Cameron prize, and his researches upon transference of impressions in connection with lesions in the Rolandic area had led me to expect he would be specially interested in the case. He had found that in connection with disease of particular portions of that area, say that for movement of the thumb, the patient not only exhibited the motor phenomena now so well recognised, but also a certain deficiency of tactile sensibility in the skin of the thumb, and a tendency to refer touch to higher segments, as for example to the wrist, when the patient was really touched near the tip of the thumb. Mr. Horsley told me that he had not before seen such a transference as exists in our patient's case. I have demonstrated the phenomena also to a number of physicians eminent in neurology, and have written an account of it to several professional friends at a distance, and have looked through the literature of nerve diseases with a view of discovering some similar case, but without success.

The condition which approaches it most nearly is that which Professor Obersteiner, of Vienna, was the first to describe fully, and to which he gave the name allochiria (*ἄλλος χεῖρ*). Our case obviously is not referable to that category, for whereas in allochiria a touch is felt as if it were applied at a corresponding point on the opposite side of the body, in ours it is on the same side, on the same limb, but on the opposite side of it, although at the same level. Allochiria has been studied not only by Obersteiner but by Ferrier, Fischer, Hammond, Brown-Séquard, Leyden, Féré, Gellé, Gay of Bournemouth, and others, but perhaps most fully by Dr. M. Weiss of Prague. These observers have ascertained that allochiria may affect one kind of sensory impression or all varieties, that not only may touch, but temperature-perception, pain, tickling be referred to the opposite side, but also that sight and hearing may be so transferred, and that not only may the skin, but mucous surfaces, be affected as well, and that even reflex movements and electrical stimulation applied on one side may produce their effects exclusively or in part on the other.

The kind of explanation which has commended itself to most writers on allochiria is suggested by the fact that it is so often found associated with locomotor ataxy or other organic disease of the cord. It consists in the conception that one or more of the paths for sensory impressions being blocked, a transference is effected by commissural fibres to the corresponding conducting structures in the opposite column, and so the sensorium receives an erroneous impression. I doubt whether this explanation proves very satisfying to anyone, but certainly it cannot apply in the case of our patient, seeing that the impressions are not referred to the opposite side of the body, but only to the opposite side of the limb. It might be suggested that we should account for faulty localisation of sensory impressions by ascribing it to morbid action of the nerve endings or of the nerves. But if this explanation were correct one would expect it to be associated with some alteration of perception in other respects, some loss of acuteness; but here no such abnormality exists—the acuteness of perception is as good on the one side of the body as the other, it is only the localisation that is disturbed. It might be conceived that some faulty conduction in the spinal cord or in the higher sensory tracts might account for it; but if the true seat of morbid action were there, one would also expect altered sensibility of other kinds. It is obviously most reasonable to refer it to the sensory centres and to a disturbance of a sensory faculty, which is developed somewhat later than others. From the time of birth a child perceives painful and other impressions, but only by degrees does it learn to localise them. This faculty alone is interfered with in our patient. Now it is conceivable that a change might arise in the nerve cells which receive the impressions, or in the mysterious borderland where the mental and the physical meet, but I should think that few will feel warranted in dogmatising as to which of these may be at fault in such a case as the present.

But I would venture to suggest that this case may perhaps lend some support to the opinion that in allochiria as well as in this case the fault is not so much in the conducting fibres as in a morbid action of the centres.

As to whether it is likely that any gross lesion exists in the sensory centres one is scarcely entitled to speak, but I think that this and all our patient's other symptoms are functional, and I hope to see them disappear.

The name allochiria has proved so useful in relation to the symptom which Obersteiner described, that I have thought it well to try to coin an expression which may serve as a name for this kind of faulty localisation, and, after consulting with my colleague, Professor Butcher, have decided to suggest the name "allachæsthesia," from *ἄλλαξις* or *ἄλλασθῆσις*, elsewhere, and *αἰσθησία*, perception, as the most satisfactory term that occurs to us.

A CASE OF ACROMEGALY.

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I wish to record briefly the following case, which has been under my care at the Manchester Infirmary. Though the affection has existed for several years, and, as seen from the photograph (taken by Mr. F. Ashe, clinical clerk), was well

pronounced, the patient was little inconvenienced by it, and sought admission on account of extreme dyspnoea, which had only come on a few weeks before admission.

