other symptoms of portal obstruction.

(*d*) OTHER AND LESS PROBABLE DIAGNOSES can be discussed in like manner, though each of these may be more summarily dismissed thus : *Vicarious menstruation* would not account for the dyspepsia, acute epigastric pain, and other symptoms. *Leukæmia*, *Scurvy*, and *other blood conditions*, if present, would present the other symptoms of those maladies.

It follows, therefore, that the balance of evidence is in favour of (*a*) SIMPLE ULCER OF THE STOMACH, partly because of the weighty arguments in its favour, and partly because the only argument against it is not vital, for tenderness may be absent when the ulcer is situated on the posterior wall of the stomach. Indeed, if a numerical value were given to each of the "reasons" for and against, it would be possible to express the precise degree of probability of each disease in the form of a mathematical ratio. This method may at first sight seem tedious, but after a little practice it becomes automatic and extremely simple ; and it takes much less time than is here implied. Later, X-ray examination may confirm the diagnosis.

Prognosis (from the Greek word *προγνωσις*) is a "foreknowledge" of the events which will happen—*i.e.*, of the probable course the disease will run. Nothing but wide experience, combined with careful and minute observation, will enable a physician to prophesy with any approach to accuracy. It will, however, be useful to bear in mind that the prognosis of a case depends upon four circumstances—viz., (1) the *usual course*, duration, and event of the disease in operation (phthisis, for instance, runs a prolonged course, and until lately the event was almost invariably fatal) ; (2) the presence or absence of *untoward symptoms* (*e.g.*, profuse hæmoptysis in phthisis) ; (3) the presence or absence of *complications* (which are sometimes more fatal than the disease itself—*e.g.*, typhoid and many other fevers are fatal chiefly by their complications) ; and (4) the *causes* which are in operation, including among the predisposing causes

epigastric pain) might be the more serious or prominent symptom, the hæmatemesis consisting, perhaps, of a few streaks of blood. Then we should deal with the anæmia in the same way as hæmatemesis is here dealt with. Sometimes a good deal depends upon our choice of which is the "leading symptom," for it is not always the most prominent which is the most serious and important ; and by an error in this respect we may be led far afield from the true disease. At times, however, it is useful to change the point of view we take of the case, by regarding it from another standpoint or leading symptom.

such data as age and sex (gastro-enteritis, for example, in middle life is not a serious affection, but in infancy and old age it is often fatal).

As practical hints to the young physician, I would advise him—(1) Never to commit himself to a prognosis unasked, or before awaiting the result of treatment. More reputations are wrecked on the rock "Prognosis" than on any other. (2) Avoid giving a prognosis before all the facts of the case are to hand (including the results of X-ray and other special examinations). (3) It is also well to impress upon the friends that a "physician" cannot hope to be also a "prophet"; and that prognosis may depend on many factors in the case which are not yet revealed. (4) When the physician considers that the prognosis is grave, he should not even hint this fact to the patient; he guards his own reputation if he informs a responsible relative.

Treatment is what the patient comes to us for; and it may be of three kinds: (1) In *Specific* (*or Radical*) treatment our object is to cure the patient of his disease by the removal of the cause. This is the only truly scientific treatment, and it is based mainly upon a knowledge of the pathology of the malady. (2) *Symptomatic* treatment is directed only to the relief of the symptoms. In some incurable maladies symptomatic treatment is the only kind possible, and all that we can do is to ease the passage to the grave. But in the practice of busy practitioners, the trouble and time needed for thorough investigation often lead to the adoption of the latter at times when a more radical treatment would be possible. We should constantly guard against an unfortunate tendency to fall into a routine of symptomatic treatment. Both Specific and Symptomatic treatment may be either internal or external on the one hand, and either medicinal or dietetic and hygienic on the other. (3) *Preventive* treatment has within the last quarter of a century developed almost into a separate science, the science of Hygiene or Social Medicine.

§ 5. General Rules in Clinical Investigation.—There are certain habits which the student should strive to cultivate when he comes to the practical aspect of his profession; and he should remember Thackeray's saying: "Sow an act and you reap a habit; sow a habit and you reap a character; sow a character and you reap a destiny." Clinical medicine depends more than anything else on accurate, complete, and well-directed observation, and there are six hints I would give to the student in this connection.

1. *Avoid superficiality* in your observations. Do not try to see many cases in one day, but rather one or two cases *continuously from day to day*, so that you may follow a given disease throughout its entire course. It is of more value to follow up one case in this way than to see a dozen on one occasion only. Practical knowledge must be acquired gradually. The thought will often occur to the student how slowly he progresses with his clinical knowledge. This is partly apparent, partly real. It is partly apparent because a student does not realise at the time the value he derives from listening, for example, to the same cardiac murmur over and over again. It is partly real because it is only by patiently devoting

the necessary time to the study of the same case from day to day that he will learn to make his observations adequate, thorough, and precise. That is why many a brilliant intellect falls behind, and many a plodder comes to the front in our profession. It is vain to attempt to substitute genius for patient industry in this arena. You must learn for yourself the effects of this or that line of treatment; learn to correct and control the observations you make one day by your observations of the morrow; and above all, try to learn what is the sequel or termination of the case, especially in such instances as may lead you to the post-mortem room. There, more than anywhere else, the most brilliant diagnosticians learn from their own errors more than from a multitude of successful cases.

2. *Do not strive after what is rare and curious.* It follows, as a matter of course, that, other things being equal, a fact is more important in proportion as it is more common. Moreover, by studying *only* the exceptions to a rule, our minds will have a distorted view of clinical phenomena. Do not therefore be led astray by those pedants who seek after the singular and uncommon. It is well to see rare cases when the opportunity offers, but be careful that you mentally register them as rare.

3. *Do not study only acute and severe cases.* It is true that in acute diseases there is often more to be done, more heroic and decisive effects to be produced, or apparently produced, and therefore more credit and renown to be obtained. But we shall find in actual practice not one-tenth, perhaps not one-hundredth of our patients will be suffering from these complaints. Our success, therefore, in practice, whether measured by that laudable satisfaction at having done one's duty, or by the pecuniary reward of which every earnest labourer is worthy, will depend very much on our experience of, and our ability to treat, chronic and what we are too apt to call trivial complaints. For one case of Graves' or Addison's disease, the student will, I venture to think, have a hundred cases of dyspepsia, chronic rheumatism, or chronic bronchitis. In the treatment of such complaints the greatest judgment and thoroughness are sometimes needed. No sudden or startling effects can be produced. Chronic diseases require chronic remedies, and it is only by experience that one can learn to produce those gradual effects which lead to a successful issue.

4. *Be accurate in your observations.* State facts precisely as you find them, no matter whether they accord with your hypothesis or not; and state only what you find and know to be the truth. The study of clinical medicine, like the study of any other of Nature's phenomena, should inculcate in the mind of the student a love of truth. It is impossible to have any dealings with Nature without learning that truth is the key to the discovery of her secrets. Accuracy is one form of truth, and it is only by repeatedly going over your observations, and sifting the patient's statements, that you can ensure accuracy.

