MEDICAL SOCIETIES.

COOPER SCIENCE CLUB.

At the regular meeting of the Cooper Science Club held December 4th, several papers of unusual interest were presented.

The following paper on "Lead Poisoning" was read by Dr. William Blake:

This paper is based on the study and treatment of 12 cases of lead poisoning. The individuals afflicted were workers in a local can manufacturing company, and their particular work was the running of newly invented soldering machines. In connection with each machine was a revolving wire brush, by means of which the excess of molten lead was removed from the end of the can. The new invention served the useful purposes of giving a smooth end surface to the can and lessened the quantity of solder necessary, and at the same time turned out more work than the old style soldering machine.

The victims of this new labor saving device presented themselves at the medical clinic of Cooper Medical College during the month of May and June of this year. The cases are all of the acute type and none of the afflicted have so far presented any of the sequelæ that follow in the train of chronic lead absorption, that is, atrophic paralysis, neuritis, encephalopathy, arterio-sclerosis, and arthralgia.

I will confine this paper to a brief consideration of the history and treatment of these cases, leaving the discussion of clinical findings in the blood, stomach and urine to a paper by Dr. H. R. Oliver. These observations are made on male patients, ranging in age from 20 to 74 years. Most of these men had worked in this same factory and at similar soldering work for the three previous years and had not experienced the slightest discomfort. But with the opening of the new canning season this past March and coincident with the installation of new labor saving soldering machines, all the men actually at work with these machines quickly developed symptoms of poisoning.

Just here is pertinent the question as to the mode of infection: It is generally accepted that the metal may find its way into the system in three ways: inhalation, ingestion or absorption through the skin or abraded surfaces. It is manifestly impossible to absolutely exclude any two, or even one, of these channels of invasion and so by exclusion narrow to one, the possible channels of entrance. The mechanical action of the machine was such that by it minute particles of the solder were thrown off into the air. Lead is such a heavy element that it seems to me improbable that much, if any of it, could be drawn into the lungs. But this dust could undoubtedly be drawn far enough into the nose and mouth during inspiration to lodge on the mucous membrane of these cavities; it could be deposited on the hands and face and clothes; it could find its way into drinking vessels and open lunch pails and from any, or all of these sources, easily find its way into the digestive tract. This class of individuals are indifferent in the care of their hands and teeth and the same dust laden hats and clothes they wear at work are habitually worn at meal time. So it seems to me most probable that it was by ingestion that the poison was taken into the system.

Case No. 3, at first thought, does not lend much support to this observation. This man did not work at a soldering machine and had nothing to do with lead. His work station was some ten feet from the nearest machine. He was nevertheless within the zone of the lead dust laden atmosphere, and, after a period of exposure somewhat shorter than the average in the other cases, he, too, developed all the typical signs of acute lead intoxication.

The average period of exposure was 50 days, the longest 79 days, the shortest 5 days. The age of the man exposed 79 days was 74 years, the age of the man exposed 5 days was 20 years. This observation would seem to lend credence to the rather accepted idea that children and young adults are more quickly and markedly susceptible to lead absorption than those of advanced years. But, per contra, the remainder of the series do not substantiate this observation. It is true that the most pronounced case of all was in a man of 24, but two others, 23 and 28 years of age, who had done the same work for an equal length of time, showed comparatively mild symptoms; and one man of 35 worked 75 days before he noticed anything wrong and then only by suggestion from the condition of his associates.

Symptoms: I have divided these into objective and subjective groups and have arranged them in what seemed to be the order of their constancy and severity.

Objective: Appearance of profound anemia, lead line in gums, foul mouth and breath, flabby tongue frequently bearing indenture of teeth, prominent belly, giving pronounced tympanitic note on percussion.

Subjective: Abdominal distress and colic, constipation, anorexia, muscular weakness, dyspnea, rather weak rapid heart, subnormal temperature, sore gums, foul taste, excessive thirst, anaphrodesia.

Some of the symptoms, both objective and subjective, need a word of explanation. The appearance of anemia was very marked, amounting to a profound cachexia; this with the drawn expression of pain of the face, the dyspnea and the bent carriage of the patient to relieve the pain and jar to the abdomen instantly attracted attention. The site of the abdominal pain was not constant, moving frequently and rapidly in the same individual, but most frequently was referred to an area surrounding the umbilicus. A dull ache was almost constant, punctuated at varying intervals with intense paroxysms of colic, constipation was almost constantly present and very obstinate. One of the men came to the clinic with a note from his physician, suggesting an immediate operation for the relief of the obstruction. Muscular weakness was very marked in all of the patients and even now after a lapse of 6 months they all complain of tiring easily.

Treatment: Largely symptomatic. For colicky pains, one or two doses of morphine. For indigestion and flatulence, hydrochloric acid. Potassium iodide as alternative and eliminant. Magnesium sulphate and high enemas for constipation. Later, blood tonics.

Results of Treatment: The patients responded remarkably quick to this very simple treatment. As a rule the pain was easily controlled by one or two administrations of morphine. The constipation was quickly and effectually relieved by magnesium sulphate and high rectal enemas. The administration of hydrochloric acid relieved the condition of hypoacidity and the digestive symptoms at once subsided. Of the role of potassium iodide as an eliminant I can say nothing. This much was demonstrated repeatedly—that by the exhibition of these remedies a return to apparent health and strength was quickly accomplished, and without exception the men were able to return to work within a period of two weeks. Of the particular part of the treatment concerned with the administration of hydrochloric acid, I think special mention is due. It is universally recognized that the various anemias and chlorosis are very refractory to treatment where the normal acidity of the stomach is reduced, and that many of these cases remain absolutely at a standstill and the absorption of iron nil until this condition of hypoacidity is recognized and treated. With the exhibition of hydrochloric, in addition to the iron the picture changes and most gratifying results quickly follow where before our therapy seemed barren of achievement.

In the present series of cases after we had been able to verify the investigations of Sailer and Speese in a series of lead poisoning cases where the stomach analysis invariably showed a diminution or absence of hydrochloric acid, Dr. H. R. Oliver suggested that hydrochloric acid be given to supply the deficiency, and I believe it was largely instrumental in the rapid amelioration of the gastric and intestinal symptoms and so paved the way for the very satisfactory progression of these patients.

As to the subsequent history of these I am not so sanguine. Last week one of the patients again presented himself at the clinic, with symptoms of neuritis in the right lumbar and abdominal region with pain radiating over the hip. Aside from the above none of the patients have shown any indications of nervous or mental derangement, nor is their apparently any muscular wasting, any tumor or incöordination. There has been some slight improvement in the blood picture of some of the men, but in the main this condition is not encouraging. When, too, we realize that this class of patients is often forced by social and financial circumstances to return again and again to the same trade or occupation, however undesirable it may be, we see another potent cause why so many of them fail in complete recovery.

DISCUSSION.

