Dr. W. B. Cadwalader presented a case of facial hemiatrophy greatly improved by the administration of thyroid extract.

Dr. F. X. Dercum said that it was of interest to recall that thyroid extract is often of value in scleroderma and Dr. Cadwalader's case was initially a scleroderma, or morphea. There can be no doubt that diffuse scleroderma and facial hemiatrophy are closely related diseases.

Dr. Alfred Gordon asked Dr. Cadwalader whether he had found changes in the electrical reactions in his case, and, if so, what the electrical reaction consisted of, and what was the degree of improvement that followed the treatment with thyroid.

Dr. Augustus A. Eshner said he would venture to anticipate what Dr. Cadwalader might say in reply to Dr. Gordon by stating that he had seen the patient a good many times at Dr. Mitchell's clinic in the Orthopedic Hospital, and that there was no question as to distinct improvement. When the patient first came the left side of the face was smooth and the skin parchment-like in appearance. Under treatment with thyroid extract, carefully controlled, the skin has become softer and the face more mobile. There has been no loss in weight. The atrophy of the face, naturally, still persists. The patient herself is aware of the improvement that has taken place and she agrees subjectively with the impression that she had gained.

Dr. Cadwalader said in reply to Dr. Gordon's question, that there was a quantitative diminution of the electrical reactions—but reaction of degeneration was not present. Dr. Eshner had already answered the question as to the amount of improvement which had taken place. There was no doubt that the patient had improved, but she is by no means well, though decidedly better than before treatment had been undertaken.

Dr. T. Maxwell Langdon presented a patient with a peculiar form of hippus in tabes.

Dr. Tom A. Williams said that he had a case of tabes with partial optic atrophy some three years ago and gave salvarsan without any detrimental effect to the optic nerve, however, without much effect on the patient. The vision was not so defective as in the patient shown, but the man also had dilated pupils and a hippus. There was a distinct hippus without complete optic atrophy.

Dr. Spiller said he had not seen a pronounced hippus as a sign of tabes as in the case Dr. Langdon had shown. He had often seen contraction of the iris with rapid dilatation again. Fry, of St. Louis, read a paper before the American Neurological Association a few years ago.
in which he spoke of the rebounding pupil. That may be a sign of tabes, and may precede the Argyll-Robertson pupil.

Dr. C. W. Burr presented a case of multiple neuritis with marked hysterical ataxia.

Dr. Tom A. Williams said Dr. Burr's case was a good illustration of Babinski's contention that suggestion which leads to hysteria is most commonly provoked by some physical disease. This man was a beautiful example of a paralysis followed by an imaginary one of a different type.

In discussing Dr. Burr's patient, Dr. D. J. McCarthy stated that he would add a correction of the notes of the case. His recollection was to the effect that the man had been admitted to his wards during the summer, that the knee jerks were lost on the entrance of the patient to the nervous ward. The case was unquestionably one of multiple neuritis. The arm reflexes were retained, but later the neuritis extended to the upper extremities with loss of reflexes in the upper extremities. The patient was in bed, in a helpless condition with paralysis of both lower extremities at the time.

A CASE OF FRIEDREICH'S ATAXIA

By James Hendrie Lloyd, M.D.

Dr. Lloyd showed a patient with Friedreich's ataxia. The patient was a young man whose chief symptoms were ataxia and a characteristic deformity of the feet—a form of pes equino-varus, with over-extension of the great toe, very similar to that shown in the picture originally published by Brissaud. The knee-jerks were abolished, and the Romberg symptom was well marked. There were, however, no Argyll-Robertson pupils, no sensory disturbances, no eye-ground changes, and no fulgurant pains. On the other hand, there was no nystagmus or speech defect—which, of course, was somewhat against the diagnosis of Friedreich's disease. In this connection Dr. Lloyd spoke of the possibility of atypical forms. The Wassermann test was negative, as were also the other tests on the cerebro-spinal fluid. The case was of additional interest from the fact that it had been reported by an advertising charlatan as a cured case of genuine locomotor ataxia.

In reference to the case presented by Dr. Lloyd, Dr. Spiller said it occurred to him while Dr. Lloyd was presenting the patient that there was another diagnosis possible, and the case might be one of the Charcot-Marie-Tooth type. The man had very small wrists comparable with the upper limbs, and small ankles comparable with the legs and thighs. He had no tendon reflexes.