5. *Be complete in your examination of your patient.* It may not be possible or advisable to make a complete examination when you see your

patient for the first time, or with a new illness. Many mistakes in diagnosis would be avoided if this rule were adhered to.

6. *Be systematic in the arrangement of your data*, for only by a systematic arrangement can you attach the proper importance to each observation, and get a firm grasp of the whole case. Nothing, for instance, is more liable to confuse and to prevent you from coming to a correct conclusion than wandering from one date to another without regard to the chronological sequence in the history of an illness. And again, in physical examination, nothing is so likely to lead you astray as wandering from organ to organ without first completing the examination of each.

§ **6. Classification of Diseases—Method of Procedure.**—It has been customary, and the practice is convenient, to classify diseases into two great groups—Local and Constitutional. LOCAL diseases are those in which the principal, and perhaps the only, lesion is localised in one organ or situation, *e.g.*, facial neuralgia, ringworm. CONSTITUTIONAL diseases are those in which the disease has manifestations of general distribution, *e.g.*, acute rheumatism, typhoid fever, and pyæmia.

It is convenient for clinical purposes to preserve this division, but the rapid advance of pathology has gradually transferred disorders from the "local" to the "constitutional" group. A large number of diseases formerly believed to be lesions of local origin (such, for instance, as pneumonia, endocarditis, and peritonitis) are now known to be due to some general morbid process, toxic or microbic, which, on reaching the blood, is carried all over the body and causes a special local manifestation in one situation.

From a pathological standpoint diseases are sometimes divided into two groups—Organic, those in which some anatomical change is found after death; and Functional, those in which we can, *in the present state of our knowledge*, find no structural alteration by modern methods. The anatomical or structural change is spoken of as the "lesion." The word "functional" must not be regarded as synonymous with "hysterical."

Now it so happens that local disorders are very often met with as complications or effects of constitutional or general conditions; and since in clinical work we are engaged in **tracing from effect to cause,** we shall, in the following chapters, take the local diseases which are manifested by a lesion *localised* in some particular organ first, and the *constitutional* conditions afterwards.

When a patient comes to us, and if, as the result of our inquiries, we find he is suffering from a symptom localised to some organ (*e.g.*, pain in the liver), turn to the chapters relating to the diseases of that organ (one of the Chapters III to XIV).

If, on the other hand, he has no localised symptom, but complains of malaise, feverishness, or a sense of "bodily illness," turn to the chapters on constitutional diseases (Chapters XV to XX).

CHAPTER II

THE FACIES, OR EXTERNAL APPEARANCE OF DISEASE [1]

In our scheme of case-taking it will be remembered that the first step in physical examination was to observe the patient's general condition; and it will also be remembered how great was the importance of an adequate inspection of the patient while he was telling us the story of his illness.

Some diseases can be identified almost at a glance, before the patient opens his lips, such, for instance, as Chronic Alcoholism, some manifestations of Hereditary Syphilis, Graves' Disease, Cretinism, Myxœdema, Facial Paralysis, and Hydrocephalus, when these conditions have passed beyond the incipient stage. The existence of others can be very strongly suspected, such as Rickets, Post-nasal Adenoids (mouth-breathing children), and Chronic Bronchitis with Dilated Right Heart.

But, apart from these, much may be learned from the first glance at a patient—from his *decubitus* (the way he lies), from his *attitude* or *gait*, from the expression of his *face*, the colour of his *skin*, and from the *general conformation* of his body—without the employment of any special methods or apparatus for diagnosis. It is to be feared that as scientific methods become more and more perfect, these means, which constitute one of the most useful and important aids to diagnosis and prognosis to the experienced busy practitioner, are apt to be neglected. But, on the other hand, students and young practitioners had better not attempt "lightning diagnoses," or they will certainly fall into the most serious errors. Some men, it is true, seem to be especially gifted in this way; but it is only by long experience and the possession of special faculties that they can accomplish such feats.

It is a fundamental rule that your patient should face the light at all medical interviews. Similarly your own chair should be in the shade, lest the patient should read too readily what is passing through your mind. It is surprising what important clues can be obtained by an intelligent inspection of your patient, both as to his character and his disease.

The facies of disease may be summarised under three headings: (A) The Physiognomy in Disease. (B) The Decubitus, Attitude, or Gait. (C) Alterations in the General Conformation of the Body.

Hints to be derived from an inspection of the hands are given under Diseases of the Extremities (Chapter XVII). The various diseases will be only mentioned here. The description and differentiation of the several affections referred to will be entered into more fully in the chapters which follow.

[1] The Latin word *facies* signifies an appearance, form, or shape.

(A) The Physiognomy in Disease.

An observant physician can obtain important clues to diagnosis by the physiognomy—*i.e.*, the aspect and expression of the patient's face—even apart from the insight which can be gained by this means into his character.

§ 7. In **Acute Diseases** more can be learned from the position in which the patient lies (*i.e.*, his Decubitus, § 14) than from the physiognomy or expression of his face. But it is worth remembering that the face assumes an *anxious expression*, which is very characteristic in pericarditis, peritonitis, and severe pneumonia, also during attacks of angina pectoris. The supervention of *acute pericarditis* in the course of rheumatic fever is often unsuspected, as there may be no local symptoms; but it may be recognised by this anxious expression, the dilated nostrils, and the flush upon the cheeks, which were (probably) at our last visit so pale. Again, in acute *lobar pneumonia*, the appearance is very distinctive. The flushed face, hot dry skin, widely dilating nostrils, the eruption of herpes near the mouth, and the profound disturbance of the pulse-respiration ratio (2 : 1 instead of 4 : 1, which is the normal), form a picture which greatly aids the recognition of the disease. The *Facies Hippocratica*—a facies or appearance, of which the description has been handed down from Hippocrates—is the forerunner of death from exhaustion, such, for instance, as the final stage of cholera, and wasting disorders. The temples are hollow, the eyes sunken, the eyelids slightly parted, the eyes glazed, and the lower jaw droops. The *Risus Sardonicus* is a fixed grin, met typically in tetanus. The corners of the mouth, which twitch at intervals, are drawn upwards as in laughter, and the features assume a fixed sarcastic expression.

§ 8. A few **Chronic Diseases** may be enumerated in which the physiognomy is characteristic.

(i.) The aspect of a *phthisical* or *tuberculous* patient differs in the premonitory and advanced stages. (*a*) Before any evidences can be detected by physical examination of the chest, the patient has the appearance which is loosely described by the laity as "delicate." The skin is fine and soft, and the fresh, rosy colour of the cheeks is out of keeping with the dark rings around the sunken eyes. But it is the deficient measurements and movement of the chest and the local flattening which lead us to suspect the presence of tuberculosis. Sometimes such patients are plump and rosy; nevertheless, they have a deficient chest measurement. (*b*) When the disease is advanced, the phthisical patient often presents an appearance that enables the physician to hazard a diagnosis almost without further investigation. The pale, emaciated face, with sunken eyes, the circular crimson flush of hectic fever on the cheeks, the wasted body, bathed from time to time in sweat, the hoarse voice and easily-provoked dyspnœa, collectively form a picture which is very characteristic.

