Numerous cases have been published since then, but we wish to refer only to those which terminated fatally and where the necropsy was made, as such only are likely to clear up the pathology of the disease. Holschewnikoff¹ gives the *post-mortem* appearances in a case of syringomyelia; the hands were large and hypertrophied as in acromegaly. The skin of the hands was thickened in the superficial and deeper layers; the bones of the hands showed some exostoses. No affection of the pituitary body; no enlargement of the thyroid and of the thymus; no persisting parts could be found. The spinal cord showed changes (gliomatosis) which were connected with the syringomyelia, the fifth and sixth cervical nerves, and branches of the brachial plexus showed a hyaline degeneration. The author looks upon acromegaly as a neurotic hypertrophy, dependent on changes in the peripheral (sensory and vasomotor) nerves. Recklinghausen² endorses this view, and, as in acromegaly there is only thickening of the terminal parts of the extremities and trunk, proposed the term *pachyæmia*.

Arnold³ gives a very complete and minute description of the changes found in one of Erb's⁴ cases, which case is chiefly interesting as two brothers were affected with the disease, and as the affection was looked upon by Marie as one of hypertrophic osteo-arthritis (as there was no apparent enlargement of the bones of the face, and as the fingers showed marked bulbous enlargement, and as wrists, ankles, forearms, and legs appeared thickened). The bones were found thickened, but not altered in length, and showed partly compact and partly porous osteophytes, and the changes were looked upon as new formations, chiefly periosteal, but also intraosteal, with rarefaction of the bone; the muscles showed vacuolation and proliferation of the nuclei, and atrophy of the muscular fibres and changes in the interstitial tissue of the muscles; the subcutaneous tissue was thickened and sclerosed; the changes in the nervous system were chiefly confined to the peripheral nerves, which showed a hyperplasia of the nervous tissue, and contained a number of small nerve fibres. There was no enlargement of the pituitary body; the thyroid gland showed no changes, and of the thymus gland only a few remains were found imbedded in masses of fat.

J. S. Bury⁵ gives the *post-mortem* appearances of the case described by Ross.⁶ A large gliomatous tumour was found extending from the chiasma to the cerebellum, compressing the chiasma and the optic tracts, and causing excavation of the sella turcica. Each lobe of the thyroid was enlarged, and contained a cyst; in front of the pericardium were found large fatty masses, in which the remains of the thymus gland were imbedded.

Marie and Marinesco.¹⁰—The skin showed marked hypertrophy, the mucous membranes of the oral and nasal cavities, and of the pharynx, larynx, and trachea an infiltration with leucocytes; the bones showed the usual changes, the inferior ganglia of the sympathetic were sclerosed, the neuroglia of the brain was increased, and the follicles of the thyroid hyperplastic, and there was also hyperplasia of the follicles of the pituitary body.

Duchesneau.¹¹—The case is interesting, as there was marked atrophy of the arms and legs, which the author believed to be due to pressure on the spinal nerves by the thickened vertebrae. The usual changes in the skin and bones were found, and enlargement of the pituitary body, of the thyroid, and of the thymus. At the time of publication the nervous system had as yet not been examined microscopically.

Gauthier¹² gives the necropsy of a case described by him before.¹³ The pituitary body formed a large tumour compressing the cavernous tissue, and consisting of normal brain elements; the thyroid was enlarged; of the thymus no remains could be found. The bones were not specially examined.

Holsti¹⁴ gives a detailed account of the necropsy of a case. There was enlargement of the pituitary body, remains of thymus gland imbedded in fat; the thyroid enlarged, hard, and showed increase of interstitial tissue, while the glandular elements were atrophied; there was also atrophy of some muscles (glutei). A microscopic examination of some of the enlarged and thickened bones—big toe and terminal portion of clavicle—gave evidence of a hyperplastic and varying

osteitis. Only one nerve of the brachial plexus was examined and no changes were found.

It cannot be said that our knowledge of the pathology of acromegaly has been much advanced by these observations, except that some of the views hitherto held as to the causation of the disease can scarcely any longer be considered tenable, as the view of Klebs which makes the disease dependent on the persistence of the thymus.

