An inquiry into results of the established treatment of detachment of the retina, and a new theory / Derrick T. Vail.

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CINCINNATI.

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On May 4, 1912, the following letter was sent to the addresses of 460 of those oculists from all the large cities of the United States whose names are recorded in the attendance list published in the "Transactions of the Ophthalmic Section of the American Medical Association, 1910":

Dr. ————————,

My Dear Doctor:

I have a case of detachment of the retina which has shown no improvement after three months' lay-up in a dark room, using pilocarpin and steam sweats, full doses of iodid of potassium, etc.

In over twenty years' experience as a practicing ophthalmologist, I have not seen a case of amotio retinæ permanently cured by any kind of treatment.

I write to ascertain if you have met with success in curing any case or cases of nontraumatic retinal detachment, and will

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*Read at the annual meeting American Academy of Ophthalmology and Oto-Laryngology at Niagara Falls, Ontario, August 20-22, 1912.

be very grateful if you will answer the following questions:

(a) How many cases of nontraumatic detachment of the retina have you permanently "cured"?

(b) What was your treatment?

Thanking you for replying, I am,

Very sincerely yours,

D. T. VAIL.

I received 281 replies. These I have compiled in alphabetical order. I intentionally asked only two short questions, so that men would not be put to much trouble in answering, but the answers I received were full and characterized by earnest frankness. Some took their time to write lengthy letters, recounting their experience. These I have compiled in the appendix.

I wish to thank all for the interest they have shown and for their valuable aid in proving the incurability of this dread disease of the eye by the established methods of treatment.

The following methods of treatment are mentioned in the 281 answers received:

Medical Treatment.—Local: Atropin, dionin; subconjunctival injections of salt solution, ranging from the "normal salt" to 20 per cent; subconjunctival injections of dionin up to 10 per cent; saccharinate of sodium and sugar.

General: Pilocarpin injections, kalii iodidi, bichlorid mercury, calomel, salts, sodium iodid, iron tonics, salicylates, purgatives, syr. hydriodic acid, pilocarpin infusions, fl. ext. jaborandi, thyroid extract and abortion.

Nursing: Dark room, rest in bed, steam sweats, low diet, dry diet, dorsal position, head depressed, electric baths, massage, tight bandage, hot packs, leeching, absolute rest, resignation.

Surgical: Scleral puncture, posterior sclerotomy, Graefe's needle punctures, puncture through sclera and retina at site of detachment and elsewhere, actual cautery, galvanocautery to sclera, electrolysis, galvanocautery paracentesis, deep scleral incisions, "T" shaped and plain, trephining of sclera, division of the retina, silver wire drainage, gold thread drainage, excising a piece of sclera in the ciliary region, Deutschmann's operations, consisting of frequent scleral punctures, "Durchschneidungen," withdrawing subretinal exudate and injecting normal salt solution in the vitreous chamber, etc.

What are the results? Two hundred and fifty of the total two hundred and eighty-one never cured a single case! Many have had promising temporary results, but in the end, failures. Here are some of the comments:

No. 11—Never saw any permanent results.
No. 13—Temporary improvement.
No. 17—Always wished I had used some other treatment.
No. 25—Temporary marked benefit, but no cure.
No. 27—Flattering prospects; ultimate failures.
No. 29—Never obtained satisfaction from any kind of treatment.
No. 30—Repeated failures.
No. 33—Never saw a permanent cure.
No. 34—Never saw a case cured.
No. 35—Cannot recall a case cured.
No. 38—Separation returned.
No. 43—Never saw a cure.
No. 44—No success.
No. 47—Same as yours.
No. 48—Hope unsustained.
No. 54—Results utterly disheartening.
No. 58—Partial relief, but not permanent.
No. 61—No confidence in any proposed treatment.
No. 62—Did not feel encouraged to try any special treatment.
No. 65—Have punctured sclera in several without benefit.
No. 80—Have had no results from rest and diaphoresis.
No. 89—Do not think it is curable.
No. 94—No real improvement.
No. 95—Temporary reattachment; ultimate failure.
No. 104—Usual methods of treatment used without success.
No. 105—Temporary improvement only.
No. 106—I think the treatment had nothing to do with the improvement.
No. 121—Have never seen a detachment cured.
No. 124—Have never witnessed a cure.
No. 126—None benefited by any treatment.
No. 128—Have never seen any permanent results from any form of treatment.
No. 129—Have tried salt injections without avail.

No. 130—Results are not commensurate with time and labor spent.

No. 131—No case would submit to treatment after prospects were explained.

No. 137—Improvement for a short time.

No. 147—I consider detachment of retina a hopeless condition.

No. 149—Invariably a return to detached condition.

No. 152—No positive results with any form of treatment.

No. 153—Rest and let alone—all else is charlatanism.