The patient, S. B., a weaver, aged 30, married, was admitted on September 11th, 1893. He had always enjoyed good health. Twelve months ago he was troubled with pain in the regions of the kidney, and had difficulty in passing urine, which had incapacitated him from his work for several weeks, but had not troubled him since. About five years ago he noticed that his hands and feet became larger, and that he required larger boots; shortly after he noticed that his head became larger and that his hats became too small. He had been troubled with pain in the head and neck for some time. He was able to follow his work till recently, when he began to suffer from great difficulty of breathing, which prevented him from following his occupation. He had always been tem-

perate and regular in his habits. There is no history of syphilis. His mother, aged 76, is alive and well; the father died, aged 57, from apoplexy; he has five sisters and one brother living, all well.

Present Condition.—Patient looks a strong, well-built man; is 5 feet 10½ inches in height, and weighs 13 stone 9 pounds. On looking at the patient one is at once struck with the appearance of his head, hands, and feet, which are considerably enlarged. The complexion is pallid, and the expression of the face dull. The bones of the head and face are enlarged generally. The external occipital protuberance forms a large prominent ridge; the superciliary ridges are much increased, and cause the forehead to stand backwards; the upper eyelids, and to a less extent the lower lids, have a swollen appearance, but there is no oedema; the malar prominences are enlarged, the left more than the right, and the distance between the prominences is increased. The lower jaw is greatly enlarged and elongated, and the chin is not in the mesian plane, but is slightly displaced towards the right side, and the general appearance of the lower jaw suggests a greater enlargement of the left inferior maxilla; both lips are thickened, and the lower more than the upper. The tongue appears not enlarged; its surface is rough and slightly coated. The nose is enlarged and the alae nasi thickened; the ears are very large and their cartilages thickened.

Measurements of the Head and Face.

	By Measure.	By Callipers.
	Cms.	Cms.
From glabella to external occipital protuberance	35.0	21.0
Between two malar prominences	—	14.5
" glabella and symphysis menti	—	15.5
" zygoma and symphysis (right side)	18.0	16.3
" " (left side)	18.5	16.8
" zygoma and angle of jaw (right)	7.4	—
" " (left)	7.6	—
" angle of jaw and symphysis (right)	11.1	—
" " (left)	11.8	—
Circumference of "head (taking ext. occip. protuberance and superciliary ridges as fixed points)	—	59.0

The measurements were taken by Mr. F. Ashe, clinical clerk.

The neck is short and thickset, the thyroid gland cannot be felt, but on each side of the neck, beneath the sterno-cleido-mastoid, a large, painless, fairly hard tumour can be felt. The upper border of the tumours can be well made out; below the tumours extend into the thorax beneath the clavicles. The tumours are not connected with the thyroid. The glands in the axilla are not enlarged. Enlarged glands can be felt in the right inguinal region, not in the left. The clavicles are enlarged, especially at their inner end; the sternum and ribs are larger, but neither the sternum nor the ribs stand unusually forward. Length of sternum, from outer clavicular notch to base of ensiform cartilage 16 cms.; to point of ensiform cartilage 22 cms. There is no marked kyphosis; the back of the thorax is covered with a number of pendulous warts. Circumference of chest in nipple line 99 cms.; the chest and shoulder muscles are well developed.

The hands are enormously developed and enlarged in every direction. There is no oedema, the fingers are thick and somewhat flattened, there is nothing abnormal about the nails and no clubbing, the metacarpal and carpal bones and the lower portions of the ulna and radius are also enlarged.

Measurements of Right Upper Extremity.

	Cms.
Length of arm from acromion to olecranon	37.0
Circumference of the arm at its middle	29.0
Length of forearm, olecranon to styloid process of ulna	26.5
Circumference of forearm at its middle	25.5
" " wrist at line of styloid of ulna	19.0
Length of hand from wrist to tip of middle finger	22.0
" " middle finger (from palmar fold to tip)	8.5
" " " dorsal (from metacarpo-phalang. joint to tip)	11.8
" " little finger (palmar surface)	6.8
" " thumb (dorsal surface)	7.0
Circumference of middle finger at lower end	8.2
" " little finger	6.9
" " of thumb	7.8
Length of nail of middle finger	1.1
Breadth " " "	2.0
Circumference of "hand at middle of palm without thumb	24.5
" " " hand with thumb	28.8
Breadth of hand at metacarpo-phalangeal joint	11.5
Amount of water displaced by immersing right hand as far as a line transversely round wrist at level of styloid process of ulna:	Cbe.
For a normal hand A.	430
" " B.	460
Patient's right "hand	640
" " left	600

Lower extremities: Nothing abnormal about the thighs or knees, the head of the tibia is slightly enlarged internally, the ankles appear slightly enlarged and broader, the feet are very much enlarged, and here again the toes more than any other part, and especially the big toes.

Measurements of Right Lower Extremity.