Dr. Ophuls: Lately I have had quite a little experience with experimental lead poisoning in dogs. As in the man, this form of poisoning usually leads to chronic nephritis, my chief object in the experiments was to produce this trouble, in which however, I have so far failed entirely. While I was studying the progress of the poisoning, I repeatedly examined the blood and found all the changes as they occur in human beings, polychromatophilia, Grawitz degeneration, numerous nucleated red blood corpuscles, and what interested me most, toward the end quite a few megaloblasts. I have sacrificed one of the dogs and at the autopsy have found a condition very much like that of pernicious anemia in the man; pigmentation of the spleen and liver with hemosiderine and red bone marrow in which there were a large number of typical megaloblasts. Similar results have been obtained before with other blood-poison, for instance with tuloylendiamine. These experiments go far to prove that pernicious anemia is not a primary disease of the bone marrow as Ehrlich wants it but the result of an intoxication with some as yet unknown poison which destroys red blood corpuscles.

The following paper was read by Dr. Oliver, reporting bacteriological work in lead-poisoning cases:

Basophilic granules were first observed by Marchiafava and Celli in cases of malaria. There were small, round bodies they took to be cocci. Some were seen in the same cells with the parasites, and they associated them with the malaria parasite. Later they concluded that this was not the case. Then Celli and Gaurnieri found them in morbus maculosus Werlhofi, measles, scarlatina, smallpox, typhoid fever and various forms of anemia, pneumonia, etc., and state that they may be present in health. Ehrlich, even before this, had apparently seen these granules, but did not publish his article until later, 1885. Later in 1888 Foa reported them in the form of a ring (Cabot's ring bodies?) at the periphery of cells, and, according to him and Mondino, represented remnants of nuclear substance. In 1881 Wertheim found them in fourteen cases of leukemia and associated them with Karyokentic changes in unnucleated red cells. He observed them also in nucleated reds, the nucleus of which was breaking down.

There was not much done on this subject until 1893 when Askanzi reported their presence in pernicious anemia. He also found them in leukemia. He pictures them in the non-nucleated as well as in nucleated cells and in polychromatophilic cells, as well as in normally colored reds. He described the last cells as normoblasts filled with nuclear fragments.

In 1894 Schauman observed that the granules in polychromatophilic cells were finely granular, and that such granules were found in nucleated cells undergoing karyokenesis.

Lazarus two years later demonstrated them in pernicious anemia, and announced that he had found such granules in every one of more than twenty cases and that he found them more commonly in megaloblasts than in normoblasts, but they were also in cells presenting an entirely normal protoplasm. He regarded them as evidence of karyorrhexis or degeneration of the nucleus. Klein, the next year, noted granules in the poikilocytes in pernicious anemia.

In 1899 Plehn announced that in the blood of both European and negroes in Kameron (West Africa) he found these granules. He termed them Karyochromatophilic granules, and regarded them as ground forms of malarial parasites. He states that he often found them in blood which showed no plasmodia. He also observed that the number and size of the granules increased with improvement of the anemia and decreased with blood destruction. He also reported them in cases in the malarial districts of Rome, but states they were not so numerous or of so large a size, and thought they had to do with latent malaria in returned Europeans from tropics.

Grawitz regards their presence as evidence of a peculiar form of degeneration, granular degeneration, and states that they are only found in those morbid conditions in which a degeneration of red cells occurs, and has nothing to do with the appearance in red cells of products of disintegration of the nucleus, nor should they be regarded as a phase of polychromatophilic degeneration. He thinks that this degeneration takes place in circulating blood as the result of different blood poisons, and that this peculiar reaction of the cell protoplasm is produced.

In chronic lead poisoning Grawitz states that in twenty cases granular cells were found in every instance, and were seen when no other blood changes were present. He advises in cases of coma to look for them as of value in diagnosis of saturnine encephalopathy, as they do not occur in uncomplicated cases of diabetic or uremic coma. He also states that they disappear from the blood after four to six weeks' treatment. So it is possible to use this fact as a therapeutic control.

Bloch states that he found them in eight of eleven cases of lead poisoning, and also that they were most numerous where there were intestinal symptoms, and also that he did not find them in cases where there were severe intestinal symptoms. In a number of cases of H_2So Hg_2Cl_2 and KCO_3 the granules were not found. White and Pepper found them in lead workers without the subjective symptoms and in heat cases. In heat cases (eight) four were iron workers at furnaces and four receiving hot air treatment. Granule cells were found in only one—a furnace man. They also experimented on dogs. Grawitz kept a guinea pig at 37-40 C and in a short period granules were found, and he thinks this is the solution of the presence of the granules in returned Europeans.

Simon examined the blood in twenty lead cases and found the basophilic granules constantly present. He also experimented on two of his laboratory workers and was able to demonstrate the granules in 72 hours after the administration of 6 grams of lead acetate per orem. In one he continued the experiments until abdominal symptoms appeared, and pain and constipation occurred, (the lead was stopped) and many granules were found. Six days later one normoblast was found, but the man was originally anemic. White, Pepper, Stengel and Simon all seem to agree with Grawitz as to the origin of the granules.

Schmidt experimented on dogs with lead and phenol hydrazin and demonstrated many granular cells as well as nucleated red corpuscles in the peripheral

circulation. Subcutaneous innoculation in a rabbit with phenol hydrazin showed the same result in a short time. He also ligated the ear of a dog and fed lead. In other parts of the circulation he found granular cells, but in the ear ligated none were found. Schmidt, in these experiments, found nucleated red cells, the nucleus of which appeared to be undergoing various forms of dissolution and not only were they found in the circulation but in the bone marrow. He came to the conclusion that these basic staining granules were remnants of a broken nucleus, and that the process had its origin in blood-forming organs and not in the general circulation. Cadwalder at Pennsylvania Hospital found so often nucleated reds in conjunction with granules in lead cases, even when total number of reds were very slightly reduced, that he thought that there must be some relation between the two, so he estimated the number of reds per 1 cmm., number of leukocytes per 1 cmm., and per cent hemoglobin, and made differential count of 500 leukocytes and estimate of number of nucleated reds, and estimated the per cent of red corpuscles containing granules. In five normal persons whose blood he tested as control, the granules were found in each case in from .4 of 1 per cent to 1.6 per cent in 1000 reds counted; the number of reds, whites and hemoglobin being normal. He also noted that the granulated reds presented no abnormality. In light cases where red count did not go below 3,404,000 and the hemoglobin 70, all but two showed increase in granular cell average, 4 to 500, and five presented nucleated cells. In sixteen cases more severe, the granular cells showed average 14 to 1000, and nucleated 2 to 130, and in some cases typical megaloblasts were found.

His conclusions are: That, first, basophilic granules occurring in erythocytes are normally present in small numbers in man, but may be increased under certain conditions and decreased as convalescence is established. Second, nucleated reds are common in the blood of lead-poisoning cases, and are always accompanied by increase in the granular cells. Third, the anemia secondary to lead poisoning as a rule is only of a moderate degree. Fourth, that granular cells are most common in lead poisoning, and possibly have their origin in blood-forming tissues and are probably results of fragmentation of nucleus fed corpuscles.

Simon states that in the blood of healthy individuals he has never found a single granule cell, though many were examined.

Origin of the Granules.—On one side we have the hypothesis of nuclear origin, based on the assumption that enucleation of the reds takes place by a process of karyorrhexis, as held by Kolliker, Newman, Foa, Osler, Mondino, Sala, M. B. Schmidt, Spuler and lately by Pappenheim and Masslow, but as yet, even with all their careful investigations, this has not been proved.

