to-night. The only justification for regarding the palsy of specific origin was that it appeared very promptly after the syphilitic infection, but a *post hoc* was not necessarily a *propter hoc* argument. It was well known that in alcoholic conditions, as well as after specific infection, the nerves were more or less sensitive, and were rendered more susceptible to factors which might ordinarily not affect them, and we were not in a position, in a case of this kind, absolutely to exclude the ordinary causes of Bell's palsy, such as refrigeration, etc., unless it possessed certain distinguishing features. If, for example, there was involvement of several cranial nerves, then, Dr. Sachs said, he might be willing to accept the theory that this was a case of Bell's palsy of specific origin. Personally, he could not recall a single case of that kind in the literature, and as this case stood at present, the occurrence of the two affections at the same time could only be regarded as a coincidence. This young man stated that he was employed on a railway train, and was necessarily frequently exposed to draughts.

Dr. Smith Ely Jelliffe said that he was practically in accord with the view of the case taken by Dr. Sachs, but he could not agree with him in excluding syphilis entirely as a cause for facial palsy. He believed he had seen a true syphilitic facial palsy coming on at the time of the eruption, and there is no doubt that such cases are reported in literature, as may be verified in both Remak's and Bernhardt's monographs.

In one respect the present picture did not agree with those on record, for only a part of the facial was involved. In the syphilitic facial palsies seen, excluding those due to exudates in the ear canal, or along the nerve trunk, with which type this patient has no alliances, the toxemia being general, involves all of the nerve. Dr. Jelliffe believed that the present case was best explained on the ground of exposure in an individual possibly made less resistant by reason of the infection.

Dr. J. Ramsay Hunt said that there is a group of cases recorded in which a facial palsy is attributed to syphilis, but was usually in association with involvement of the auditory nerve, which would help to distinguish it from the ordinary type. Dr. Hunt said that personally he recalled one case of facial palsy occurring with the outbreak of secondary symptoms of syphilis, and while such an occurrence at this time was suggestive, he was by no means convinced that it was to be ascribed to the syphilis. The same would apply to herpetic inflammation of the geniculate ganglion (herpes oticus with facial palsy), in which he had seen this combination and had regarded it as most likely a coincidence.

Dr. B. Onuf suggested that a Wassermann test made from the cerebro-spinal fluid might help in solving the question under discussion. A positive result, while not decisive, would yet tend to confirm the causal connection of the facial palsy with the syphilitic infection.

SENSORY REACTIONS IN THE NEW-BORN

By Frederick Peterson, M.D.

This was a brief résumé of the results of a collective investigation into the mental life of new-born children conducted by him at the Lying-In Hospital of the City of New York. The results represented a study of 1,060 new-born children, the investigations covering a period of about fifteen months during the years 1910 and 1911. During this period a large

amount of material was collected and tabulated, but had not yet been fully digested. The following conclusions embraced a brief résumé of the results:

1. *Sight*.—Sensibility to light was present in most infants at birth, and this was the case even when prematurely born. The optic nerve was therefore already prepared to receive impressions even sometimes before the time of normal birth.

2. *Hearing*.—Sensibility to receive sound was quite as apparent as sensibility to light at birth, for 276 normal white children reacted to sound on the first day of life, and 146 reacted to light. A similar condition existed among the premature infants, many reacting to sound on the first day as well as to light. The auditory nerve was already prepared to receive impressions of sound some time before the period of normal birth. This was wholly contrary to the opinion of other authorities.

3. *Taste*.—The gustatory nerve not only reacted differently to salt, sweet, bitter and sour at birth, but the same mimetic reactions were observed in premature infants. This nerve was therefore ready to receive taste impressions some time before the normal period of birth.

4. *Smell*.—Two hundred and seven normal white children reacted to odors on the first day of birth, and similar reactions were observed in premature infants. The olfactory nerve was ready to receive smell impressions some time before the end of the normal period of gestation.

5. *Cutaneous Sensibility*.—Reactions to touch and temperature, and affective manifestations of discomfort, obtained the first day in large numbers of normal infants, were similarly obtained in premature infants, showing that such sensibility was already present before the expiration of the period of normal gestation. There was every reason to believe that sensitiveness to painful stimuli was present, but the reactions were more vague and uncertain than in later life, which led many to assume that the sense of pain was dull in the new-born. Muscular sense could not be tested in infants, but there was every reason to believe that muscular sense, the sense of motion and the sense of position were developed early in utero.

6. *Thirst-hunger and Organic Sensation*.—The new-born child frequently reacted to thirst-hunger on the first day, though the actual need of food was seldom apparent until after the first or second day. Discomfort was clearly marked when nourishment was not forthcoming. The cries of discomfort and pain were marked on the first day in full term infants and noteworthy in the premature.