The enlargement of the pituitary body must be looked upon as a symptom rather than as the cause of acromegaly, and, considering that a part of it is developed from the oral cavity, its enlargement would harmonise with the hypertrophy of the mucous membrane of the oral and nasal cavities.

The thyroid gland has been found altered in many though not in all cases of acromegaly. In Arnold's case it was found quite normal, in some cases it was found enlarged, in others atrophied, and in others again it contained cysts. It is not, therefore, at all likely that there is a causal connection between the two affections.

Recklinghausen and others look upon acromegaly as a neurotrophic affection, and this appears the most plausible view. As will be seen from the above-quoted cases and from some of the other observations, changes in the nervous system, especially in the sympathetic ganglion and also in the peripheral nerves (Holschewnikoff), have been noted, besides diffuse alterations in the central nervous system. These changes, however, are so varied, so inconsistent, and in some cases were so insignificant that they themselves can scarcely be looked upon as the cause of the neurotrophic symptoms, and until we know more of the neurotrophic centres the primary cause for the symptoms of acromegaly will remain obscure, and may be placed in a line with other trophic affections, as the arthropathies seen in locomotor ataxy and syringomyelia, and it must be noted that in these affections we do occasionally find partial hypertrophy of bone and osteophytic deposits.

REFERENCES.

- ¹ *Notes de Clinique Médicale* (Rheims), 1877 and 1882. ² *Essays on Acromegaly*, New Sydenham Society, 1891. ³ *Nouvelle Iconographie de la Salpêtrière*, vols. 1, 2, 3. ⁴ *Virch. Arch.*, vol. 119, p. 10. ⁵ *Ibid.*, p. 36. ⁶ *Ziegler's Beiträge*, vol. 8, 1891, p. 1. ⁷ *Deut. Arch. f. klin. Med.*, 1888. ⁸ *BRITISH MEDICAL JOURNAL*, 1891, i, p. 1178. ⁹ *International Clinics*, 1890. ¹⁰ *Archives de Méd. Expérimentale et d'Anat. Path.*, 1891, iv. ¹¹ *Contribution à l'Etude Anatomique et Clinique de l'Acromégalie*, Paris, Baillière, 1892. ¹² *Progress Médical*, 1892, No. 1. ¹³ *Progress Médical*, 1890, p. 409. ¹⁴ *Zeitschrift f. klin. Med.*, vol. xx, 1892, p. 298.

CLINICAL REMARKS ON A CASE OF SPORADIC CRETINISM.

By BYROM BRAMWELL, M.D., F.R.C.P. EDIN.,
Assistant Physician to the Edinburgh Royal Infirmary.

THE case which is represented by the photographs which illustrate this paper is a remarkable example of a remarkable disease. The patient, who was kindly sent to me by Dr. David Menzies, is suffering from sporadic cretinism—in other words, from the infantile form of myxœdema. She was admitted to the Edinburgh Royal Infirmary on March 30th, 1893. At that time—when the photographs which are reproduced in Figs. 1, 2, 3, 4, and 5 were taken—though she did not look more than 2 or 2½ years of age, her actual age was 16 years and 4 months. She measured only 29½ inches in length, and weighed only 2 st. 5½ lbs. The anterior fontanelle was widely open; it measured 6 by 5½ centimetres. The stumps of the first set of teeth were still present. She was unable to stand, though she could support herself in a semi-erect position by leaning on her chest and arms (see Fig. 1). She was unable to creep in the ordinary way, but she could pull herself along for a short distance on her belly by her arms. Her intelligence was to all intents and purposes *nil*, but she could see, hear, and taste. Owing to her defective mental development the condition of smell could not be satisfactorily determined.

During the six weeks that she was under close observation in the hospital she never uttered any intelligible articulate sound; but her mother said that she could say "Da-da" and

"Ma-ma." Swallowing was difficult, apparently in consequence of the enormous swelling of the tongue. She was unable to chew, and had consequently to be fed with liquid and soft foods.