Dr. Lloyd, in speaking of his case, said he believed the only suggestion made was the one by Dr. Spiller, who thought the case might be referred to the Charcot-Marie-Tooth type. Dr. Lloyd thought the objection to that was that the man has no muscular atrophy. In the Charcot-Marie-Tooth type we have really a form of peripheral multiple neuritis, or progressive multiple neural degeneration. There is not only muscular atrophy in such cases, but there may be fibrillation, and the extensor muscles are especially affected, so that the patient has foot-drop and the so-called turkey gobbler gait. This boy has not got this. Dr. Lloyd called attention to the fact that the patient has no nystagmus and no speech defect, which was against the diagnosis of
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Friedreich's ataxia. It is not a familial case. One of the best cases at Blockley, however, is in a man whose history is not familial.

EXTRAPYRAMIDAL HEMIPLEGIA

By Alfred Gordon, M.D.

The patient, male, 25 years old, had at the age of eight an attack of left hemiplegia with aphasia. The aphasia disappeared at the end of several weeks. A year later the following peculiarity was noticed. Gradually a contracture developed in the wrist and foot, and a tendency of the arm to become everted at each movement was noticed. At present the patient shows the following condition:

There is a certain weakness in the left arm and leg, but no actual paralysis. He can voluntarily move every joint of the affected limbs with the exception of the wrist and ankle. On passive movements no resistance is felt, and at times hypotonia is noticeable. On motion an extreme contracture of the fingers and toes, wrist and ankle makes its appearance. Besides, the arm becomes then everted. At the same time an associated contracture is observed in the muscles of the neck, face and ear on the left side. The knee-jerks are exaggerated on both sides; there is no ankle-clonus and no toe phenomenon by any of the well known methods. No sensory disturbances. Bladder and rectum are normal. No visceral involvement. Mentality is normal. The face shows an atrophic condition on the left and its musculus frontalis is paretic. The eyes are normal. Urinalysis, blood examination and Wassermann test are all negative. Dr. Gordon discussed the differential diagnosis between this form and the classical organic hemiplegia, and also compared it with hysteria, dysbasia musculorum deformans and Wilson's lenticular degeneration. After demonstrating the differential features he arrived at the conclusion that it is a case of extrapyramidal hemiplegia, a new clinical entity. Its essential features are: Unilaterality; no actual paralysis, but a certain amount of disability due largely to the contracture; increased knee-jerk, but no toe phenomenon; preservation of voluntary movements; extreme contracture upon the least passive or voluntary movement; preservation of abdominal and cremasteric reflexes on the affected side; inclination of the trunk towards the affected side when walking; atrophic condition of the entire affected side including the face; clonic contractions of the muscles of the face on the affected side; preservation of sensation.

Dr. Spiller said Dr. Gordon stated that the man's paralysis came on in typhoid fever. That is not unknown. Dr. Spiller had had such cases, and Dr. E. M. Williams reported three such cases under Dr. Spiller's observation. The lesion usually is thrombosis.

The case presented by Dr. Gordon Dr. Spiller regarded as belonging to von Bechterew's postapoplectic hemihypertonia. Dr. Spiller had published a paper on this subject with the description of a case in the Philadelphia Medical Journal, December, 1899. He believed Dr. McCarthy also had reported a case.

Dr. Tom A. Williams stated that the attitude of Dr. Gordon's patient resembled that seen in athetosis if the movement were absent. When it is remembered that athetosis occurs only as the result of prenatal or natal lesions, an explanation of this patient's syndrome suggested
itself in the comparison of extrapyramidal paralysis in the paraplegia of the aged, with or without pseudo-bulbar symptoms, for in them there are never athetoid movements, whereas in the extrapyramidal paralyses occurring before birth, athetosis is common. As the onset in this case was at the age of eight, we find in addition the "marche aux petits pas" and timorous walk of the aged, the attitude of the wrists such as occurs in infantile cases, but without the movements they show.

Dr. Mills said that Dr. Gordon's case was not one of ordinary typhoidal hemiplegia, but rather one of hyperhemitonia. Dr. Gordon’s opinion regarding the site of the lesion and the character of the case seemed to be correct in the light of recent views regarding the functions of the lenticula. Dr. Mills said that it was well-known to the members of the society that he had presented a paper on emotional expression, muscle tonicity and the cerebral tonetic apparatus at the meeting of the American Neurological Association in May, which paper should have appeared before this in the Neurologisches Centralblatt, but it had been held up for some time by circumstances concerning the war in Europe. He would only recall that in his opinion the cerebral tonetic apparatus was extrapyramidal and quite separate from the pyramidal system although intimately connected with the latter by cortical and by strio-rubro-thalamic tracts. Tone rendezvoused in the cortex of this extrapyramidal tonetic apparatus was, so to speak, delivered upon the motor (pyramidal) tracts and it was in this way that muscle tonicity could be accounted for best. Atonia, hypotonicity, hypertonicity and irregular tonicity all might result from lesions of the pyramidal tracts, but this was because of the effects which lesions of this kind had on the reception and delivery of tone and impulses from the cerebral tonetic apparatus.