(ii.) *Chronic bronchitis with dilated right heart* is another condition of extremely common occurrence in the practitioner's daily practice, and the picture these patients present is very characteristic. The florid "healthy" looking cheeks, the distended jugulars, in a person over forty are very typical.

(iii.) In *chronic alcoholism* there is a puffiness of the face and a congested watery look about the eyes ("a blear-eyed look"). The eyelids are puffy, so that the person is described by sailors as having "an eye like a poached egg." The cheeks and nose are often red, and dotted with stellate venous capillaries. The belly is corpulent; and on holding out the hands and spreading the fingers, these are seen to be affected with fine small rhythmical tremors. The whole picture is unmistakable, though the eyes alone will tell the tale.

In various **diseases of the nervous system** the *face* presents a pathognomonic expression. Thus in Bell's or facial paralysis the face is *distorted*, and so also in that rare condition facial hemiatrophy. In tabes dorsalis the unequal pupils, drooping eyelids and wrinkled forehead are diagnostic (Fig. 184). The expression is *vacant* in idiocy and some hysterical subjects. A smooth, *expressionless* appearance (differing from the preceding in that there is a lack of mobility) is characteristic of paralysis agitans, and among rarer conditions, of double facial paralysis, the myopathies affecting the face muscles, and scleroderma. Very characteristic is the *spastic* smile, with open mouth, met with in lenticular degeneration. Bulbar paralysis gives a characteristic, *mournful*, or *sullen* appearance to the face; the orbicularis oris is paralysed, and allows the lower lip to pout; while the weakness of the zygomatici results in a drooping of the corners of the mouth, such as we usually associate with sorrow or sullenness of temper. In a more advanced stage the saliva dribbles out of the mouth. Certain *spasms* and *tremors* are recognised at a glance (§ 770 *et seq.*).

§ 9. Swelling of the Face and neck, if associated with œdema of the limbs and trunk, may be part of a generalised dropsy. In the dropsy of *renal disease*, the swelling is most obvious in the loose cellular tissues around the eyelids. The puffiness of the eyelids due to renal disease is, however, greater in the morning than in the evening, and in this way may be distinguished from a similar condition due to arsenical poisoning or whooping-cough. The dropsy of cardiac disease is more noticeable in the dependent parts of the body.

Swelling of the face, accompanied sometimes by flushing after meals, is a symptom for which dyspeptic patients often seek advice (acne rosacea). It is also seen in urticaria. In chlorosis and severe anæmia the pallor of the skin may be associated with some œdema. A *firm swelling* of the face occurs with scleroderma and scleredema. *Bilateral swelling* may be due to mumps and *unilateral swelling* to an infected tooth or antrum.

Chronic œdema around the eyelids must not be mistaken for myxœdema. It may be due to recurrent eczema, blepharitis, erysipelas or ethmoiditis. It is also met with in nervous or hysterical conditions, and in cases of vasomotor instability; transient exacerbations occur with fatigue and liver derangement. Œdema confined to the *head and neck* is found in those rare cases where there is pressure on the veins within the thorax, especially the superior vena cava, as in cases of mediastinal tumour.

Myxœdema is often recognised by a glance at the patient's face and

hands (Fig. 1). There is a solid œdema and puffiness of the face—the body and limbs being also affected—but it does not *pit on pressure*. The vacant, stolid look, flushed cheeks, yellowish skin, scanty, coarse, dry hair, supra-clavicular pads and slow speech are equally typical of this disorder.

FIG. 1.—MYXŒDEMA. (*Left*) Before treatment: (*Right*) After treatment with thyroid by mouth.

The hands are flat, coarse, and swollen (see § 559). In *acromegaly* the lower jaw, supra-orbital ridges, lips, cheeks and end of the nose are thickened and enlarged (Fig. 6 and § 598).

Various forms of parotitis, acute and chronic, cause swelling. Acute forms may appear in connection with specific fevers, or disease of the pelvic organs. In *Mikulicz' syndrome* there is a chronic bilateral painless swelling of the lachrymal and salivary glands, or of the latter only. The cause is unknown. The glands are densely infiltrated with small round cells, and do not recur if removed. Swelling of the same glands may occur in leukæmia, syphilis, tuberculosis, lymphadenoma, lymphosarcoma and lead poisoning, conditions which therefore must be eliminated before undertaking any operation. In the *uveo-parotid syndrome*, after an initial period of malaise, fever develops and iridocyclitis, bilateral facial palsy (§ 859), bilateral parotid and lachrymal gland enlargements, occasionally polyneuritis and skin rashes. This is a variety of sarcoidosis (§§ 141*a* and 647).

§ **10.** The **Complexion** and colour of the face will repay careful inspection, for thereby the trained observer will acquire useful information. Thus, the *pallor* of anæmic and toxæmic conditions is often very striking. So also is the pallor, or rather *sallowness*, of aortic valvular disease; the dead white or *waxen puffy* appearance of parenchymatous nephritis; the *greyish pallor* of chronic interstitial nephritis; the *greenish* hue of chlorosis; the *lemon* colour of pernicious anæmia; the *deeper yellow* colour of regular mepacrine dosage;[1] the *deep yellow* to *greenish-yellow*

[1] It is only by long experience that one can distinguish these refinements of shade.

colour of jaundice; a *faint yellow* tinge with pallor occurs with old age, early catarrhal jaundice, cholæmia and severe anæmias. A *muddy* sallow complexion may be associated with dyspepsia, chronic constipation or other colonic disorders. The *dull earthy* look occurs with malarial cachexia, cancer, and chronic abdominal disease. The *purple* (or cyanotic) appearance of the cheeks and lips in congestive heart-failure and congenital heart disease, and the congested appearance of polycythæmia, chronic bronchitis and chronic alcoholism, are distinctive; so also are the *grey* or *violet* complexion of sulph-hæmoglobinæmia and methæmoglobinæmia. *Dark rings* around the eyelids appear in states of fatigue; they often indicate want of sleep, intestinal disorder, a septic focus or indigestion, and may be so pronounced in malarial conditions as to resemble the ecchymosis of a bruise. *Bronzing* is seen with Addison's disease, arsenical poisoning, hæmochromatosis, Gaucher's disease, and in half-castes.

Greasiness of the face occurs with acne vulgaris and seborrhœa oleosa.

§ **11.** The **Face in Detail** merits a little closer study, and, first, that most eloquent portion of it, the eyes.