The patient looked more like one of the lower animals than a member of the human race. The photographs give no adequate idea of the extremely repulsive appearance which she represented. Her facial appearance and expression resembled that of a bull-dog more than anything else. But notwithstanding these repulsive characteristics and her almost entire want of intelligence, she was the darling of her mother. The case is indeed a remarkable illustration of maternal affection. Up to the date of the patient's admission to the hospital the mother had only been separated from the child one night since its birth. It was with the very greatest difficulty that she was persuaded to allow the patient to come

Fig. 1.—Sporadic cretin in semi-erect position.

into the hospital; she only did so on condition that she should pass the whole of the day with her. Every particle of solid food which the child had swallowed since its birth had been first chewed by the mother before being put into its mouth.

Family History.—The case presents all the characteristic features of sporadic cretinism, though in a very exaggerated degree. The patient is the eldest of four children; the second child, a girl aged 12 years, is healthy and tall; the third, a boy, died when 1 year and 10 months old, of "cramps in the stomach;" the fourth, a girl aged 6 years, is very healthy, tall, and strong. There was one miscarriage, between the births of the first and second children. The parents are both healthy people. The father, aged 42, measures 6 feet 2 inches, and the mother, aged 41, measures 5 feet 5½ inches in height. Both parents come of a healthy stock, and so far as can be ascertained no similar or allied diseases have occurred in any of their relatives.

ETIOLOGY.

The parents have lived in their present house for eighteen years; the patient was born at her grandfather's house in the country, where her mother went to be confined. Her mother states that she is unable to account in any way for the development of the disease, unless it was due to a strain of the back which she received when she was five months pregnant. The patient's birth was unattended with difficulty.

Except that the tongue seemed to be unduly large and the skin more mottled than natural, nothing was thought to be amiss with the child until she was nine months old. About this time her mother noticed that she seemed to have stopped growing; she says that the child has hardly grown at all since. Up to this time she had been chiefly breast-fed.

Prevalence of Sporadic Cretinism and Myxœdema in a Limited District of Edinburgh.—But although the parents cannot account in any way for the causation of the disease, there is one fact which is certainly of interest, and perhaps of importance from an etiological point of view. In the part of Edinburgh in which the patient lives, sporadic cretinism and myxœdema are, relatively speaking, so common that they may almost be said to abound. The remarkable cases of sporadic cretinism which Dr. John Thomson described in a recent number of the *Edinburgh Medical Journal*, and the typical case of myxœdema which is represented in the first plate in my *Atlas of Clinical Medicine*, live within a stone's throw of this patient's residence; and there were, when I first saw this patient, at least five other cases of sporadic cretinism and some other cases of myxœdema within a radius of half a mile. The extraordinary prevalence of sporadic cretinism in this limited part of Edinburgh is remarkable, and can hardly be a mere coincidence. It seems to suggest that sporadic cretinism and myxœdema (or rather the atrophic condition of the thyroid gland, which is the pathological substratum of myxœdema and sporadic cretinism) are in some cases perhaps due to a local or endemic cause. In conjunction with Dr. John Thomson, I am endeavouring to obtain further information on the point. We are trying to ascertain the place of residence and place of birth of all the cases of sporadic cretinism and myxœdema which are to be found in the city.

Sporadic cretinism is not a common disease. When I published the first part of my *Atlas of Clinical Medicine* I could only find 43 recorded cases. But these figures undoubtedly give a very erroneous idea of the frequency and prevalence of the disease. During the past year or two, in consequence of the great interest and attention which have been directed to myxœdema and sporadic cretinism, as a result of the extraordinary improvement which is effected in these diseases by thyroid treatment, a large number of new cases have been recorded. We now know that the disease is very much more prevalent than it was supposed to be three years ago. But, notwithstanding this fact, the occurrence of 6 cases in a limited district of this city is very remarkable and undoubtedly calls for further investigation.

HISTORY OF PATIENT.

Previous Illnesses.—When 3½ years old the patient was very ill with "stoppage of the bowels;" at 5 she had chicken-pox; at 7, measles; at 8, whooping-cough; at 10, scarlet fever; and at 12 years of age a large glandular abscess on the right side of the neck, which was lanced. Three scars represent the position of the abscess, and show that it must have been severe. Her hair, which was previously pretty thick, began to come out after the attack of scarlet fever; it has not grown since.