Maximow was unable to verify Pappenheim's work, and adheres to the hypothesis of Rindfleisch, Bizzero, Howell, Engel, V. D. Strichen, V. Kostanecki, and to some extent by Ehrlich, according to which nucleated reds are transformed into non-nucleated by expulsion of the intact nucleus. Even if this were the case, we should find granule cells specially abundant at the site of this transformation and under normal condition in the bone marrow, but Grawitz states that not in a single instance were they found, and similar observations are held by Littens and Bloch.

The only exception is one case of Litten's. White and Pepper state that they found some in their dogs' bone marrow that had been fed with lead, but in no instance where they were more numerous than in the circulating blood. Some observers point out that in the blood of various animals during embryonic life granule cells and similar cells were found, and were supposed to be connected with changes in the nucleus and were advanced as part argument of the origin of the granules in adult men. Engel and Pappenheim found them in mice. Both in embryonic mice and Schuman in cats. Ehrlich in adult rabbits. Simon has seen them in a squirrel. In several fetuses 2 to 9 months old Bloch found no granules in the blood of liver, spleen or bone marrow. Simon had the same results. From the occurrence of such cells in embryonic animals and in some lower vertebrates, as the salamander, it does not follow that they are of nuclear origin. Then, the other hypothesis presents itself. Supported by Grawitz and Litten, in which the presence of the granules is an expression of some change in the hemoglobin or the discoplasm. Ehrlich thought that both polychromatophilic and granular degeneration parts of each other, and regarded both as an expression senescence of the stroma and result of impaired nutrition. But it has been proved that they are not inter-dependent, as granules in good cells are found. Ehrlich thinks that the granular cells like polychromatophilia is referable to a change in the discoplasm, and may be an expression of actual degeneration, meaning a pathologic process ending in death of cells.

In favor of this is the fact that as a rule the largest granules are found in poorest colored cells, and as Ehrlich says the discoplasm has possibly lost the power of forming hemoglobin and that granulation takes place in the circulation and not in the bone marrow, which would be the case if they were growing cells.

Clinical Significance.—They do not indicate any one disease. In differential diagnosis between pernicious anemia and chlorosis. In leukemia they are not constant. Their presence is of special value in lead poisoning, and the blood should be examined in each case. Simon, Grawitz, Bloch, Behring, White and Pepper show that even very trifling exposure to this poison almost invariably leads to appearance of granules in the blood immediately, and, as stated before, on treatment the granules diminish and disappear with convalescence, and they are in proportion to the amount of intoxication present.

In May, 1905, Sailer and Speese reported the findings in the stomach contents of twelve patients suffering from lead poisoning. Up to that time, according to them, nothing had been reported on this important subject. They found an absence of free hydrochloric acid in all their cases, and the total acidity in these cases varied between 6 degrees to 17 degrees, with an average of 11 degrees. They made no report as to the amount of combined hydrochloric present,

Name.	Reds.	Whites.	Hbg.	P. N.	Eos.	Lymph.	S. M.	B.	Grawitz Cells and Polychromatophilia.
Lor	Not taken	Not taken	Not taken	75%	1	21	3	0	Present moderate
Bar	Not taken	Not taken	Not taken	69	1	18	11	0	Present moderate
P	3,750,000	9,000	75	54	6	37	1	1.5	Large number
C	2,500,000	6,400	50	70	4	17	9	.....	Large number
S	3,100,000	6,000	60	85	0	9	6	.....	Large number
V	3,800,000	9,000	70	75	2	12	11	0	Large number
De M	4,550,000	7,000	80	75	2	.....	.....	.....	Exposed
Rog	4,250,000	10,000	85	.....	.....	.....	.....	.....	No Grawitz
Card	4,000,000	7,000	80	.....	.....	.....	.....	.....	No Grawitz
Mich	3,750,000	8,000	75	63	1	25	11	.....	Moderate
B	2,500,000	6,000	50	60	1	27	9	.....	Large number
R	3,750,000	9,000	75	80	2	12	8	.....	Large number
L	4,100,000	6,000	80	59	3	29	9	.....	Moderate
P	4,200,000	6,700	80	48	2	38	12	.....	Moderate

but gave an average of 11.5 degrees hydrochloric deficit. Lactic acid was present in all their cases. Peptic digestion was much lowered. No Boas Oppler bacilli were present. In our cases, fourteen in all, nine analyses of the stomach content were made. I did not estimate the pepsin or the amount of lactic acid, and will give the findings as follows:

Name	Total Acidity	Free HCl.	Comb. HCl.	Organic acid and acid salts	Lactic
R	12	0	8	4	0
B	16	0	10	6	
S	52	28	16	8	
L	8	0	8	0	
O	60	28	18	14	
V	8	0	6	2	
P	8	0	4	4	
Loo	20	12	8	0	
Bar	22	7	14	1	

One of the worst cases. S, showed normal contents, and O was one only slightly exposed. But this, in general, bears out Sailer. The blood picture, aside from the Grawitz granules and absence of nucleated reds, and the large number of polychromatophilic cells, showed nothing peculiar, except that in most cases there was a diminution in the lymphocytes. The coagulation time was from 2 to 6 minutes. The number of plateletts varied from 180,000 to 280,000. I only gave one count in the table, as numerous subsequent counts showed little change except the disappearance of granules in some of the cases that have recovered; some still have them. The urine in all the cases was normal, showing no albumen, etc. Some samples gave trace of lead with hydrogen sulphide.

(To be continued.)

SAN FRANCISCO POLYCLINIC GATHERING.

The meeting was held at 430 Ellis street, San Francisco, on Wednesday evening, December 6, 1905, at 8:35 o'clock p. m. Dr. Ryfkogel presided. The following cases were reported and general discussions of the same were had:

Uncinariasis by Dr. Gunn:

Pedro Ruiz, a Porto Rican, 29 yrs. of age, entered City and County Hospital Aug. 31, 1905, complaining of pain in various joints, accompanied by some swelling and fever. The trouble began about a week prior to entering hospital, with a slight chill, following which there was fever. The right knee became swollen, red and very painful; the left hip was somewhat tender. After four or five days the symptoms in these joints subsided and the left knee joint was involved; there was also slight involvement of the joints of the upper extremities.

There was slight pain in the chest, in the region of the xiphoid. Profuse sweating was present. The examination of the patient revealed the following: Fairly well developed and nourished. Face pinched as if from pain. Slight pallor of visible mucous membranes. Slight icterus of scleræ. Tonsils slightly enlarged; pharynx granular. Lungs normal. The heart appeared to be enlarged somewhat to the left and at the apex, a soft systolic murmur was heard, transmitted only toward the sternum; accentuation of second pulmonic. Moderate pulsation of vessels of neck; a venous hum heard on right side; a thrill felt in both supra clavicular spaces. Radial arteries slightly thickened; pulse rapid (120) and of low tension; abdomen normal; no epigastric tenderness. Both ankle joints were slightly swollen, red and tender; the left knee and right hip joints were tender to pressure. Slight sensitiveness of calf muscles. The skin was soft and showed no evidence of excessive sweating. The cervical, axillary and inguinal glands were slightly enlarged. The knee jerk was increased, other reflexes normal. The temperature 102.4. Urine normal. Blood: Red cells. 3,700,000; leukocytes, 5,260; hemoglobin, 57%. Differential: Polymorpho., 72; small mon., 12; large mon., 12; eosin., 4. A few macrocytes.