(i.) The *eyes* may be *protuberant* as a whole (Proptosis) with myopia, in Graves' disease, intra-ocular tumour or hæmorrhage, mucocoele of the ethmoid sinuses, oxycephaly, advanced cerebral tumour, thrombosis of the cavernous sinus, or irritation of the cervical sympathetic. Enlargement of the thyroid gland is often associated with exophthalmos (Fig. 2). Some degree of exophthalmos may also be seen as a family trait, with chronic toxæmia such as occurs with cirrhosis of the liver and interstitial nephritis. The appearance of protrusion may be caused by loss of intra-orbital fat. The eyeballs may *recede* in paralysis of the cervical sympathetic, in wasting diseases, and those associated with dehydration. The pallor of anæmia is seen in the conjunctivæ; and in the sclerotic, or white of the eye, the tinge of *jaundice* can often be detected when the yellow colour of the skin is so slight as to escape notice. The sclerotic may also be yellow in severe anæmia and in old people; it may be bluish in congenital heart disease, in liver disease and in association with fragilitas ossium. The "*arcus senilis*" is a white ring of opacity in the cornea, just within its peripheral margin. It was once believed to indicate senile degeneration of the arteries and of other tissues, but this is erroneous. In adults who are subjects of hereditary syphilis, the corneæ may present *striæ* or the

FIG. 2.—EXOPHTHALMIC GOITRE.
(*Photograph lent by Sir Thomas Dunhill.*)

appearance of ground glass, due to interstitial keratitis, which may be confused with scars of corneal ulceration. Brownish-yellow, triangular pigmentation of the sclerotics, confined to the area uncovered by the lids, is seen in the Gaucher type of splenomegaly. Alterations of the *pupil* are dealt with in § 838.

(ii.) The *lips* may show the pallor of anæmia on the one hand or the congestion or cyanosis of cardiac disease on the other. The mouth is held open when nasal obstruction is present, in idiocy, cretinism, and certain paralyses. Fissures may be due to perlèche or, when indurated, to syphilis. Stellate cicatrices around the lips are a record of previous or hereditary syphilis. Dryness of the lips occurs with fever and gastric disturbance. The position and movements of the mouth are characteristic in facial and bulbar paralysis, in the Landouzy-Déjérine type of myopathy, and in the tremors of general paralysis of the insane.

FIG. 3.—Hutchinson's Teeth.

(iii.) The *teeth* may present evidence of pyorrhœa or of hereditary syphilis, in which disease the permanent incisors (erupting at the age of 7–8 years) are characteristically "pegged"—*i.e.*, narrow at the cutting edge, and notched (see also Hutchinson's teeth, § 204). Ridged teeth usually denote stomatitis in infancy.

(iv.) Depression of the bridge of the *nose*, if marked, is due to chronic rhinitis in childhood (usually of syphilitic origin), or to hyperteleorism. In such cases the nose is characteristically broad and flat, or small and "snub," like a button, the opera-glass nose of Fournier. The end of the nose is enlarged in acromegaly, myxœdema and rhinophyma.

(v.) The *ears* may reveal diagnostic evidence of lupus erythematosus, circulatory disturbances, and the tophi of gout.

(vi.) Defective development may be recognised by "stigmata," such as epicanthio folds, hare-lip, cleft palate, accessory auricles, and dermoid cysts.

(vii.) The *tongue* is considered in § 212 *et seq.*

§ **12.** The **Physiognomy of Childhood** requires considerable experience to appreciate it fully; then it lends us invaluable aid.

(i.) *Infantile atrophy* or *marasmus* gives to an infant a very characteristic pinched or "senile" face. The complexion is greyish white, the face is sunken and livid, and the skin hangs in folds. The eyes lie deeply in their sockets from which the fat has disappeared, and thus give to the infant the appearance of a little wizened old man.

(ii.) When an infant is experiencing *pain* the face will sometimes give

a clue to its situation. Thus, a wrinkling of the forehead or frown is indicative of pain in the head; a drawing-up of the mouth at the corners, producing marked naso-labial folds, points to severe abdominal pain; a dilatation of the nostrils and elevation of the eyebrows may suggest intra-thoracic discomfort; and in tabes mesenterica and other chronic wasting diseases the face gradually assumes a fixed or contracted condition, in which the angles of the mouth are depressed.

(iii.) Nothing is more characteristic than the *listless* and apathetic facies of children suffering from the early stages of fever.

(iv.) *Mouth-breathing children* (often due to post-nasal adenoids) have a very characteristic expression. The broad bridge of the nose and open mouth give to them a vacant, stupid appearance, which sometimes belies their intelligence, though sometimes they are, in fact, mentally backward.

(v.) The *fontanelles* afford useful information. A *depressed* fontanelle is due to dehydration and is an untoward sign in all acute illnesses of infancy—*e.g.*, diarrhœa and vomiting. The fontanelles *bulge* in inflammation of the meninges, and this is a useful diagnostic feature between true meningitis on the one hand, and fevers, broncho-pneumonia, and other diseases with cerebral symptoms on the other. The fontanelles are bulging and tense in all diseases causing increased intracranial pressure—*e.g.*, cerebral tumour. Normally, the anterior fontanelle should close by the age of one and a half, and the posterior fontanelle at birth. In rickets and hydrocephalus the anterior fontanelle is late in closing.

§ 13. Variations in the Form of the Skull are met in several complaints, and chiefly in children, because cases of marked deformity of the head seldom reach adult life, except in an institution for the mentally defective. The following are noteworthy:—

(i.) *Asymmetry* may be congenital, due to a difficult labour, or acquired in early life from the continual nursing of the infant on one arm. The head is flattened on the side on which it rests. Nursing on the other arm will correct the deformity in the most surprising way.

(ii.) In *hydrocephalus* (§ 830) the head is large out of all proportion to the face, and the forehead overhangs the face.

(iii.) In *rickets* the skull is large and square, but the forehead rises straight up and does not overhang. There are often bosses in the frontal and parietal regions.

(iv.) In *hereditary syphilis* the bones around the anterior fontanelle are thickened, and there are irregular areas of thickening and thinning (cranio-tabes), especially behind the ears. The condition resembles that found in rickets, with which it may co-exist.

(v.) In *microcephaly* the forehead is receding and the cranium very small. The children are mentally defective. In *scaphocephaly* the head is elongated and its lateral diameter diminished. *Brachycephaly* indicates that the head is shortened from before backwards: an extreme variety occurs in *oxycephaly* in which the head is very tall ("steeple-shaped"), with exophthalmos and slanting eyes. Defective mental development may co-exist with other "stigmata of degeneration," such as high arched palate, accessory auricles, etc.

(vi.) In *adults* signs of infantile malformations may be found. Localised thickenings may also be seen in osteitis deformans, leontiasis ossea, and after injury.

(vii.) In *acromegaly* (§ 598) the lower jaw and often the nose are enlarged. The face is ovoid with the longer transverse diameter below. See Fig. 6.

(viii.) In *osteitis deformans* (Paget's disease) the face is ovoid but with the longer transverse diameter above.