The Condition of the Patient before Treatment.—I have said that sporadic cretinism is the infantile form of myxœdema. Like myxœdema, the disease depends upon arrested or defective secretion of the thyroid gland. The symptoms of sporadic cretinism are identical with those of myxœdema. Of course there are differences in detail, but they are easily explained by the difference in age, and by the fact that children affected with the infantile form of myxœdema do not grow and develop. Their mental development and bodily growth are both arrested. The case which I am now recording is a remarkable illustration in point. As I have already stated, the patient at the age of 16 years only measured 29½ inches in length. Her mental development is completely arrested.

Though she can grunt and bark like one of the lower animals, she does not seem to be able to produce any articulate sound, and yet she seems to have some sort of dull intelligence. The first night that she was in hospital and separated from her mother she was very miserable. She kept the whole ward awake with her inhuman-like barks, and grunts, and groans, for she could not scream, or cry, or weep after the manner of an ordinary child. The nurses were unable to pacify her, and the disturbance which she produced was so great that one of the house-physicians had to be sent for. He carried the patient to an empty (delirium tremens) ward, and with admirable fortitude and patience walked her about for a considerable time in his arms. He has since confessed

Fig. 2.—Sporadic cretin, aged 16 years 4 months. The large tongue, hands, and feet, the umbilical hernia, the bald patch on the head, and the swollen condition of the face are well seen.

to me that he did not at all relish the experience; in fact, he says that he "got quite a turn." He had not seen the patient before, and he could hardly realise that he was dealing with a human being. He felt as if he were trying to soothe some strange and weird animal. The repulsive and inhuman appearance of the patient, and its brute-like roaring in the dead of night in an empty delirium tremens ward were sufficient to give most men "a turn." Even the best efforts of this gentleman did not succeed in quieting the patient, and relief was only obtained after the administration of a dose of bromidia. The disturbance which the child created was so

great that we reluctantly determined if it was repeated to send the patient home. Fortunately, she soon became accustomed to her new surroundings, and except during an attack of influenza, which will presently be described, gave little trouble during the rest of her stay in hospital.

I have said that her facial appearance reminded me of a bulldog. The head was large in proportion to the body. The mouth was of enormous size, and always open. Saliva frequently dribbled away from it. The lips were very thick and blue; the lower lip was everted, and in it there could be seen some large dilated veins. The tongue, which was of enormous size, both as regards length and breadth, and of a dark purple colour, constantly projected between the teeth. The nose was very small, sunken, and snub-shaped; while the nostrils were large, dilated, and set widely apart. The eyes, which were small and bead-like, were partly closed by the cedematous swelling of the lids. These appearances are represented in Figs. 2, 3, and 4. There was no blush on the cheeks, but in this respect the case was not exceptional, for the malar blush, which is so characteristic of myxœdema, is very rarely present in sporadic cretinism. The face was pale, and the skin of the body generally of a dingy yellow hue. The

Fig. 3.—Showing the enormous swelling of the tongue and mouth, the thick neck and supraclavicular swellings.

scalp over the position of the anterior fontanelle was destitute of hair (see Fig. 5); a considerable quantity of coarse, dry, shaggy hair, covered the back and sides of the head. The eyebrows were hardly perceptible. The eyelashes in the lower lids were scanty; there was slight blepharitis. The cavity of the mouth was very capacious.

The belly was large, and an umbilical hernia of (relatively) great size projected from it, and added not a little to the extraordinary appearance which the patient presented in the nude condition. (See Fig. 1.) (It is a curious fact that an umbilical hernia is nearly always present in cases of sporadic cretinism, but I am not acquainted with any case in which the hernia was so large as in this patient.)

The hands and feet were very broad and thick, and wrinkled like those of a washerwoman. The legs, thighs, arms, and forearms were firm; the tissues were evidently infiltrated with a solid cedema, for, as the result of the thyroid feeding, the firmness entirely disappeared, and the limbs rapidly became soft and flabby; the solid cedema seemed, as it were, to melt away after a few doses of thyroid extract.