7. *The Beginning of Memory, Feeling and Consciousness in the New-born Child*.—There were good grounds for believing that the new-born child came to the world already with a small store of experiences and associated feelings and shadowy consciousness. The fact that even in premature infants we found the senses already prepared for the reception of impressions on the five senses was some evidence of such impressions having been already received and stored up in the dim store-house of a memory already begun. It might even be that some sort of vague light impressions had been received, for it was possible that in the interior of the body the alternation of day and night might in a mild degree be manifested. The translumination of the hands before a candle, of the skull and face bones by examination of the frontal sinuses and antrum with electric lights were evidences of a certain amount of translucency of the whole organism to sunlight, which was so much more powerful than any

artificial light. There was greater possibility in the matter of the auditory sense that it might be stimulated by sounds within the body of the mother (by bone conduction possibly); such sounds as the beats of the maternal and fetal hearts, the uterine and funic souffles, and the bruit of the maternal aorta. Moderate stimulation of the gustatory nerve was thought to occur through the common swallowing of amniotic fluid by the fetus. A marked development of receptivity in the senses of touch and of muscular sense during uterine life was undisputed. Movements began considerably before the sixteenth week of pregnancy and increased in character and extent from that time on. Often they were so violent as to be painful to the mother. This activity of the muscles and constant contact of various parts of the fetal body with the uterine walls for a period of months before birth must lay a foundation under the threshold of consciousness for a sense of equilibrium and vague spatial relations. The material basis of consciousness was prepared long before birth. There was already a feeling tone associated with the earlier reactions, though we were altogether in the dark as regarded its psycho-physiology. The process had been thus formulated: Stimulus—reaction—liking—reinforcement. Stimulus—reaction—dislike or pain—inhibition. This was the early simple associative memory in reactions to stimuli.

8. There were no perceptible differences in reactions of colored and white children or between pairs of twins.

Dr. Jelliffe said a host of suggestions were stimulated by the interesting presentation made by Dr. Peterson. One of the features which it seemed to him desirable to lay a little more stress upon would be the character of the reaction to the stimulus in the analysis of the interpretation of what was meant by the problem of consciousness that Dr. Peterson had suggested. This again brought to mind the observations of a number of students upon acephalous monsters, which had been studied in connection with the various reactions. Also, the observations of Goltz and Rothmann upon dogs and their reactions should be borne in mind, and finally, an excellent piece of work could be outlined in bringing his observations into correlation with anatomical data which the work of Flechsig had so well begun.

So far as the fetal movements were concerned, their occurrence during the earlier periods of pregnancy, during the fifth or sixth months or earlier, could probably be regarded as purely spinal reflexes, because the pyramidal tracts were not myelinated at that period, and cortico-spinal impulses possibly had not begun to travel.

Dr. B. Onuf said it would be interesting to see how closely the observations made by Dr. Peterson conformed to the investigations that had been made upon the new-born in the animal kingdom. Romanes had reported some experiments made upon new-born chicks whose eyes were bandaged immediately upon birth, and when the bandage was removed, two or three days later, it was observed that they were able to pick up the grains of corn with the greatest certainty of motion, but if the bandage was kept on for a longer period than this, they apparently lost this faculty of immediately hitting the corn. While the new-born baby possessed the faculty of suckling immediately after birth, the observation had been made that if it was deprived of the breast for some weeks, the faculty of suckling was regained with some difficulty. These inherited instincts or memories formed an interesting study. In connection with chicks, the observation had also been made that they possessed an inherited fear of the hawk.

Dr. Peterson, in closing the discussion, said that his complete paper, which he had not taken the time to read, contained very careful records of the character of the reaction to which Dr. Jelliffe had referred. Thus far he had not had the opportunity to study the reactions in acephaloids. In connection with the tests of the gustatory sense, it was noticed that the sucking movement was always present and that there was a distinct accompanying expression of like or disgust, depending upon the taste of the substance that was given.

A CLINICAL CONTRIBUTION TO OUR KNOWLEDGE OF POLIOMYELITIS, WITH CORTICAL INVOLVEMENT

By L. Pierce Clark, M.D.

The speaker said it could hardly be supposed that the more extensive study of epidemics of poliomyelitis of recent years accounted for the bizarre clinical manifestations of this disorder which were now of frequent report. The situation would seem of more rational explanation on the ground that the isolated, atypical forms of the disease were overlooked or disregarded in the past. The bulbar and pontine types were now common and well defined, but the cerebral and especially the cortical involvements were still subjects of debate, despite the classic and well-known contentions of Strümpell and his school on the subject.

The existence of a true encephalitic type of poliomyelitis was very difficult to differentiate clinically, as well as pathologically. In the first place, a spastic palsy was not definite proof of cortical or encephalitic involvement, and, secondly, when the autopsy had shown cortical or meningeal alteration, the findings had been susceptible of explanation upon other causative grounds. It was not sufficient to state that an encephalitic type must show a cortical lesion and present evidence of notable meningeal irritation, resulting in hemiplegia which later became spastic, but the character, onset and clinical course of such cases must be a matter of careful inquiry before a diagnosis of cortical involvement was possible. Dr. Clark said he was not aware that any one had reported an exclusive encephalitic lesion in a case of undoubted clinical polioencephalitis. In other words, the clinical and pathological report had not yet coincided in the one case. If the spastic state was therefore not a criterion of cortical involvement, and could only be considered presumptive evidence, what other facts must we include to make the lesion definitely a clinical as well as a pathological fact? Obviously, the presence of chorea or athetotic movement could not be a part of the positive criteria, as lesions giving rise to these symptoms might be and indeed were, most frequently, subcortical in origin. True motor aphasia, enduring mental enfeeblement, such as idiocy and genuine grand mal epilepsy would seem to make the diagnosis of cortical involvement positive. Of all these phenomena, genuine and enduring epilepsy might be definitely considered to make the diagnosis of a cortical lesion most certain. Dr. Clark thereupon reported such a case, as follows:

F. S., aged 18 years. He suffered greatly from indigestion and constipation as a baby, and when two years old he had one teething convulsion. When nine years old, after an accidental fall in the water, he had a single convulsion on attempts at resuscitation. When fourteen years old he had a typical attack of poliomyelitis. He remained acutely ill for two