(B) Decubitus (in Acute Conditions) and Attitude (in Chronic Diseases).[1]

§ 14. Decubitus signifies the position which a patient tends most constantly to assume, and it often gives a valuable clue to the disease, more especially in the diagnosis of **Acute Diseases,** and sometimes as to their probable issue as well. For example:

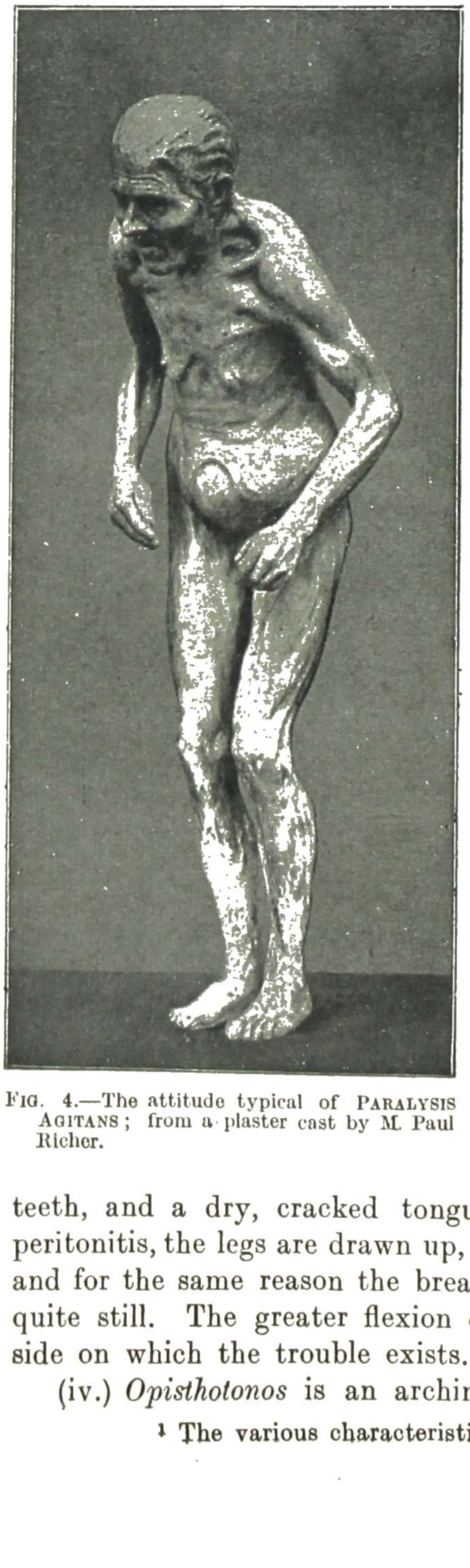


Fig. 4.—The attitude typical of Paralysis Agitans; from a plaster cast by M. Paul Richer.

(i.) *Sitting up in bed*, propped up with pillows, on account of inability to breathe in other positions (orthopnœa), is characteristic of the extreme breathlessness which occurs in advanced cardiac, pulmonary, or renal disease; and sometimes also in acute disease, such as pneumonia.

(ii.) *Lying on one side* is characteristic of considerable pleural effusion, pericarditis, or pneumonia on that side, as in this position free play is given to the healthy lung. When a patient with a chronic cough always lies on one side, suspect a cavity, bronchiectasis, or empyema of that side. A patient curls up on one side in colic and in certain forms of meningitis.

(iii.) The *dorsal decubitus—i.e.*, lying on the back—is seen in grave illnesses attended by marked prostration. (*a*) In the "typhoid state" the limbs are stretched out and completely relaxed. The typhoid state, so called from its occurrence in typhus and typhoid fevers, is a condition of profound prostration, attended by unconsciousness or muttering delirium, sordes on the teeth, and a dry, cracked tongue. (*b*) If the prostration be due to peritonitis, the legs are drawn up, so as to relax the abdominal muscles; and for the same reason the breathing is thoracic and the abdomen is quite still. The greater flexion of one leg may give a clue as to the side on which the trouble exists.

(iv.) *Opisthotonos* is an arching of the back which occurs in some

[1] The various characteristic gaits are described in § 705.

convulsive and spasmodic disorders. It may be so great that only the head and heels touch the bed. It is met with in tetanus, hystero-epilepsy, strychnine poisoning and in the cerebro-spinal meningitis of infants.

(v.) *Retraction of the head* is characteristic in cerebro-spinal and posterior basic meningitis. It is also met in the meningismus of infants with digestive disorders, otitis media, or febrile states (§ 731), in dyspnœadul to laryngeal obstruction and in rare cases of cervical caries.

(vi.) *Restlessness* occurs in many disorders, acute and chronic, and is generally a grave sign in the former—*e.g.*, in acute pericarditis. Sometimes, as in children, it is an indication of severe pain. *Carphology* (*χαρφος*, the clothes; *λέγειν*, to pluck) is the picking at the bedclothes so characteristic of the "typhoid state." The hands seek after imaginary objects. *Subsultus tendinum* is the muscular twitching or tremor which occurs in the same state. Both of these imply extreme cerebral depression. They are met with in the malignant forms of the acute specific fevers, and are of the gravest possible import.

FIG. 5.—PSEUDO-HYPERTROPHIC PARALYSIS. [From Taylor, *Practice of Medicine*, J. & A. Churchill.]

§ **15.** The **Attitude** which is involuntarily assumed by a patient suffering from certain chronic diseases, if he be able to leave his bed, is very characteristic. Thus:

(i.) In *paralysis agitans* the head, neck, and thorax are bent forwards, the arms are flexed at the elbows, the body moves stiffly, as if a statue, and the patient has the characteristic "festination gait" (Fig. 4). The disease is recognisable at sight by the smooth, expressionless face, fixity of gaze (always looking forwards), the forward bending of the body, tremors of the hands, and the short steps which the patient takes as he shuffles along. (ii.) The attitude assumed by children suffering from *post-diphtheritic paralysis* is somewhat similar to the preceding, and is so characteristic that one can often detect the disease as the patient enters the room. The head hangs forward from weakness of the neck muscles, and the "flabbiness" of all the movements is peculiar. (iii.) The *rigidity*

of the spine in rheumatoid arthritis, osteoarthritis, and spinal caries, gives a stiffness and awkwardness to all the movements which is very noticeable.

(iv.) Duchenne's *pseudo-hypertrophic paralysis* (Fig. 5) is a comparatively rare condition, but the arching forwards of the back, prominence of the buttocks, scapulæ, and calves, and inability to rise from a recumbent posture without the aid of the hands, are quite pathognomonic.

(C) The General Conformation.

§ **16.** Under this heading we note (*a*) whether the patient exhibits any loss of flesh (Emaciation, *infra*); (*b*) whether he presents any increase in volume (General Enlargement, §§ 17 and 18); or (*c*) whether he presents any Deformity or Dwarfism (§ 19).

Here we meet with several important diseases affecting the skeleton and general growth of the individual, including Hereditary Syphilis. The various causes of such alterations will only be mentioned here. They will be described and differentiated under the Diseases of Extremities, and elsewhere.