The skin was mottled and very harsh and dry; the mother

stated that the patient never sweated. Several moles and warts, some of them pigmented, were scattered over the surface of the body. In the subjoined photographs a pigmented mole may be seen on the left side of the trunk, and another on the right side of the neck. The sensibility of the skin was, so far as could be ascertained, quite normal.

The neck was very thick, and a large elastic swelling was situated at the root of the neck above each clavicle. The fatty swellings, which are so characteristic of sporadic cretinism and myxoedema, were larger in this than in any other case of myxoedema or sporadic cretinism which has come under my notice. There were no pseudo-lipomata elsewhere. The spine was curved towards the right, and the tibiae were bent as if from the result of rickets. The appetite was said to be good, but the patient was often sick; this, her mother stated, was sometimes due to laughing. The breath had a disagreeable odour. The bowels were very costive. At times the patient was very flatulent. The tem-

Fig. 4.—Showing swelling of tongue, lips, eyelids, enormous mouth, pigmented mole on right side of neck and supraclavicular swellings.

perature was subnormal. The mother stated that the patient was always worse during winter, and somewhat better and brighter during the heat of summer. The pulse was of normal frequency. The urine contained a small quantity of globulin. The child paid no attention to the calls of Nature. The mother stated that she slept well and was of a placid disposition, and that she was in the habit of playing with toys; but the degree of intelligence which was present before the thyroid treatment was so slight that I am not disposed to attach much importance to this statement. Like many other mothers, this one had an exaggerated idea of the mental capacity of her offspring.

The child was admitted to the hospital in order to be treated by thyroid feeding. The case was not a favourable one, and I did not expect great things from the treatment; but I was anxious to see whether some improvement could not be effected, and I am glad to say that a considerable amount of improvement has undoubtedly taken place.

I may say in passing that in two other cases of sporadic cretinism I have obtained most satisfactory results from thyroid feeding. One (the case which is reported in my *Atlas of Clinical Medicine*) has apparently been completely cured; the other, a child who has suffered from the disease since it was a year old, is progressing and developing under the thyroid feeding in a very remarkable manner; but I do not propose on the present occasion to go into details with regard to these cases.

RESULT OF TREATMENT.

The result of the treatment in the case which I am now recording has been as follows:

Dose of Thyroid Extract Administered.—On April 1st 5 minims of Brady and Martin's extract of thyroid were administered. On April 3rd the dose was increased to 7 drops. Soon after taking the medicine the patient vomited; for the rest of the day she was in a very excited condition, grunting continuously and laughing in a way which was peculiar to herself. The temperature rose to 99.4. On April 4th the dose was reduced to 5 minims. On April 9th 5 minims were given in the morning and 3 minims at night. The same dose was repeated on the 10th and on the 11th. In consequence of the larger dose the patient became very excited, could

Fig. 5.—Shows the bald patch on the top of the head, the swelling of the tongue, and a mole on the left cheek.

not sleep, and was for several hours in what can only be termed a hysterical condition. The dose was consequently on the 12th again diminished to 5 drops. The state of excitement was followed by considerable depression. On April 14th and 15th 7 drops, and on the 16th 10 drops were administered in two doses, one in the morning and one in the evening. As the patient again became excited the dose was finally restricted to 5 minims once a day. This seemed to be the maximum dose which could be borne satisfactorily.

Results of the Treatment.—April 8th. The treatment had already produced a very marked effect; the temperature had risen at least a degree and a half, the swelling of the tongue and lips and body generally was very much less marked (see table of measurements); the patient swallowed better than she did, she looked brighter and seemed to fix and follow an object with the eye in a way she did not do before, the mouth was now frequently closed; this was never observed before the treatment; the skin was not nearly so rough and harsh.