The patient's expression and general condition gave the impression that he was a very sick man. The diagnosis had been made of acute articular rheumatism with probably an endocarditis supervening. Blood outlines proved negative. The heart murmurs were somewhat clanging in character; transmitted at times toward the axilla; occasionally heard at the pulmonary orifice, but most generally at the apex. The stools were now examined and ova of uncinaria and tricocephalus dispar found present.

The patient was immediately put on thymol, 20 grains being given hourly until 120 grains had been administered. Following this treatment the general condition rapidly improved, the pinched expression of the face and the thoracic distress disappeared almost immediately. The joint symptoms continued for several weeks, being most transitory in character, appearing for a few hours or days in one or several joints and then shifting to other regions. Usually there was no evidence of swelling or redness, there being only pain and tenderness. The wrists, ankles and knees at times showed slight objective evidences of inflammation.

On October 8th (5 weeks after entering hospital) the patient was discharged. There had been a gain of ten pounds in weight, and outside of a slight degree of anemia he appeared quite well. Naturally, the question arises in such a case as this, whether the joint symptoms were due to the infection with the uncinaria or to an acute rheumatic fever, and in no way related to the intestinal infection.

It is a well recognized fact that joint involvement occurs in uncinariasis in a definite proportion of cases. There is usually pain without much local reaction. But that such local reaction, evidenced by swelling and redness, may occur, I have seen demonstrated on several occasions. In my observations here in San Francisco, on something over 75 cases of uncinariasis, rheumatic symptoms have occurred in quite a large proportion of the cases. I have seen at one time or another almost every joint of the body, except the phalanges, involved. The spine has been quite frequently affected. A peculiar thing which I have repeatedly noticed is that the rheumatoid symptoms quite frequently appear immediately following the destruction of the parasites with thymol. The joint symptoms in this disease are probably due to some toxin absorbed by the blood, which is produced by the parasite in the intestine.

Fever, another symptom this patient had, occurs quite frequently in uncinariasis. It has been noted in over 10 per cent of my series. Usually it is but slight and of short duration, but it may be the most prominent symptom.

The low percentage of eosinophile cells, 4 per cent, in this case is somewhat unusual, but it should be remembered that occasionally, though rarely, eosinophilia is not present. In one case of my series there was less than 1 per cent.

In closing I should like to again draw attention to the importance of constantly keeping this disease in mind. That it is being frequently overlooked is quite apparent to any one interested in the matter. It should be remembered that the disease is by no means confined to tropical peoples, although, of course, they furnish the greatest percentage of cases, as it is found all through our own Southern States and is brought home by travellers of all degrees of station.

Some of the most severe cases I have seen have been in Italians, and although it is well known that certain parts of Italy are quite generally infected, yet the disease among the Italians here seems to be quite ignored.

The parasite, the embryo develops from the egg, and after seven or eight days reaches the second stage, and passes into the system; an infection will occur before that time. The parasite is absolutely harmless. You will notice under the microscope the simple membranes after the embryo has escaped from the egg. The important point I want to make here in this important case is that there are a great variety of symptoms in each case of uncinariasis. The general symptoms occur occasionally, but you have them in cases of rheumatism, and for that reason they might possibly be overlooked.

DISCUSSION.

Dr. Evans: My experience on cases of this kind is very limited, but I have seen several of general symptoms. I was very much interested in hearing Dr. Gunn's paper, and am quite surprised to hear that in

these simple complications he finds such a large proportion of endocarditis. Regarding that very interesting complication, I think we cannot emphasize too much its importance when we consider that it is increasing so rapidly in this country, or at least that so many more cases are being reported. Examination of the stools should be made in all cases of anemia, and in that way we could stamp out this disease in this country, with of course more rigid quarantine inspection. It is, of course, a very difficult matter to compel an examination of the stools, but the quarantine officers should pay more attention to the increase of anemia in this country than is being done at present.

Dr. Phelan: I cannot add very much to the subject just discussed, but I can say the peculiar form of this disease has been known for a long time, as far back as 1827. It was noticed among the coal miners, and in more recent times it was noticed in Europe and among those working in the mountains. The symptoms in Europe are somewhat different from those in this country. The disease is also known in Porto Rico and Mexico and also Central America and other tropical countries.

Dr. Regensburger: I want to say a word about the quarantine question. The officers are powerless to do anything. It seems that the majority of these cases come from our own provinces, from Honolulu and from the Philippines, and the official authorities under our laws are absolutely powerless to do anything in the matter. The only people who have any jurisdiction in the matter is the City Board of Health. It is a peculiar thing that they should be the ones who have the authority to board the steamers and take the people in quarantine. The City Board has conferred with the State Board on that matter, but they have reached no conclusion. The only thing is simply to let these people come in and give Dr. Gunn some business.

Dr. Porter: I had the pleasure of making the diagnosis of the first case reported here, and it was a case in which there was between 10 and 15 per cent hemoglobin, and it was also a case peculiar in having the highest total eosinophiles per millimeter. One of the cases, about the time we had diagnosed our case of uncinaria, was that of a man who was almost dead, and we gave him felixmas. Dr. Kennedy did; I had nothing to do with the felixmas. The next day, when we saw him, he was worse. We were interested in the worms, and according to the case there ought to have been three thousand. But whether he had that many I don't know; after the next dose of felixmas the stools showed twenty worms.

Dr. Richardson: In my experience of cases of dysentery, I have seen these joint complications occur a number of times, and I do not know whether they bear any relation whatsoever to uncinariasis, but would seem to in certain cases. Joint lesions are also found in cholera and typhoid fever. As stated by Dr. Gunn, in referring to the joint lesions of uncinariasis, I am unable to say why they should occur in these diseases, but I know that in cholera especially the joints are sometimes affected.

Dr. Gunn: Speaking of the subject Dr. Porter just mentioned, illustrating the eosinophiles, I was exceedingly interested in one of these cases—that of a little girl, reported a year or so ago, where the hemoglobin was about thirty.

I had a patient in Lane Hospital, a woman, with hemoglobin about twenty. I gave twenty grains of thymol inside of six hours. We watched her carefully, and she took it without the slightest discomfort, and it apparently proved sufficient. I think in most cases you can give it in very large doses without any danger. I have, however, one patient who had taken thymol in the same amount and immediately had convulsions.

One of the patients could not take twenty grains of thymol without showing marked symptoms of colitis. Later on I gave him the twenty grains of thymol in the usual way after gradually working up to it. Mucus in the stools is quite evident, almost of any character. It is not characteristic at all. You may find even blood in the stools.

Acquired Hemiplegia by Dr. Hill: I wish to present two cases of acquired hemiplegia in infants 20 and 21 months old, respectively. They are typical cases and almost identical in age of patients, character of onset, previous general condition, distribution and character of paralysis and subsequent history. They occurred within six weeks of each other. Both cases are of the acquired form, coming on suddenly in infants previously healthy, and are to be distinguished from the intra-uterine and birth palsies. Neither case had endocarditis, kidney trouble, previous acute infectious disease, middle ear disease, history of trauma or tuberculosis. There is no history of difficult or forceps delivery. I delivered Case 2, and it was a normal delivery. Both had an associated ilio colitis and both indiscreetly fed.