Dr. Alfred Gordon said he was very glad to hear the remarks of Dr. Spiller and Dr. Mills and Dr. Williams. The hemihypertonia mentioned by Dr. Mills was, of course, present in the man. That was one of the symptoms of the condition the patient presented. As Dr. Mills mentioned, it is the absence of the toe phenomenon which would point to an extrapyramidal lesion. To Dr. Gordon's knowledge no autopsies have been as yet performed in cases of that kind. He would by analogy with Wilson's disease locate it in the lenticular region. Dr. Gordon said he would like to get information with reference to the involvement of the upper portion on the left side of the face, as there is a paresis of the frontal muscle. He believed that we are justified in considering this condition as an extrapyramidal hemiplegia. While it is not a true hemiplegia, nevertheless cases of that kind could be called extrapyramidal hemiplegia. The case was interesting to him because it was quite novel and goes hand in hand with Wilson's disease, except only that it is only on one side. Dr. Gordon said that perhaps he had given the wrong impression in reference to the occurrence of organic hemiplegia in typhoid fever. Several years ago he exhibited before the County Medical Society cases of hemiplegia occurring in typhoid fever. He did not mean to intimate that they are rare, although they are not frequent.

Dr. William Drayton and Dr. T. Maxwell Langdon presented a case with lost tendon reflexes and Argyll-Robertson pupils and no other signs of tabes.
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Dr. F. X. Dercum and Dr. Willis F. Manges presented an interesting case of brain tumor; localization by means of x-rays.

Dr. D. J. McCarthy in discussing Dr. Dercum's paper wished to place on record a man with syphilis and multiple sclerosis where the x-ray picture showed, apart from the multiple sclerosis, a lesion very much like that in Dr. Dercum's case in the occipital lobe. Dr. McCarthy decided that this tumor had absolutely nothing to do with the general symptom complex of the case. Therefore nothing was done.

Dr. Tom A. Williams spoke of a case under his care where a large growth on the vertex both bulged outwards and inwards, causing deformity, headache, and mental obtusion. The Roentgen rays showed that the growth extended at least an inch below the inner table. When removal was attempted the hemorrhage was so great that the surgeon had to cease. The portion excised resembled osteoangiosarcoma. Therapeutic application of Roentgen rays has caused subsidence of the headache and mental obtusion, the improvement has lasted six months but treatment is continued.

Dr. S. D. W. Ludlow said he was reminded of a case of Dr. Lloyd's at the Methodist Hospital with a tumor at the seat of the pineal gland. It had caused a great deal of trouble. It was equally well seen in the x-ray picture. It was a psammoma.

Dr. Spiller said in regard to Dr. Lloyd's case it was not surprising that the tumor photographed so beautifully as it was filled with corpora aranacea, and it had been difficult to make sections of it.

NEOPLASM INVOLVING PITUITARY AND SELLA TURCICA TREATED BY "X" RAYS

By Tom A. Williams, M.B., C.M., Edin., Washington, D. C.

A West Virginia woman, aged 37, was referred to Dr. Williams on July 28, because of severe central headaches which had followed a convulsion five months previously. During this period, several convulsions followed by stupor, nausea, extreme dizziness and vomiting occurred now and then; and a diplopia had existed for two months. Her greatest distress, however, was occasioned by the indescribably "awful" feeling, which was constant, and accompanied by a bad taste, she herself saying that this had been present since the death of her mother a year before, and that she had been very nervous and shaky also. She had sharp pains in the calves, felt a weight in the stomach and vague pains all over her at times, and had been losing hair very rapidly. Mercury and potassium iodide had been given for some weeks on account of the history of labial sore six years previous.