On April 17th it was noted that the patient looked very much brighter, and was much thinner; the firm myxoedematous infiltration of the tissues seemed to have entirely disappeared; the skin was much less harsh and dry, and peeling was beginning on the legs and feet. Her mental condition was much more lively; she took much more notice of things than she used to do. The constipation had almost entirely disappeared. She had lost 3½ lbs. in weight since the treatment was commenced, and this notwithstanding that she was eating well; she then

weighed 2 st. 2 lbs. She was taking three pints of milk in the twenty-four hours, in addition to bread, beef-tea, potatoes, and gravy.

May 3rd. The patient was very bright; her mother said she never remembered having seen her so well. She was smiling and taking notice of strangers, and the depression which attended the rapid emaciation produced by the thyroid feeding was beginning to pass off.

Sudden Attack of Influenza.—On the afternoon of May 3rd, one hour after tea—which consisted of biscuit and milk—the patient was suddenly seized with vomiting, followed by profound collapse. The nurse thought she was dying, and, as she knew that I took a special interest in the case, I was hurriedly sent for. When I saw the patient, at 7 P.M., she was looking very ill, moaning continuously, and kicking her legs about as if from pain in the abdomen. The skin was hot, temperature 102° pulse 140. On questioning the mother, I found that the patient had taken a very hearty dinner, consisting of gravy, potatoes, and beef-tea—her usual dinner food. She had also taken a hearty tea of milk and biscuits. The milk was quite sweet, and she had had the same biscuits before. The attack did not appear to be due to anything that the patient had eaten. I thought it probable that the symptoms were due to a commencing attack of influenza, and the subsequent course of events showed that this was the true explanation of the matter. A typical case of influenza had been admitted into the ward a few days previously, and had been put into a bed next the fireplace, near to which the patient and her mother were in the habit of spending most of the day. When I saw the child at 7 P.M. I at once gave her a teaspoonful of brandy and one drop of liquor morphine. The nurse was instructed to repeat the dose from time to time if the pain and collapse continued, and to apply warm fomentations to the abdomen. At 11 P.M. the patient was better. Through the night the temperature rose to 103.8°.

On the morning of May 4th the temperature was 102.2°. The child was still looking ill, but distinctly better. She was free from pain; her tongue was dry, and she was very thirsty. Half a grain of quinine was ordered every four hours.

May 5th. The temperature rose last night to 104.2°. This morning it is 100.8°; and the pulse 138. The child looks much better. The quinine to be continued in larger (one grain) doses.

May 7th. The patient has not slept a wink for forty-eight hours. Last night she groaned and grunted continuously; but she looks better this morning, and is taking a large quantity of milk. To have ten drops of bromidia at 6 P.M., and a second dose at 10 P.M., if she does not sleep.

May 8th. The patient had a very good night after the bromidia. She looks better.

May 9th. The patient looks bright, and almost as well as she did before the attack of influenza. She took two pints of milk yesterday. The thyroid feeding, which has been discontinued since May 3rd, to be again commenced in the same dose as before—5-drop doses of Brady and Martin's extract once daily. To go on with the brandy (half a teaspoonful three or four times a day).

After-History of the Case.—May 10th. The skin is peeling freely from the hands and feet; the hair is beginning to grow. The anterior fontanelle is smaller and firmer than it was at the time of her admission. The child is bright. The blueness of the lips and tongue has almost entirely disappeared. She laughs when spoken to. Though her legs are very weak, she is able to stand leaning on a chair better than she has ever done before. The globulin which was present in the urine at the time of her admission to hospital has disappeared.

May 12th. Still improving; is taking nearly three pints of milk daily.

May 15th. The patient was stripped and exposed for a short time at the clinical lecture yesterday. An hour afterwards she became blue all over, and collapsed without any apparent cause. The blueness lasted for two hours, during which time she had two doses of brandy. After the collapse she became very hot; at 6 P.M. the temperature (taken by the nurse) was 106° F. Two grains of quinine were immediately administered; at 8 P.M. the temperature had fallen to 101.

May 17th. The temperature is normal, and the patient is bright, and seems in her usual state of health. At the urgent request of her mother she was allowed to go home to-day.

CONDITION AFTER TREATMENT FOR TWO MONTHS.