Family history of Case 1 is interesting. Father is well, the mother is a luetic, has tertiary sores and will admit of no treatment except applications of burnt rags to the ulcers. She has had several miscarriages. Two other children are living, one 10 years old, well. One 7 or 8 who according to the father's statements is sickly, holds his head on one shoulder and back is bowed. Three children died in convulsions before the completion of their first year, age 6, 7, and 11 months respectively.

Family history of Case 2: Father rheumatic, mother well, several miscarriages. Mr. E., mother's uncle, epileptic. Mrs. W., sister of mother, epileptic (histero epilepsy); grandmother died in epileptic fit; grandfather has had three paralytic strokes.

Both children have significant family histories admitting of a heritage of nervous instability—vascular weakness.

Case 1: Baby B. referred to me by Dr. Lucas of Point Richmond, from whom I obtained the previous history. On Oct. 13th, the child was well and playing in the yard when he suddenly fell in a convulsive seizure, convulsions lasted 30 minutes. He was semi-conscious for 4 days, during which time he had as high as 13 convulsions daily. These were unilateral on 2nd day, involving lower half of face, arm and left of right side. There was conjugate deviation of eyes. He had a severe case of gastro enteritis; paralysis appeared on returning consciousness and involved right side, lower part of face, arm and leg. Beginning first in the leg, then arm, then face. Reflexes gone, pulse 140 to 170, temperature lasting one week, ranged from 100 to 105. (Fontanelle bulging during seizure.) I saw the baby Oct. 23rd: baby had a foolish expression, was well nourished, well formed head and extremities, palate O. K., fontanelle open, glands everywhere enlarged, one undescended testicle, adherent prepuce, baby babbles foolishly, aphasic, has had considerable difficulty in swallowing, laughs and cries one-sidedly. Lower half of face, right arm and leg motionless, spastic, some movement can be elicited in toes and foot. Reflexes lively, no ankle clonus. Response to galvanic and faradic O. K. Pain sense present. Baby refuses to have anything to do with right side. Temp. normal, bowel movements contain considerable mucus, baby unable to sit up.

Wednesday, Oct. 27th, baby had a temperature of 101.5°, which disappeared on a limited diet, castor oil and enemas. Began at this time to flex the left leg on abdomen and would keep it in that position for some time. Slight movement began to appear in right leg. Arm and hand motionless except for little finger; little fingers tightly clenched in palm, except during sleep. Two or three times has fallen in a stupor, since then there has been gradual improvement. General condition good, baby irritable, more motion in leg and some in arm, fingers not flexed so tightly. Four weeks from onset said first words. Electrical reactions unchanged, no atrophy. Nov. 29th baby could get around in an invalid chair and put foot to floor. Can sit up some, but inclined to fall to right side, face cleared up almost completely. Knows his toys for the first time.

Case 2: Baby B, San Francisco. Began Nov. 24th, baby apparently well the day before. About 4 o'clock in the morning parents noticed baby restless and feverish, gave castor oil in morning. No history of headache, vomiting or delirium. Baby seemed O. K. in the morning. She was sitting in a chair rocking her doll, when she suddenly fell in a convulsion about 10:30. The convulsions lasted about an hour. I saw her at 11:30, she was unconscious, no twitching, no rolling of eyes, no retraction of head or abdomen, no tache cerebral or roering. Pupils moderately dilated, jaws held firmly. She was able to follow with her eyes a lighted match at 3 p. m. At 4 o'clock baby was taken with a convulsive seizure affecting the right side only; lower half of face, arm and leg. These were at the rate of 150 to 200 per minute and lasted till 10:30, eyes O. K. The baby's respirations were normal during previous attack, but during second breathed like a child with acute pneumonia, 75 to 100 per minute. Bowels were moved by enemas and much foul material,

undigested food, such as a whole peanut, and quantities of mucus were voided. Temp. at 11:30 101.5°, during second attack 103°, and at 10:30, when baby became partially conscious 105.5° (rectal); at 10:30 the paralysis was noted and involved lower half of face, arm and leg of right side; next morning paralysis same, no movement in affected parts, reflexes lively, paralysis spastic, no ankle clonus, no strabismus or ptosis, eyes O. K. Baby was cross and cried a great deal. Left arm continually in motion, the principal one being a careful smoothing of coverlet. Temp. 101.5°. Resp. 30, pulse 120. Two days afterwards baby talked, but up to the present date can not say certain words she was accustomed to say. Temp. normal. Arm flexed close to side, fingers clenched, leg straight, passive movements made with some resistance. Paralysis of face clearing up; considerable mucus in stools. Motion began to return Nov. 29th in arms (slight). Friday slight motion in leg, had temp. on Thursday, Nov. 25th, but cleared up with enemas and castor oil. Much foul smelling mucus passed. Dec. 3 baby can sit up, laughs and talks some, leg straight, arm passive, very slight facial paralysis noted when laughing.

The principal points I wish to bring out are: (1) The family histories; (2) The entero colitis as a possible cause; (3) The previous good health of the patient; (4) The suddenness of the attack; (5) The generalized convulsion followed by unilateral; (6) The distribution and character of the paralysis; (7) Retained reflexes; (8) Temp. curve; (9) Aphasia; (10) Absence of later convulsions; (11) The quick return of both patients to a fair state of general health. We may speculate as to the cause and character of the lesion.

In case No. 1 it was probably a meningeal hemorrhage; the irritative symptoms, progression of paralysis from leg to face, bulging of fontanelle during attack, speak strongly in favor of it, and our knowledge that these hemorrhages are usually meningeal seldom cerebral. In case No. 2, the absence of any involvement of upper part of face or eyes might lead us to class it as a capsular hemorrhage. Even here the irritative movements were pronounced and spoke for a cortical lesion. It may be possible that the eyes and upper part of head have a double nerve supply, which would account for their non-involvement. The previous good health of both babies, the suddenness of the attack and paralysis with quick general recovery, are against any acute infections, encephalitis or the poliocephatis superior, analogous acute anterior and poliomyelitis. The association of an entero colitis is suggestive in both cases as a possible cause, producing the generalized convulsions, which in turn were responsible for the meningeal or capsular hemorrhages. We must not forget the important part hereditary influences may have played, especially the leutic history in Case 1. I have purposely omitted the prognosis, the subsequent contractures, mental deterioration, epilepses, etc., or any allusion to treatment in the way of operative procedures, etc., that have recently been brought forward again by Cushing.

DISCUSSION.

Dr. Evans: I want to thank Dr. Hill for presenting these cases to us. It is rather a difficult thing to say anything further on them. The question of hemiplegia is the first thing that occurs to me, and would seem to be the greatest, particularly in the sudden onset of the convulsions.

The question of cerebro thrombosis, of course, comes up, and I particularly call attention to the fact that cerebro thrombosis in children is rather frequent. I don't know very much about these so-called primary phlebitis. We are confronted here by the fact that in their previous history nothing suggested the possibilities of a case of thrombosis. I think we ought also to consider the possibilities of lues. It is, of course, quite conceivable that there was syphilitic infection, which might have been the cause, but it would seem from the suddenness of the onset, from the character of the attack and from the parts involved, that it would more likely be infantile hemiplegia, from the seizures and convulsions involving the facts of the case covering the retarding area.