Examination showed no diplopia, although she had a blurred feeling in the eyes, a slight hazing of the optic papilla, the arteries of which were very small, and inversion of the visual fields, great exaggeration of the deep reflexes without any diminution of the cutaneous reflexes, great weakness more especially in walking, which was quite unsteady; muscular hypotonia, and subcutaneous hyperesthesia upon deep pressure. The intensity of the headache and the absence of localization symptoms and papilledema, in conjunction with the subcutaneous hyperesthesia and the "awful" feelings, led to the suspicion of pituitary involvement. So the glucose tolerance test was undertaken; whereupon it was dis-
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covered that from 300 grammes of glucose ingested while fasting no sugar was obtained in the urine. Thereupon the cranium was examined by the Roentgen rays. The plate showed serious erosion of the clinoid processes before and behind, and considerable erosion of the rest of the wall of the sella turcica.

The diagnosis of a growth involving the pituitary body, seemed certain. The treatment adopted was the application of heavily filtered Roentgen rays from a hard tube.

The result was that August 27 the patient felt stronger, walked much better, the blurring of the eyes had diminished, headache was inconsiderable; but the retinal arteries were still over-small, the right disc seemed less clear, and the reflexes continued exaggerated; the visual field had improved. She was sent home for three weeks with the advice that the treatment should then be resumed.

On her return, September 27, she reported that she had felt restless a good deal of the time, had occasional sudden burning sensations throughout the body, and had an almost constant throbbing which she referred to the womb; she had been very nervous and languid, and now and then the eyes felt dim; there had been a beating sensation in the occiput, worst in the morning; her appetite, however, had become good, and the headaches had disappeared.

Examination upon different occasions showed great improvement of muscle tonus, still more exaggerated reflexes, and the blood pressure varying between 130 and 140, with rapid pulse running as high as 138 at times; slight pallor of the left optic papilla without any blur. The visual fields had slightly extended. Her suggestibility was greatly exaggerated so that she was very easily upset by depressing ideas. She was then given pituitary substance, 5 grains twice daily, in the belief that some of the vascular symptoms might be favorably influenced. There is, if anything, an aggravation of the symptoms, and some nausea and further contraction of the visual fields have occurred. Dizziness and pain in the precordia troubled her a good deal, although the pulse was reduced to 90. She is now undergoing the third course of Roentgen ray application.

Dr. Dercum asked Dr. Williams whether his patient had not a preservation of vision and called attention to the fact that Dr. Langdon's patient had no perception of light.

Dr. Charles M. Byrnes read a paper on the intradural administration of mercurialized serum in the treatment of cerebrospinal syphilis.

Dr. F. X. Dercum believed it would be a good plan to try the mercurialized serum and he was glad indeed that a beginning had been made and that Dr. Byrnes had actually achieved results. Dr. Dercum had himself suggested a somewhat similar procedure.

Dr. Ludlum said the same question comes up in relation to intrasinal injection of mercurialized serum as of salvarsan. Why not inject 1/50 of a grain of bichloride directly. Why use the serum? That is a much mooted question but he had never seen it answered satisfactorily.

Dr. Gordon said he had had experience with salvarsanized serum. It is the only treatment he has relied upon lately in nervous syphilis. At the present time in a period of 16 or 17 months his results have been very satisfactory. He cited one or two cases which recently were under his care and which he proposes to put on record. One a musician, a leader of an orchestra in a theater, presented no marked symp-
toms, but just sufficient to make a diagnosis of tabes. He had eye symptoms, loss of knee jerks and of Achilles tendon reflex and some ataxia. Paresthesia in the hands especially annoyed him, so that he could not feel the violin strings that he had to press upon with the finger. He had to give up his occupation for several months and was much distressed. When he came under Dr. Gordon's observation the above treatment was proposed. The musician submitted himself, and it was actually remarkable how the paresthesias gradually and rapidly disappeared and he resumed his occupation. After six weeks a return of knee jerks was observed. In another patient, a locomotive engineer, who suffered sharp, shooting pains in the legs, Dr. Gordon obtained complete removal of the pain in five weeks. The salvarsanized serum he has been using continuously. With one exception the results have been prompt, the paresthesias and subjective disturbances, in particular, have been helped considerably. Dr. Byrnes reports one case in which he said the salvarsanized serum had been used first and this was followed by addition of mercurialized serum. Dr. Gordon believes the salvarsanized serum is an excellent remedy, and it is possible that the addition of mercurialized serum will help the condition. He would like to know how long would Dr. Byrnes have the inunctions or injections of mercury used before he gets the serum. How much mercury he uses before he begins to utilize the mercurialized serum. It is possible that the association of salvarsan and mercurialized serum will give still better results. Salvarsanized serum had been in Dr. Gordon's experience one of the most excellent, if not the best, remedy.