Variations in Health.—The terms "Emaciation" and "General Enlargement of the Body" are only relative. The healthy man should have an elastic skin, firm muscles, and a small amount of subcutaneous fat; but *individual variations* are so great that no definite standard can be set up as normal. Health in the wiry, nervous man is consistent with a spareness that would indicate disease in his stouter and more phlegmatic brother. The same holds true with regard to *age*. A child has an amount of fatty covering that would be abnormal in adolescence; an old man has atrophy of the soft parts and prominence of the bones which in the middle-aged man could only accompany serious disease. The question of build is very largely one of *heredity*: stout parents usually have children who tend to become stout, and *vice versa*.

Emaciation is necessarily attended by more or less weakness, and the subject is dealt with under General Debility (Chapter XVI).

The chief causes of debility with emaciation are as follows: Malignant disease, digestive disorders and privation, diabetes, tubercle, various nervous disorders, hyperthyroidism, pituitary cachexia (Simmonds' disease), sub-acute and chronic infections and toxæmias, chronic nephritis, syphilis, and pancreatic diseases; and in children, defective feeding, diarrhœa, and chronic infections including tuberculosis and hereditary syphilis.

In *advanced life* the first cause which occurs to our minds, if the patient has lost flesh, is cancer; in *middle age*, diabetes; and in *young adults*, tuberculosis. In tuberculosis of the lungs or elsewhere, emaciation may occur before any physical signs can be detected; indeed, loss of flesh which is accompanied by an intermitting pyrexia generally means latent tuberculosis. In *infancy* the two most common causes of acute or *rapid* wasting are defective feeding and acute gastro-enteritis. The most

common causes of slow, progressive, or *chronic* wasting in infants are defective feeding and environment, cœliac disease and tuberculosis.

Emaciation of the face and upper part of the body, with enlargement below the waist, is seen in *lipodystrophia progressiva*, a rare disease probably of endocrine origin.

§ 17. General Enlargement of the body is much less often met with than diminution. It occurs in *Obesity*, *Generalised Dropsy* (see §§ 9, 18 and 29), *Myxœdema* (Fig. 1, § 9, and § 559), *Acromegaly* and in *Eunuchs*. Hypersecretion of the anterior lobe of the pituitary gland, when in a child, leads to gigantism; when occurring in the adult, it causes acromegaly. Enlargement of the body, with sexual precocity,

FIG. 6.—ACROMEGALY.

may occur with tumours of the pineal gland. Obesity sometimes follows lesions of the nervous system, such as growths in the region of the hypothalamus.

§ 18. Obesity, the excessive accumulation of fat in the subcutaneous and deep tissues, is due to excessive intake as compared with output of calories. Two groups of cases are recognised: (*a*) exogenous, when the chief factors are overfeeding, or deficient exercise, or both combined, as in middle age and in sedentary workers; (*b*) endogenous, where endocrine factors are at fault, and obesity occurs in spite of small caloric intake. In some individuals, both causes may be in operation. The tendency to obesity is often hereditary.

(*a*) *Exogenous obesity.* Excessive intake of carbohydrate and fat is

deposited as fat; excess of protein less often acts thus, on account of its stimulant effect on metabolism (specific dynamic action). The obese individual is often below par and lethargic, is liable to develop diabetes, hyperpiesis, arterio-sclerosis, myocardial degeneration, arthritis of the knees, flat foot, sterility, liver and kidney troubles, and has been shown by the statistics of Insurance Companies to have a shorter expectation of life.

(*b*) *Endogenous* or *endocrine obesity* is due to a deficiency of one or several of the endocrine glands. Thyroid, pituitary and ovarian deficiency may cause obesity at any age, but especially at puberty and the menopause. Tumours of the pituitary, suprarenal, pineal and thymus glands are rare causes. In many cases the usual stimulant effect of food on the metabolism is deficient. (i.) Obesity due to thyroid deficiency shows fat deposits on the shoulders, back of the neck and the supra-clavicular regions, a dry skin, and falling hair or other signs of early myxœdema (Fig. 1). A minor degree of this form of obesity is common at the menopause. (ii.) Deficiency of pituitary secretion is a common cause of obesity in the young. The fat is deposited over the lower ribs, the hips, buttocks and abdomen; blueness of the extensor surfaces of the upper arms, thighs and buttocks may be present. The skin is usually clear, almost hairless on the body; there may be drowsiness, low temperature, decreased menstruation, and increased sugar tolerance. Pituitary obesity occurs with underdevelopment of the gland or when a tumour destroys it; this can be demonstrated radiologically by an abnormally small pituitary fossa, or by evidence of erosion of the bone of the fossa. Cushing's syndrome (p. 28) is a special variety. Or the gland may be injured by acute or chronic infection, as by encephalitis lethargica or by long-continued toxæmia from a septic focus. (iii.) In ovarian deficiency the fat tends to be deposited on the abdomen and thighs, and flushes are complained of.

Deficiency of all three glands may be present in varying proportions, especially at and after the menopause.

Treatment. The caloric intake must be reduced to a level lower than that of the output and continued until the requisite weight is lost. Forbid "snacks" and sweets between meals. Protein can be taken more freely than carbohydrate and fat, owing to its stimulant effect on metabolism. In healthy subjects one may order an initial period of fasting for two or three days; only fruit-juice is allowed. Follow this with a diet with an intake limited to 1250 calories (§ 297 VIII). To reduce appetite, omit salt and condiments. Vegetables with 5% carbohydrate and raw fruit may be taken, as these satisfy the appetite, providing bulk without much caloric value. Banting gave protein 170 gm., carbohydrates 80 gm., fat 8 gm. (total calories, 1100); this is not permissible when the blood urea is raised. Oertel's method reduces the fluid intake also, and reinforces the dietetic regime by carefully supervised hill-climbing. Sometimes the weight increases with retention of water in the tissues; in these cases more protein but no salt is allowed: and

mercurial diuretics help. Physical methods of treatment include general massage and Bergonié treatment, in which temporary reduction of weight is brought about by muscular movements produced by means of a faradic current. In order to stimulate metabolism, appropriate endocrine preparations can be given by mouth or by injection; the most useful is thyroid which, especially in myxœdema, can be gradually increased up to 3 to 5 gr. t.d.s. Pituitary extract may be useful, given by mouth, when combined with thyroid; anterior pituitary injections are of decided value where indicated. Dinitrophenol was previously used on account of its power of stimulating metabolism, but is now considered too dangerous. Septic foci, when present, should be dealt with. Weight reduction must be carefully supervised in unhealthy persons; once weight has been reduced to a satisfactory level, it will rise again if former habits are resumed; one or two starvation days a week often prevent this. In endocrine cases, the appropriate extracts have to be continued indefinitely in order to prevent relapse.