On June 7th she was looking decidedly better and brighter, tongue smaller, expression more intelligent, and a crop of fine hairs was growing on the bald part of the head. She was stronger than at the time of her discharge from hospital, but her legs were still very soft and flabby; in fact, the legs and arms seemed to consist entirely of skin and bone; no muscle could be felt. A large molar tooth on each side of the lower jaw was pushing through the gum. The gums were swollen, inflamed, and suppurating. The hands were much smaller, and the palms less wrinkled than they used to be. The umbilical hernia was not nearly so large. The skin was smooth and soft. The patient had been taking 5 drops of Brady and Martin's extract every other day since her discharge from hospital. She now measured 32 inches in length; in other words, she had grown 2½ inches since the thyroid treatment had been commenced. She was ordered to take one tabloid of Burroughs and Wellcome's extract of thyroid instead of the liquid preparation (5 minims of Brady and Martin's extract), every other day.

The photograph, reproduced in Fig. 6, was taken on this day, but it does not sufficiently represent the improved appearance of the patient; just as the photographs (reproduced in Figs. 1, 2, 3, 4, and 5) fail to give an adequate idea of the repulsive appearance which the patient presented before treatment.

CONDITION AFTER SIX MONTHS' TREATMENT.

I visited the patient on November 15th, and was greatly struck with her altered appearance. She looks much bigger and older than she did three months ago. Before the thyroid treatment was commenced she did not look more than 2 or 2½ years of age; she now looks at least 4 or 5. She has grown 6½ inches since April 1st; she now measures 36 inches in length. The curvature of the spinal column is much more apparent than it was before. Both her father and mother say that she is much brighter and more intelligent. She says "Da-da" and "Ma-ma," claps her hands in imitation of her sister, and seems to understand some things that are said to her. The anterior fontanelle is much smaller than it used to be, and very firm; it is evidently being filled in with bone. The hair has grown over the bald part of the scalp; the eyebrows are also much thicker, stronger, and longer. She has got four new teeth; the legs are firmer, but still very soft. The patient is able to support herself on her legs much better than she used to do, but she is still unable to stand erect even with support.

Fig. 6.—Representing condition after two months' treatment.

In some respects the patient does not seem so well as she was at the end of July. The skin is more dry and harsh, the tongue is larger, and the supraclavicular swellings are more marked. The dose of thyroid was consequently increased from one to one and a-half tabloid every other day. I would have ordered a larger dose had I been certain that the mother would have given it to the patient, but she was so impressed with the profound depression and emaciation which were produced by the larger doses which were given in the hospital, that it was with difficulty she could be persuaded to increase the dose at all. The patient is taking plenty of milk, is sleeping well, and is, her mother says, quite contented and happy. The gums are, as they have been all along, much thickened and inflamed, and there are numerous abscesses at the roots of the old stumps. The mother had been previously advised to have the stumps extracted. This was again insisted upon. Since I saw the patient, in July, she has spent a month in the country. Her mother states that she sweated profusely during the hot weather.

SUMMARY OF THE EFFECTS OF TREATMENT.

From the account which has just been given it will be seen that the thyroid feeding very rapidly produced a marked change in the condition of the patient. The cedematous infiltration of the tissues rapidly subsided, and, in the course

of a few weeks, entirely disappeared. In the course of a single week the swelling of the lips, tongue, and body generally had decreased considerably (see Table of Measurements). At the end of six weeks the skin had become soft and smooth, peeling being in this, as in the other cases which I have closely observed, well marked.

In the course of six months the patient has grown $6\frac{1}{2}$ inches (equal to one-fifth of her total length before treatment), and she looks at least two years older than she did before the treatment was commenced. She is certainly more lively and intelligent looking. The open fontanelle is filling rapidly up. The hair has grown over the bald area of the scalp.

The following table of measurements shows the alterations in the length and size of the body which have taken place as the result of the treatment.

I hope to report the further effects of the treatment in this very remarkable case at some future date.

Table of Measurements, showing the results of Thyroid Feeding.