Dr. Williams said he would draw the attention of the Society to the fact that we do obtain excellent results by the treatment of tabes by intravenous injections of salvarsan combined with intravenous and intramuscular injections of mercury. We must not forget the report to the American Neurological Association by Dr. Sachs and Dr. Stearn, who treated by intravenous salvarsan plus mercury, about 137 cases with almost constant benefit.

Dr. Williams has about 60 patients similarly treated, most of whom are functionally well. Many of these are controlled by lymphocyte counts. As the disease was deeply seated in the membranes and the lesions were chiefly around the vessels, access of medicaments must be from the blood and lymph rather than from the spinal cord; besides arsenic is inappreciable in the serum as injected intrathecally by Swift-Ellis technique, while arsenic is found in the ventricles after intravenous injections.

Dr. Charles M. Byrnes in answer to the question why he did not use an inorganic salt, replied that this was best answered by stating what he had abstracted from a paper by Ravaut. The author injected two drops of a 1 per cent. solution of the cyanide of mercury. The result was that the patient had severe muscular spasms of the entire body, and trismus was pronounced. After a few days these symptoms subsided. Dr. Byrnes is of the opinion that the serum preparation is less irritating than the inorganic salts of the heavy metals. In regard to Dr. Gordon's question, he replied that he had had several cases in which the combined serum was used, but did not refer to these cases because of the limited time at his disposal. He is convinced, however, that the mercurialized serum produces a quicker reduction in the cell count in the spinal fluid than salvarsanized serum, and the negative Wassermann
reaction has been obtained in about an equivalent percentage of cases. He does not wish to give the impression that he is not enthusiastic about salvarsanized serum, for he has found it quite effective in many instances, but there are certain cases in which the mercurialized serum is perhaps more valuable.

IN Voluntary MovemEnts Following Bilateral Cerebral Lesions

By Douglas Davidson, M.D.

The patient, a man 28 years of age, was exhibited for Dr. Spiller, under whose care he was. He had had a rapidly developing left hemiplegia in June, 1914, and after this his mentality was affected and he was childish. The paralysis gradually disappeared. In August, 1914, he had had a second attack in which the right side of the face probably was weak. Following this attack he developed almost purposive movements of all four limbs and involuntary laughter.

When he came under Dr. Spiller's observation he was fairly contented and did not worry about his condition. He answered questions intelligently. When at rest and unobserved, his face was not contracted, but any observation of him, noticed by him, caused a marked spastic smile to appear, which at times became an audible laugh. Speech was slow. The face and limbs on the left side seemed to be a little weaker than on the right side, and the tendon reflexes were somewhat exaggerated. The man was presented chiefly because of the peculiar involuntary movements. When he was at rest these movements were not pronounced, but under observation he performed slow, deliberate, regular to and fro movements of the feet, rubbing the feet along the floor, first pushing one or the other forward and then drawing it back, sometimes giving either foot a sideward motion, or tapping on the floor with the toe or heel. He was unable to control these movements. He had similar movements in the upper limbs; he picked at his coat or trousers, or shrugged his shoulders. He seemed to be under great motor stimulation, as though cerebral inhibition had been greatly diminished, and his movements had a purposive character.

Dr. I. Jones thought the ear situation in this man was a very surprising one. As he understood it the examination of the ear was suggested by the fact that he was deaf; a wax plug was removed from one ear and hearing was completely restored. Examination shows a very excellent degree of hearing on both sides. If it were not for the examination of the vestibular apparatus the ear would be entirely eliminated in this case except negatively. To his astonishment the vestibular apparatus of each side is noticeably impaired and the right is practically dead to the caloric reaction. Definitely speaking, when water 68° was douched into his right ear for four minutes and 25 seconds (until the entire amount of water in the irrigator was exhausted), it failed to produce nystagmus or any deviation in the pointing reactions. If his arm were brought down from above or to the side it would touch every time just as it would spontaneously, if no impulse were carried through. This was done repeatedly on successive days. On the second day after 2 minutes and 25 seconds, a slight result was obtained, whereas a result ought to be produced in 50 or 60 seconds. (A nystagmus should be obtained to the opposite side and a pointing reaction
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towards the same side). There was produced at this time the very faintest rotary nystagmus, which could not be observed at all unless he were watched closely and just the least little twitching could be seen. His pointing reactions went the least little bit towards the right, perhaps an inch, nevertheless he distinctly reacted toward that affected side. The left ear showed a more marked nystagmus in 1 minute and 35 seconds, and gave no very marked pointing reactions. All this was observed in a man without any dizziness. It is difficult to reconcile these findings of an obstruction along the line of the vestibular apparatus with a lesion of the lenticular nucleus.