	Cms.
Length of thigh from iliac crest to head of fibula	58.0
Circumference at middle of thigh	46.5
Circumference at knee (middle of patella)	39.0
Length of patella	6.0
Breadth of patella	8.0
Length of leg (from head of fibula to external malleolus)	33.5

Circumference of calf	31.3
" " ankle (just above internal malleolus)	24.5
Greatest length of foot	25.0
Circumference over heel and instep	34.0
" " of foot over back of toes	25.5
" " great toe	10.8
" " middle toe	5.8
" " little toe	6.1
Length of nail of big toe	1.2
Breadth	3.0
Length of great toe from proximal joint to tip	10.0

The skin and subcutaneous tissue of the extremities show nothing abnormal; the muscles are well developed, and the muscular power of both upper and lower extremities, measured by the dynamometer, shows on right hand 80 kgm., on left hand 50 kgm.

Examination of the Respiratory System.—The patient complained of a slight cough and dyspnoea; there is but little frothy mucus expectorated. His voice is rough and husky. The thorax expands well on inspiration; the inspirations are laboured, 18 per minute. Percussion shows distinct dullness of the upper part of the sternum, extending laterally slightly to the right side, below as far as the insertion of the second rib, and above to the inner end of each clavicle. The air enters both lungs freely, the breathing is vesicular; a few rhonchi are heard in both bases.

Laryngoscopic examination shows the epiglottis large and thick; the vocal cords appear normal. The examination of the heart and blood vessels shows nothing abnormal. The pulse is 92, fairly strong. The blood shows an increase of leucocytes, and very few eosinophilic cells.

Digestive System.—The tongue is not hypertrophied; the tonsils are slightly enlarged, the appetite is good, the bowels regular. The liver and spleen normal in size. The urine is acid, specific gravity 1025, normal in quantity and colour. It contains a slight deposit of mucus and a small amount of albumen, no sugar, nor peptones. Microscopically examined it shows a few leucocytes and squamous epithelial cells; no casts.

Nervous System.—The patient is fairly intelligent, and, beyond an occasional headache, has no other subjective symptoms. The pupils are equal; they react slightly to light and accommodation; the patient is quite blind on the left eye, and cannot distinguish between light and shade; in the right eye vision is ½; myopia 5 D; there is no hemianopsia and no colour blindness. Ophthalmoscopically both discs are found markedly atrophied, the left more than the right; the disc is of dead white colour; the margin is well defined. The vessels are small, and both discs are cupped; there is no affection of any of the eye muscles. All the other cranial nerves show no changes; smell and taste are normally perceived; the patient is slightly deaf. There is no wasting of any muscles; the various sensations and reflexes, both superficial and deep, are normal. The temperature is normal, and the patient does not suffer from any profuse perspirations.

The diagnosis of the case was clear enough, as all the obvious symptoms noticed in acromegaly were present. The atrophy of the optic discs, as need scarcely be mentioned, was due to the pressure of an enlarged pituitary body, and the sternal dullness probably to some changes in connection with the thymus gland. Tumours in the neck, except an enlarged thyroid, is a rare symptom in acromegaly; they were present however in the well known case described by Henrot; enlargement of the thyroid gland has been repeatedly noticed, but in our case these tumours were not connected with the thyroid, but were separate from it and extended into the upper part of the thorax and where, to judge from the sternal dullness, an intrathoracic tumour existed which most likely took its origin from the thymus gland. As to the nature of these tumours no definite opinion could be formed. It is not unlikely that both they and the intrathoracic mass were of the nature of lymphosarcomata, which we know from the observations of Virchow, Köster, and others, sometimes take their starting point from the remains of the thymus gland. In favour of this view may be stated the fact that under the administration of arsenic these tumours distinctly and perceptibly diminish in size. The dyspnoea from which the patient suffered was partly due to the pressure of these tumours.

With the pulmonary hypertrophic osteo-arthritis, an affection of which some cases and summary of the hitherto published ones has been recently described in the BRITISH MEDICAL JOURNAL by Mr. W. Thorburn, our case had nothing in common except the dyspnoea and the cough, but both rapidly subsided under treatment.

As regards the progress of the case I need only mention that the patient was put on arsenic, and the dose was gradually increased. His chief trouble, the dyspnoea, which became most oppressive on the least exertion, rapidly disappeared, the tumours in the neck considerably diminished, and after three weeks' stay in the hospital the patient left to resume his work. The other symptoms, with the exception of the headache, which had also improved, remained the same.

The symptoms and the pathological anatomy of acromegaly are now sufficiently well known, and have been well summarised by Souza Leite in his treatise,² and by Marie.

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-arthropathy (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.

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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