Dr. Porter: I would join with Dr. Evans in thanking Dr. Hill and congratulating him on the way he has presented these cases. I don't think Dr. Hill has laid sufficient stress upon the colitis, which only seems the two points in common. In the first case, Dr. Evans has said we must lay a great deal of stress upon the lues in the family. We have sufficient evidence from experience to protect us in the belief in cases of continuous enteritis, even though the enteritis might not be extreme. Septic thrombosis would give us thrombosis of phlebotic origin, and when such matter gives rise to the blocking of vessels or to the kinking of vessels, we have a hemorrhage or thrombosis of the cerebral vessels.

I think Dr. Hill has overlooked the earlier history. It is possible the mother of the child may have been well, and that the paralysis was some evidence so far as the cerebro thrombosis was concerned. The syphilitic thrombosis does not seem probable in a child of that age. It is not at all unusual in children well developed, and in the blood diseases that children have.

Dr. Cooper: I think it is very difficult to pass any opinion about the nature of a case, the history of which you hear and the patient you do not see. It seems to me that the history of the second case bore very strong resemblance to many cases of acute enteritis that have been reported, and many of those cases do occur quite often, just like acute infections. This is a subject which has only come to the front in the past two or three years. We have made accurate observations which are exactly parallel with enteritis. This paralysis may be quite extensive, first owing to the fact that the congestion around the principally diseased area gives rise to paralysis. When this congestion passes off, a great deal of paralysis passes off. I cannot say, not having seen the patient, that it does not bear a resemblance to many of those cases, which it seems to me are rather difficult to discriminate between, and to say that the last case is a hemiplegia.

Dr. Welty: These two cases are interesting from the standpoint of enteritis. We have the very same symptoms coming from the cerebro complications from the ear. In all the cases of cerebro thrombosis you have a characteristic temperature, but wide variations, chills or fever and sweats. There is only one case on record in which the cerebro thrombosis had such a history. I have found another one that I will report very shortly which is a very unusual affair. In regard to the meningitis or brain abscess. The brain abscess is, of course, ruled out. We had an edema around the ear which made an acute discharge from the ear at the same time. In a case of meningitis you may be mistaken in your diagnosis. You do not cure cases of meningitis; you hope to strike a case of brain abscess in a diagnosis of meningitis.

Dr. Hill: In regard to what Dr. Porter said, I believe I stated in the last part of my cases that possibly or probably it was encephalitis. The meningeal possibilities in both cases caused a generalized convulsion, and the generalized convulsion might possibly have caused the hemorrhage.

Now, I come to the definite statement as to the cause. I said it was probably a meningeal hemorrhage. We know in children, especially, it is very difficult to determine what this hemorrhage would do. In the first place, there have been many reported cases, and most of them have been reported at autopsies, and they were meningeal hemorrhages. Some may not have been.

There was an identical case with the last one reported in the *London Lancet*. Now, if you remember, in acute infectious diseases, hemorrhages occur, and if I remember rightly Holt reports a case of this kind.

Now, as regards the acute enteritis, this is not so very recent. Considerable advance has been made since 1897. There is not enough evidence to prove that these cases are acute enteritis. In fact, the majority that have been autopsied have been meningeal

hemorrhage, and in those cases reported they were similar to those of acute enteritis.

Both these babies had a normal temperature; the second was improving on the third day, and an acute infectious disease would hardly clear up like that in three days. In fact, most of them have a great deal of stupor and coma. I have reported these as probable hemorrhages, and not as definite hemorrhages. I think that hemorrhage under the circumstances fulfills the most conditions. Of course, we have to remember these cases are being now reported, and more and more classed under the acute enteritis, or under different names, which mean the same thing.

Tubercular Meningitis by Dr. Bine: The following case is reported in order to emphasize some of the difficulties encountered in the diagnosis of a disease so well known as tubercular meningitis, and to show how, at times, our so-called laboratory aids to diagnosis may complicate instead of simplifying matters, especially if one vary the slightest bit from absolute perfection in technic.

The patient, a boy of 17, was admitted to the Polyclinic ward at the County Hospital on November 22, 1903, late in the afternoon. I examined him for the first time the next morning, and saw him daily until he died.

They gave the following history: Had felt poorly for a week previous, slight headache. While at night school, November 21st, had a chill, also next morning, i. e. day of admission to hospital. Now has headache, frontal and temporal especially, also back of neck. Never any coughing, vomiting, no pain in chest, bowels regular. Has worked for the last one and one-half years as machinist's helper. Outside of occasional colds, has never been ill. Parents and three brothers in good health.

At first examination I was particularly struck by the boy's position in bed. Usually on his back or right side; his legs were always slightly drawn up; his head was always slightly drawn back. Expression one of languor, answers questions slowly. Cheeks flushed. Mouth always open. Pupils equal, react slowly. Eyelids reddened. Tongue dry, cracked and covered by dirty brown coating. Pulse regular, good volume and tension. Heart enlarged a bit to left; a mitral systolic murmur with accentuation of second sound at pulmonic area. There was also a question as to the presence of a mitral presystolic. The right lung showed absolutely no movement with breathing; apex was dull down to second rib; from here to base resonance impaired anteriorly; posteriorly the whole right side was relatively dull. A few crepitations were heard over right side. U. R. and breath sounds slightly increased. Left lung normal. Abdomen tympanitic, a bit retracted, no rose spots. Liver and spleen apparently not enlarged, but tympany of abdomen and tenderness prevent palpation being satisfactorily carried out. No tenderness along spine or over skull; flexion of head on chest somewhat painful. Enlarged submaxillary and cervical glands; not tender, firm. All reflexes normal. Genital tract normal. Trace of ilbumin in urine, no Diazo. W. B. C. 9400 with polymorphonuclears 90 per cent. No Widal.

On the 24th, patient was very restless, the only new signs were lateral nystagmus, a slight weakening of l. external rectus and a dilatation of left pupil.

(*To be continued.*)

CALIFORNIA ACADEMY OF MEDICINE.

The regular meeting was held September 26, 1905, Dr. D. W. Montgomery being in the chair.

Palpable Ulnar Nerves. Dr. C. M. Cooper demonstrated a patient with a chronic inflammation of the joints, multiple glandular enlargements, and enlargement of the spleen. The ulnar nerves of this patient were quite thickened. Dr. Cooper believes that such thickening is far from uncommon and that it is most apt to occur in patients who have chronic joint affections of the hands. This fact should be borne in mind when enlargement of the peripheral nerves is found in suspected cases of leprosy.

Protection from the X-ray. Dr. C. M. Cooper enumerated some of the dangers associated with continued exposure to the action of the X-ray, such as skin eruptions, burns, carcinoma, sterility, neurasthenic symptoms, etc. As yet we know comparatively little of the remote effects of such exposures and it is quite possible that in time degenerative changes in the tissues may result. The person who is using the X-ray continually should, therefore, take every possible precaution to protect himself from such deleterious effects. Dr. Cooper does this by placing himself in a leaden compartment and making all observations by means of mirrors. One mirror reflects a floroscopic image of a known test object and in this manner the penetrating quality of the rays can be estimated; another mirror, by reflecting the tube itself, indicates the general character of the light. In this manner the operator is not exposed at all to the direct action of the light while he is making a photograph.

Dr. B. F. Carpenter stated that he knew of an X-ray operator who had no active spermatozoa in his semen so long as he was using this light regularly. Active spermatozoa, however, reappeared after he discontinued its use.