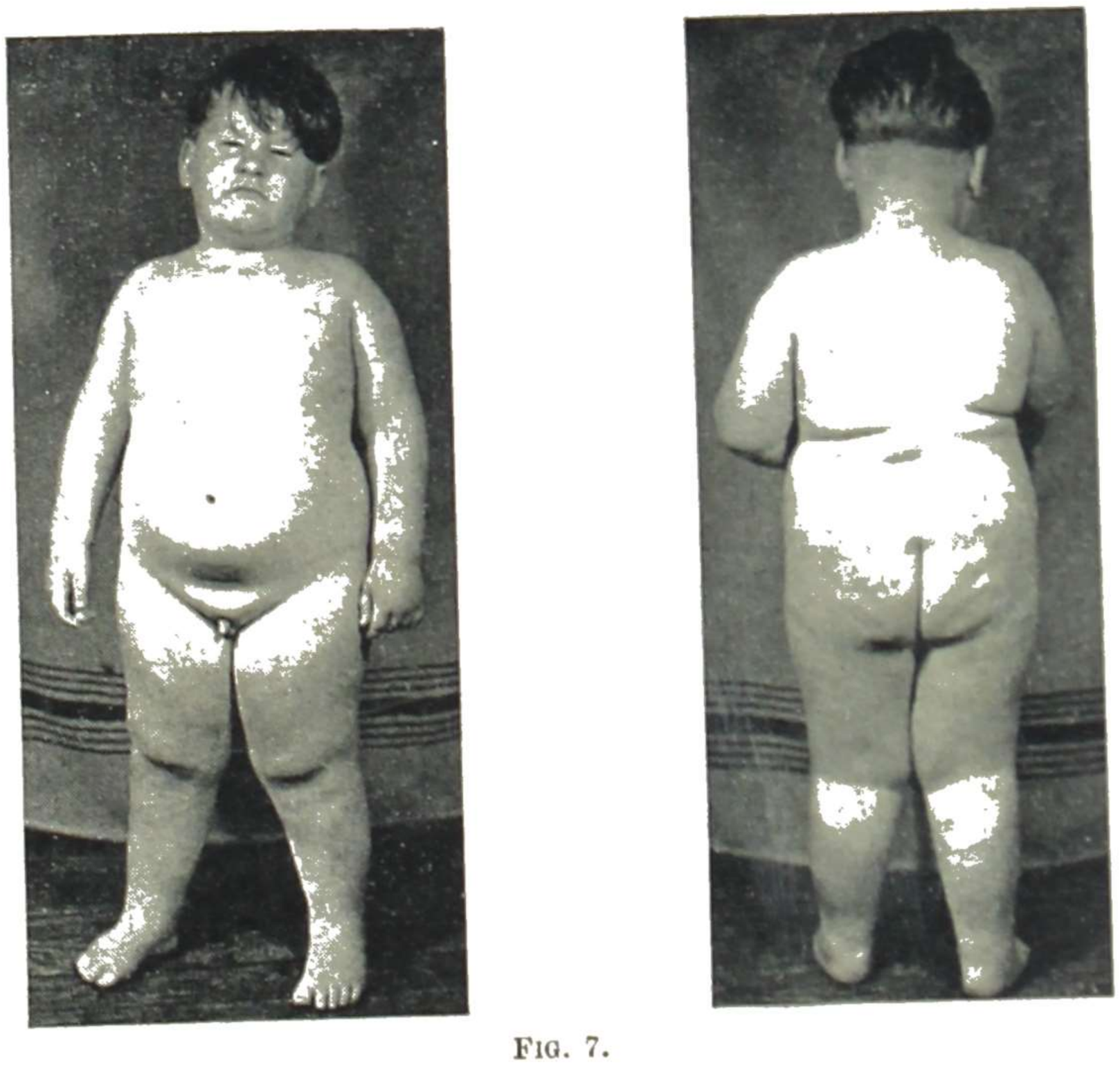


FIG. 7.

(*Photographs taken by Mr. G. J. Potts.*)

FRÖHLICH'S SYNDROME. Boy aged 5; weight 5 st. 4 lbs.; has genital aplasia.

Adiposis Dolorosa is a rare disease described by Dercum, which occurs only in women, generally about the menopause. It is characterised by local subcutaneous and symmetrical deposition of a material probably mucoid in character, but the masses resemble lipomata. They are found chiefly over the deltoids, on the triceps, and the upper part of the body; and may occasionally spread downwards. In another form there is diffuse lipomatosis, only the hands and feet escaping. Pain is a constant symptom, due probably to pressure on the subcutaneous nerves. The administra-

tion of small doses of thyroid, massage, and plenty of open-air exercise have given good results, but treatment has often been disappointing. The disease is probably due to a defect in the pituitary. The condition described by Bowlby as *diffuse lipoma*, which occurs in alcoholic men, may be mistaken for Dercum's disease.

Fröhlich's syndrome is due to maldevelopment or to destruction of the posterior pituitary gland (Fig. 7). It is characterised by large deposits of fat in the subcutaneous tissue, chiefly the face and abdomen, and as it occurs in earlier life than adiposa dolorosa, the patients are asexual. It may be congenital or acquired. Pituitary and thyroid extracts do good if the case is seen in its early stage.

In *Cushing's syndrome* there is obesity of the face, neck and trunk, not the limbs, a considerable rise in blood pressure, hypertrichosis, polycythæmia with dusky skin; absence of sexual functions, glycosuria and other symptoms due to basophil adenoma of the anterior lobe of the pituitary may be present. A similar clinical condition has been found in association with *adrenal carcinoma* (§ 263).

The *Laurence-Moon-Biedl syndrome* shows obesity, retinitis pigmentosa, mental retardation and polydactylism. It is familial, but not hereditary, and due apparently to some defect in the mid-brain, involving the pituitary. Thyroid and pituitary extracts are helpful.

§ **19. Dwarfism** means diminished stature only, and does not imply mental or sexual retardation. It may arise from any cause which affects the growth of the bones of the trunk or limbs, whether local or constitutional. The commonest causes of a stunted condition of the body, in order of frequency, are:

(i.) *Rickets.*—In this disease there is curving of the long bones, together with altered epiphyseal growth. This results in "bandy legs," "knock-knee," and other familiar deformities (§ 596). Varieties occur in the form of *renal* and *cœliac rickets.*

(ii.) *Hereditary Syphilis*, the means of recognising which are fully given in § 552.

(iii.) *Curvature of the Spine*, which may take three forms: (i.) *kyphosis* (*i.e.*, the convexity projecting backwards), usually due to postural defects, tuberculosis or other disease of the vertebræ, or to lax ligaments, as in rickets. The latter disappears when the child is held up by the shoulders. (ii.) *Lordosis* (*i.e.*, a forward projection), usually compensatory, or the result of muscular weakness; and (iii.) *scoliosis* (a lateral curve). All these may diminish the stature, but they differ considerably in importance. A certain amount of scoliosis is normal to nearly everyone, and the kyphosis of muscular weakness is common enough in old age, as a consequence of which our stature becomes slightly less in advancing years. Angular kyphosis is serious, as indicating organic disease of the bodies of the vertebræ.