	April 3rd.	April 8th.	June 7th.	Nov. 15th.
Length	29 $\frac{1}{2}$ in.	29 $\frac{1}{2}$ in.†	22 in.	36 in.
Breadth of mouth ...	6 cms.	5 cms.	5 cms.	4 $\frac{1}{2}$ cms.
Mouth from above down- wards	5 "	3 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	3 "
Thickness of upper lip ...	1 $\frac{1}{2}$ "	1 "	1 "	1 "
Thickness of lower lip ...	1 $\frac{1}{2}$ "	1 "	1 "	1 "
Circumference of neck above swelling	34 "	29 "	25 "	30 "
Circumference of neck over swelling	37 "	32 "	26 "	34 "
Circumference of head ...	51 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	50 "	51 "
" " abdomen	21 $\frac{1}{2}$ in.	20 in.	18 in.	18 $\frac{1}{2}$ in.
" " thorax	22 "	21 $\frac{1}{2}$ "	21 "	21 $\frac{1}{2}$ "
" " thigh	26 cms.	26 cms.	19 $\frac{1}{2}$ cms.	24 cms.
" " calf	18 $\frac{1}{2}$ "	17 "	14 $\frac{1}{2}$ "	16 $\frac{1}{2}$ "
" " arm	17 "	14 "	12 "	14 "
" " forearm	18 "	16 $\frac{1}{2}$ "	13 "	15 "
Length of foot	11 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	12 $\frac{1}{2}$ "	13 $\frac{1}{2}$ "

† The increase of a quarter of an inch was probably due to the increased extension of the limbs (the result of diminished oedema) rather than to an actual increase in the length of the body.

CASE OF BILATERAL FACIAL PARALYSIS, DUE TO INJURY BY FORCEPS AT BIRTH.

By F. H. EDGEWORTH, M.B., B.Sc.,

Assistant-Physician to the Bristol Royal Infirmary.

L. G., aged 7 years, was brought to me at the Bristol Children's Hospital on April 20th, 1893. Her mother said that the patient was her first child; that the labour was very tedious, lasting three days, and that finally she was delivered by forceps with some difficulty. She subsequently noticed bruises in front of each ear of her baby, but these disappeared in about a month. The child was bottle-fed, and "did not suck very well, and had never been able to move her face as other children did"; otherwise she had always been well, and had never had any illness.

The girl was suffering from bilateral peripheral facial paralysis. There were no lines of expression in the face, the skin of which was quite smooth. The girl could not frown or raise the eyebrows; she could partially close the eyes by relaxing the levatores palpebrarum; there was no movement of the orbiculares oculorum. The lower lids were very thin, with an upper border more concave than normal, slightly dropping away from the eyeballs. The muscles of the ears, nose, and cheeks did not move. The lips were thick, and the lower one was protuberant; the patient could move them a little, bring them together and blow out a candle, but could not whistle. On testing the patient's speech it was found that she could pronounce labials, though not very distinctly, but labio-dentals with more difficulty, and there was a tendency to replace the latter by anterior palato-linguals. She raised the larynx well in swallowing, and could depress the lower jaw forcibly. Epiphora occurred on the slightest excess of the lachrymal secretion (from non-action of the tensores tarsorum). When the girl was angry the skin of the face flushed.

The bones of the face were well developed. There was no deafness, nor evidence of otitis media, nor loss of taste. The

palate moved well. No response to either the constant or interrupted current was obtained, but the girl was very sensitive, so that only weak currents could be employed. It was not considered justifiable to anaesthetise her for further

evidence on this point on account of the paralysis of the orbiculares oculorum. There was no evidence of any other lesion.

This appears to be a case of double peripheral facial paralysis, complete in the upper part, but incomplete in the lower part of the face; the history and absence of evidence of any other cause point to its being due to pressure of forceps at birth. The good development of the facial bones is an interesting feature, as the facial nerve is not supposed to supply these structures.

The lesion must be a rare one, for facial paralysis from pressure of forceps at birth is usually unilateral and transient; a few cases in which a unilateral lesion from this cause has proved permanent have been recorded, but I do not know of any case but this in which a bilateral lesion has been other than temporary.

(The girl was shown at a meeting of the Bristol Medico-Chirurgical Society in May, 1893.)