Dr. William G. Spiller said that the case was one of much interest to him. Wilson speaks of an acute onset, in rare instances, of the progressive lenticular degeneration. In Dr. Spiller's case the lesion is not progressive. The disorder is not a family one, but this does not exclude it from Wilson's type. There must be bilateral lesions, one of the lesions may be in the center for the facial muscles and the other near the internal capsule. The symptom-complex is distinctly different from that described by Wilson. The movement is not a tremor. Dr. Spiller had a number of times observed this man when the man did not know any one was watching him, and at such times he was quiet. It seemed as though the movements were caused by some emotional disturbance as a result of removal of inhibition of the brain, so that any excitement caused these unintentional, yet almost voluntary appearing movements.

Dr. Mills remarked that he had studied the patient, not as fully, of course, as Dr. Spiller had, and it seemed to him the case was much as Dr. Davidson and Dr. Spiller presented. He had some little tremor also. He showed it sometimes in his tongue. The movement is similar to that described in some of Wilson's cases. While he has no spasticity, Dr. Mills did not think the tonicity of the muscles was absolutely normal. He had a distonicity. In fact, the term hypertonicity was not the very best, although so much used in these cases. His speech was somewhat dysarthric, his mental condition was like that in Wilson's disease.

The movements of this patient remind Dr. Tom Williams of the "forme fruste" of "movement de manège" seen in animals after extirpation of the vestibule; it is as if the patient is about to turn round to one side when the movement is immediately interrupted by the impulse to turn round in the other direction, with the result that he keeps advancing and drawing back one foot and hand after the other, accompanied by a swaying. In conjunction with the other symptoms, it might be that a bilateral lesion implicating the trapezoid body is responsible; for this tract conducts some of the vestibular impulses.

INTENSE JAUNDICE IN THE NEWBORN CHILD AS A CAUSE OF ARREST IN THE DEVELOPMENT OF THE BRAIN

By William G. Spiller, M.D.

Dr. Spiller said he had had four cases of cerebral diplegia with the history of intense jaundice occurring a few days after birth. The ordinary mild icterus of the newborn could not be considered, but in some cases the icterus is severe and it is possible that the cortical nerve cells
might be affected by the intoxication occurring with the jaundice. He had found no mention in literature of severe jaundice as a cause of cerebral diplegia, and he thought it desirable to call attention to this cause. The subject was presented only in abstract form and the paper will be published later.

Case 1.—Child, three years old when seen, was born at full term in normal labor. She was supposed to be a normal child until severe jaundice developed when she was one week old. She probably was unconscious during this attack. The jaundice lasted three days. She was unable to hold up her head until a year old, and unable to rise to a sitting position when lying down until three years old. When examined she presented the appearance of spastic ataxic diplegia.

Case 2.—Child, sixteen months old, was possibly born a little prematurely, in normal labor. Severe jaundice began on the fourth day and lasted about six weeks and the child nearly died. When recovering from the jaundice the head frequently was drawn backward. He had spastic cerebral diplegia when examined.

Case 3.—Child, two years old, was born at full term in normal labor. Severe jaundice developed a few days after birth and for weeks the child was not expected to live. The condition was one of delayed development with hypotonia of the neck muscles.

Case 4.—Child, three years and ten months old, was born at full term in normal labor. Severe jaundice began on the third day and lasted about three months. The condition was one of marked spastic cerebral diplegia.

Dr. McCarthy said he thought this paper of Dr. Spiller's was an important contribution to the subject of cerebral defects and brought to mind some work along these lines that he did some years ago, working out metabolic changes and more particularly the osmotic changes. He did some experiments with rattlesnake venom. A condition of hemolysis developed, associated with an infiltration of iron in the ganglion cells in the cortex.

Dr. Gordon said that if this jaundice was of a hemolytic nature, it is possible that multiple hemorrhages took place in the cortex which subsequently produced softened foci in the cortex, thus causing the arrest. He did not know whether Dr. Spiller had an autopsy or not. That was one of the ideas that came to Dr. Gordon that could explain the encephalic arrest by a pure mechanical process.

Dr. Spiller said in regard to the action of jaundice in the newborn, hemorrhage probably does occur in some of these cases and acts mechanically. He had referred to this in his paper.