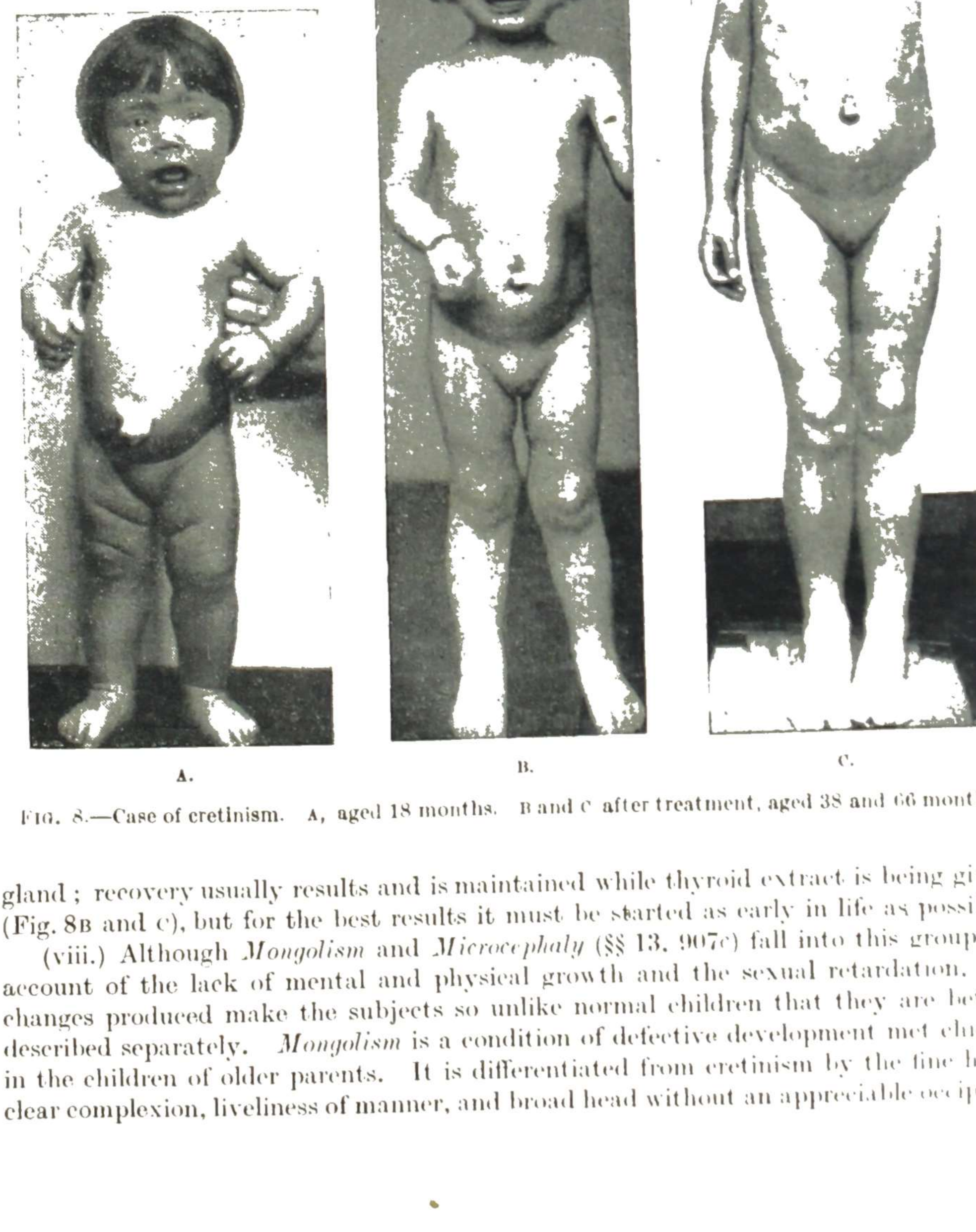
(iv.) *Infantilism* is a condition of dwarfism, in which the usual changes, both sexual and physical, which normally occur at puberty, fail to take place, and the patient retains the stature, features, voice, and often the mental proclivities of a child. There are two main types: (*a*) those in which endocrine factors play a major part. Thyroid and pituitary deficiency are mainly responsible. Thyroid deficiency gives rise to cretinism. Deficient action of the anterior pituitary may follow an acute specific fever. *Ateliosis* may be of the same origin. It is hereditary; in the asexual form, there is delayed development of the whole body, but especially of the sexual organs; in another form improvement occurs at puberty, but the individual remains tiny. Under the name *progeria*, Hastings Gilford described a condition in which infantilism is associated with premature decay, the appearance, attitude and state of nutrition of the dwarf becoming senile, and degenerative changes occur in the vessels and viscera (§ 554). (*b*) Sometimes infantilism occurs with diabetes insipidus, polycystic kidneys, scleroderma, cirrhosis of the liver and spleen and with hydrocephalus. A toxæmic type of infantilism is described in which the development is arrested owing to chronic infection, such as tuberculosis, malaria, after scarlet fever, syphilis and cardiac disease, and recurrent diarrhœa in children (resembling cœliac disease), or it may be due to drugs, such as alcohol, tobacco, lead, mercury or morphia. In cases with pancreatic insufficiency, diarrhœa is often present and pancreatic extracts by mouth are of value. Thyroid medication is of major importance in the

endocrine group, and injection of gonadotrophic and other hormones of the anterior lobe of the pituitary, when injected, produce good results in experimental animals, and may benefit human beings. Even in the forms caused by toxæmia, thyroid should be given a trial.

(v.) *Achondroplasia.*—A rare condition somewhat resembling, and formerly confused with, Rickets (§ 598).

(vi.) *Osteomalacia*, when this disease involves the spine.

(vii.) *Cretinism* (§ 191) is a peculiar stunting of the growth which is either sporadic or is endemic among children in certain districts. The appearance is so distinctive that typical cases can be recognised at a distance (Fig. 8A). The face is broad and flat, and joined almost without a neck to the body. The skin and hair are coarse the hands broad and stumpy, the stature stunted, for even when twenty years of age a cretin may be only 3 feet high. It is due to a diminished action of the thyroid



A. B. C.

FIG. 8.—Case of cretinism. A, aged 18 months. B and C after treatment, aged 38 and 66 months.

gland; recovery usually results and is maintained while thyroid extract is being given (Fig. 8B and C), but for the best results it must be started as early in life as possible.

(viii.) Although *Mongolism* and *Microcephaly* (§§ 13, 907c) fall into this group on account of the lack of mental and physical growth and the sexual retardation, the changes produced make the subjects so unlike normal children that they are better described separately. *Mongolism* is a condition of defective development met chiefly in the children of older parents. It is differentiated from cretinism by the fine hair, clear complexion, liveliness of manner, and broad head without an appreciable occiput (

prominence, and absence of constipation. The name is derived from the resemblance to the Mongolian races. The eyes are oval and slant upwards at the outer angle, the little finger tends to curve inwards; there is often a squint, with various "stigmata of degeneration," and often a congenital heart.

(ix.) In addition to the foregoing there are certain rare conditions, of which the celebrated Tom Thumb and his wife, and the race of pygmies of Africa met with by Sir H. M. Stanley and others, are examples, in which the skeleton and the organs are diminished in size, but their proportions maintained. Such cases, however, seem to be functionally normal in every respect.