Underlying Conditions in Erythema Multiforme Exudativa. Dr. P. K. Brown reported two cases of erythema multiforme exudativa, which both showed lesions in organs other than the skin. The first patient was a child, six and a half years old, who had had attacks of tonsillitis, with endocarditis, over a period of four years. In December, 1904, patient had ten days of epigastric pain and following this, some fever and a punctate eruption over the trunk, shoulders and thighs. There was general glandular enlargement, the heart was more irregular than usual, and the murmur was louder. The urine contained albumen, red blood cells and a few casts. On the third day the patient suffered from pains in the ankle joints. Desquamation began on the fourth day and lasted six weeks. The affected areas desquamated entirely, even the nails taking part in the process.

The second patient was the same age. During the first attack, in January, 1904, the fever reached 104.2° and lasted three or four days. The first eruption appeared early, covered the whole body and was scarletiniform in character, except on the shins, where it was more blotchy and irregular. General glandular enlargement. Eleven days after the onset, multiple miliary hemorrhages appeared over the body and these were accompanied by hemorrhages from the mucous membranes and by signs of pericarditis. On certain parts of the body areas of circumscribed edema were visible. Desquamation lasted about two weeks. Blood cultures were negative. There was a marked anemia—hemoglobin 28% and red cells 1,700,00—and a relative increase in the mononuclear leukocytes. The child made a slow, but uninterrupted recovery. In the year and a half that have elapsed since that time the patient has had eight or ten similar attacks, some of which have been very light and only one accompanied by extensive eruption and desquamation. In the beginning of the attacks undigested food is frequently found in feces and the breath often has a heavy odor.

Dr. Howard Morrow stated that typical erythema multiforme desquamativa runs a course that is different from these described by the speaker, and he would be inclined to diagnose the cases reported as desquamative scarletiniform erythema.

Dr. D. W. Montgomery has seen very few cases of erythema multiforme with severe internal lesions, other than joint pains that do not yield to the salicylates.

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At the regular meeting, held October 24, 1905, Dr. H. M. Sherman was in the chair.

Cholecystectomy as an Initial Procedure. Dr. T. W. Huntington reported the history of a patient who had had repeated attacks of biliary colic, accompanied at times by jaundice, fever, and clay-colored stools. At operation, after a particularly violent attack, the gall bladder was found to contain 16 large stones, together with about 4 oz. of thick, greyish, opaque fluid. No stone within the common duct could be found. The

gall bladder was drained and the drainage tube removed on the fifth day. The discharge of bile through the fistula continued, however. A few days after the operation the stools became absolutely clay-colored and remained so. Seven weeks after the operation the abdomen was again opened. No cause for the common duct obstruction could be found except an enlarged, hard head of the pancreas, probably due to a chronic pancreatitis. A cholecyst-enterostomy was then performed, using a linen thread to unite the lateral surfaces of the gall bladder to the duodenum, after the manner of McGraw, and fortifying with a row of Lembert sutures. At subsequent operations it was necessary to reopen this anastomosis with a knife after dilating the sinus and finally, to close the sinus itself. Since then the patient's recovery has been rapid and complete.

Cholecystectomy, as a deliberately planned initial procedure is proper (1) in extensive trauma of the viscus, where suture is impossible; (2) when there is a long standing and impermeable stricture of the duct; (3) in gangrene of the gall bladder, and (4) in malignant disease of the gall bladder. It is probably better not to leave in a contracted gall bladder following chronic cystitis in most cases, (1) because there may be, as in the present case, an undiagnosed obstruction in the common duct, which could later be relieved by performing a cholecyst-enterostomy, and (2) because the drainage afforded through the cholecystostomy wound may be of direct value in relieving an infected biliary system.

Dr. B. MacMonagle stated that there were other possible indications for a primary cholecystectomy. Dr. Clinton Cushing frequently performed this operation with most satisfactory results in most cases. In cholecystitis we have an infected organ, and if we can be certain that the common duct is open it might be justifiable to do a cholecystectomy and so remove the main seat of infection. Yet it is hard to exclude stones in the hepatic ducts which may later cause a common duct obstruction and so, as a general rule, it is better to leave the gall bladder in at the operation.

Dr. J. H. Barbat believed the gall bladder should be removed only when the cystic duct was absolutely occluded and a cholecystectomy would not drain the bile ducts.

Dr. T. W. Huntington said that it is difficult to determine whether the closure of the cystic duct is a temporary or a permanent one, and that a stone in the common or hepatic ducts can never be absolutely excluded.

Pseudo-tuberculosis of the Peritoneum. Dr. C. M. Cooper stated that of the many causes that may give rise to structures resembling true tubercles, the most important, so far as the peritoneal cavity is concerned, are animal parasitic structures and foreign bodies. Tenia eggs and the hooklets of the echinococcus have both produced in the abdominal cavity a condition that resembles tuberculosis and can be distinguished from it only by finding the causative agents within the small nodules. Cholesterin crystals from a ruptured ovarian cyst and pieces of sponge that had been left in the peritoneal cavity at operation, have produced similar conditions. Finally, the foreign bodies may be food particles that have reached the peritoneal cavity through a perforated gastric ulcer, as in Hanau's case, and the one here reported.

Middle aged woman, whose illness had begun suddenly six weeks before with pain in the lower abdomen. No fever, vomiting, or intestinal obstruction. Pulse rapid and feeble. Marked aversion to food. Abdomen somewhat distended with slight tenderness over its lower portion. Free fluid could be demonstrated within the abdomen. Dullness posteriorly over the ascending colon. Leukocytes 12,000. At operation a large quantity of brownish fluid was evacuated from the peritoneal cavity and the intestines were seen to be studded with innumerable miliary tubercles. At autopsy a post-colonic collection of pus was found originating from a perforated gastric ulcer. Microscopical examination showed that the peritoneal nodules contained no tubercle bacilli, but did contain small food particles that had evidently escaped from the stomach through the perforated ulcer.

A. W. HEWLETT.

SAN FRANCISCO SOCIETY OF EYE, EAR, NOSE AND THROAT SURGEONS.

The regular meeting of the society was held on Thursday, November 16th, in the rooms of the San Francisco Polyclinic, the president, Dr. K. Pischel, in the chair.

The scientific program follows:

Drs. K. Pischel and V. Lucchetti reported a case of magnet extraction of a foreign body from the eye. The patient was a young man 16 years of age. While hammering a rivet something flew into the left eye. The doctor saw the patient four days after the injury and noticed a black spot in the ocular conjunctiva downward and outward from the limbus, no scar being visible. With the opthalmoscope the foreign body was seen embedded in the retina two diameters below the disc. An incision was made with a cataract knife in the outer lower quadrant of the bulb one cm. from the limbus and the foreign body was extracted with the magnet. Field of vision remained good with the exception of a corresponding scotoma. The next day vision was 5-60 and the retina was cloudy and infiltrated where the foreign body had lodged. Patient was advised to go to a hospital, but refused. Three days later vision was 5-15. He returned after four days with the history of having swept the house, and since then the sight had become markedly blurred. Vision, fingers in 50 cm. The disc and surrounding retina were hidden by an extensive hemorrhage. Patient went to a hospital, and subconjunctival saline injections and pilocarpine sweats were ordered, but the sight did not improve much.

Dr. W. F. Southard presented two cases of interstitial keratitis, one acquired and the other inherited. He saw the patient with the inherited keratitis for the first time in 1903, both eyes being affected to such an extent that the patient could not walk about alone. The mother said that when the patient was 9 months old she had enlarged cervical glands, which suppurated. The teeth decayed as soon as they appeared. At three years of age she had a severe attack of whooping cough, with facial spasm, followed by facial paralysis, this condition still remaining. The eyes were inflamed, but rapidly cleared up. When patient was brought both corneæ showed a number of interstitial opacities. The teeth were not typically Hutchinson's, the arch of palate was deep, the membrana tympani on right side showed some sclerosis. The irides were paralyzed from an old iritis. Dionin was used, and the opacities at once began to clear up, the central portion being the first to become transparent.

The second case was one of the acquired class, the findings being the same as in the former case. This patient received KI in addition to the dionin, and the action was more marked than in the preceding case.

Dr. Southard also showed another case with the following history: Patient is a man 62 years of age, had a slight trouble with his throat four years ago, with some disturbance of speech. He was treated for a year and then a polypus was removed from the cords, which the microscope showed to be sarcomatous. Throat got apparently well until three months ago, when he noticed some difficulty in swallowing. Never has had pain. Cervical glands enlarged only within the past three months. The growth in the larynx is very large, involving the right side of the epiglottis and pushing it to the left, leaving a small opening through which the cords can be seen. The

mass is somewhat lobulated. Never has had any hemorrhage and no pain on palpation or swallowing, and but a slight change in his voice. Dr. Southard could not say from the appearance of the growth whether it was tuberculous, sarcomatous or specific, and as the patient was receiving KI in large doses he wished to know how long he was justified in continuing this treatment before removing a portion for microscopical examination. If it was sarcoma, then the delay would be injurious. Patient denies a history of syphilis. Dr. Southard considers it as sarcomatous.

Dr. C. F. Welty considers that it is without question a sarcoma, and bases this diagnosis on the history of four years' duration and his age. He excludes tuberculosis, as the man's physical condition is good and he could not have had a tubercular larynx this length of time without ulcerations. He considers it a sarcoma and not carcinomatous, on account of the lobules, the rapid growth with absence of pain and the patient's age.

Dr. W. S. Franklin said that he judged it to be malignant growth, owing to the patient's age, the loss of weight, the enlarged glands, the appearance of the tumor and the history. He wished to see an energetic anti-syphilitic treatment given, as that disease can simulate practically all clinical conditions, and should be positively excluded.

Dr. George H. Powers presented a case of a man 60 years of age, who was struck in the right eye with a foreign body. The doctor saw the patient three days after the accident. There was marked chemosis, no reflex; vision, could barely count fingers. Pain was intense. An X-ray photo showed the foreign body in the sclera and the Haab magnet caused him pain, and patient felt something move within the eye. An incision was made under cocain and the bit of steel removed with the Hirschberg magnet. The next day the lens was clear, vitreous cloudy, with a yellowish mass near the ciliary body which seemed to move.

Dr. Powers presented another case where the patient had received a blow on the eye, but was sure that nothing had entered it. The X-ray showed a foreign body on the floor of the eye. An incision was made in the cornea and a piece of steel removed. Eye cleared up without reaction and patient can count fingers on the temporal side 4 m. from the eye.

Dr. Powers showed the boy who had been operated for convergent strabismus by the Pana's method; also a man with a peculiar stellate shaped blackish detachment of the retina which had the appearance of a subretinal hemorrhage.

Dr. C. S. G. Nagel, speaking of the latter case, said: "From my examination of this patient tonight I have come to the conclusion that it is a vitreous hemorrhage. There is good projection, physiologically normal tension and equal in both eyes."

Dr. George Brady presented the following cases: The first case which I present supplements Dr. Southard's case, and although suggestive of central interstitial keratitis, is one of central infiltration following herpetic ulceration. It shows a deeper yellowish infiltrate of the middle layers overlapped by a wider nebula of infiltration of the superficial layer of the cornea. The second case simply shows a marked improvement in a case of thrombosis of the central retinal vein after four months of mixed treatment. Vision is now 20-100. Then it was one finger in two feet. The third case, probably leutic in origin, shows marked peri-vasculitis, with central pigmented choroiditis of the right retina. Marked temporal pallor of disc and beginning organization of a cottony tuft of exudate overlying the papilla. Vision in this eye 10-100. Left eye has 20-50 vision, and shows a large flame like canary-colored atropic area which has just escaped the fovea. The papilla shows a smaller tuft than that of the right eye, but presents the same pallor. Diagnosis: Leutic central retina choroiditis, with the ascending atrophy of the nerves.

W. SCOTT FRANKLIN, Secretary.

COUNTY SOCIETIES.

Monterey County.

The Monterey County Medical Society held its annual meeting on December 2d, at the office of Dr. E. K. Abbott, Monterey.

The evening was devoted to a general discussion of the professional situation in the county and to the advisability of incorporating the society. It was decided to arrange for incorporation as soon as possible. The election for officers resulted in the selection of the following:

President, Dr. John Parker of Salinas; vice-president, E. K. Abbott of Monterey; secretary, Dr. U. E. Richardson of Salinas; treasurer, Dr. D. Brumwell of King City; censor, Dr. A. M. Ritchie of Pacific Grove; delegate to the State Society, Dr. D. Brumwell; alternates, Drs. T. C. Edwards and U. E. Richardson.

The next meeting will be held at Pacific Grove on January 6th.

Napa County.

The Napa County Society met at 4 o'clock on the afternoon of December 11th for the purpose of discussing the situation in regard to lodge and contract practice. Some time ago the members of the County Society passed resolutions condemning this form of practice, and these resolutions were signed by practically every physician in the county. It subsequently appeared that a member of the society had not abided by the resolutions which he had signed, but had accepted the offer to do this contract work for one or two of the lodges during the coming year. He was invited to attend the meeting, but refused to do so, and after a general discussion on the subject, his name was dropped from the role of members. The secretary of the State Society attended the meeting on the invitation of the County Society and discussed the condition of the medical profession and plans for organization. After the meeting of the society a very delightful banquet was given, and some leading members of the ministry and bar were guests.

Orange County.

The Orange County Medical Association held its regular monthly meeting in its rooms in Santa Ana, December 5th, with 14 members present. Dr. Dryer reported a case of "Cyclops" and exhibited photographs.

Dr. Berneike read a very able paper, subject, "The Physician of the Future; A Forecast." The doctor pictured the physician of the future, a happy man, without care or controversy, no lack of patients and no competition except of intellect; an integral part of a great industrial co-operative government; certainly an ideal condition, if the doctor's beautiful picture could be realized.

H. S. GORDON, Secretary.

Placer County.

The Placer County Medical Society held a special business meeting at the office of its secretary at Auburn on Friday last. Dr. J. T. Jones of Grass Valley was acting president, in the event of the death of the president, Dr. T. M. Todd.

The meeting was called in order to meet the requirements of the State Society, which desires the county societies to elect officers and collect dues by the first of January.

The meeting was called to order by the acting president, who expressed deep sorrow at the death of Dr. Todd, which is a great loss to the society and to the community at large. Dr. Rooney moved that a resolution be drawn up and placed on the minutes of the society in memorial of our late president.