No. 154—Not even temporary improvement.

No. 160—Went on from bad to worse.

No. 174—Often temporary improvement, but none permanent.

No. 185—Never saw permanent improvement effected.

No. 189—Have seen improvement last a few days.

No. 198—Reattachment followed by spontaneous complete detachment.

No. 206—Have tried everything from k. i. to Deutschmann—result nil.

No. 211—Only cases I have seen cured did not have detachment.

No. 213—Promptly tell my patients their condition is practically hopeless.

No. 223—Forty years' experience—no cures.

No. 226—The only case I ever cured refused all treatment.

No. 227—Error in diagnosis may account for the reported cures.

No. 237—Saw a case cured by Deutschmann who went nearly blind afterward.

No. 238—We read of cures, but do not see them.

No. 242—I shall not promise great results from my experience.

No. 245—Forty-two years of experience—no cures.

No. 246—The reattached cases promptly relapsed after getting up.

No. 253—I give such a poor prognosis patients will not stay.

No. 258—Believe no treatment of any service except in recent cases.

No. 266—Twenty-five years' experience in a large practice—no cures.

No. 270—Consider condition incurable and tell patients so.
No. 279—Knows of spontaneous cure.

There are 250 oculists of renown practicing in the largest cities of the United States, representing on an average twenty years of practice and an experience averaging five cases a year, or about 25,000 cases in all, with the employment of every known line of treatment, as No. 206 says, "from k. i. to Deutschmann," and not a single case of permanent cure in the lot. On the other hand, we have thirty-one oculists who have met with cures. Twenty-five met with a single cure each, four met with two cures, and two met with four cures, making in all forty-one cases reported cured. Two of these cases had detachment due to albuminuria in pregnancy, and they were cured after abortion—they should not be counted, as the treatment is not applicable except in these unusual circumstances. This leaves thirty-nine cures. In about half this number, the "cure" is not convincing from the records submitted, leaving say twenty cases, or less than one cure in every 1000 cases!

In the light of such overwhelming defeat in our attempt to cure this disease, and after having used the knife to puncture and transfix, the cautery to burn holes, the scissors to cut windows, the confinement in a dungeon of darkness with dry diet, purges and sweats, the k. i. and tight bandage, and after all and everything has been tried to have the prospect of cure reduced to less than one out of 1000 cases, I say the treatment is barbarous and even brutal. What else can we say of such fiendish treatment?

Gentlemen, I apologize for using such strong language, and now beg to present the evidence from these 281 eminent witnesses, to show that we are not really justified in resorting to anything but the mildest and most humane measures in the treatment of detachment of the retina until we have a "cure" that cures.

(Here follows the report from circular letters.)

1—Albro, M. Z., Chicago. (a) None.

2—Alt, Adolf, St. Louis. (a) One, age 18. (b) "Myopic detachment since September, 1883. Pilocarpin injections, rest, brought on menses after collapse, retina reapplied after five days and has remained so ever since."

3—Alter, Francis, Toledo. (a) None. (b) "Rest in dark

room, pilocarpin sweats, k. i., mercurials, especially calomel, to keep the bowels wide open, follow with customary use of salts."

4—Appleman, L. F., Philadelphia. (a) None. (b) "Sweats, mercury and iodids, eliminative treatment."

5—Ayres, S. C., Cincinnati. (a) Two. (b) "Rest in darkened room, vapor baths, pilocarpin, k. i., low diet, one recovered, detachment replaced, but relapsed soon."

6—Baer, B. F., Jr., Philadelphia. (a) One (1904). (b) "Rest in bed, atropin, pilocarpin sweats every other day, pressure bandage, subconjunctival salt injection, sod. iodid, patient last seen 12-11-1911, with vis. 6/9+. This case was one of preceding hyalitis and myopia of 4 D."

7—Barck, Carl, St. Louis. (a) None. (b) "Usual medical, etc., operative procedures according to Deutschmann."

8—Beaudoux, H. A., St. Paul. (a) None. (b) "Same as yours. Improved two permanently as far as I know; by that I mean partial reattachment with improved vision."

9—Beard, Chas. H., Chicago. (a) None. (b) "Chiefly medical, about as outlined by you in your letter."

10—Beil, J. W., Kansas City. (a) None. (b) "Same as you have used."

11—Bennett, A. G., Buffalo. (a) None. (b) "Sweats, dionin, rest in bed, tapping. I never saw any permanent results, either in my cases or cases I have seen treated by my colleagues."

12—Behrman, Isadore, Washington, D. C. (a) One. (b) "Unmarried lady, aged 65. Was kept flat on her back seven weeks, eye bandaged with slight pressure with woolen bandage every day by myself. Iron tonics, bowels regulated; result perfect for fifteen years."

13—Bishop, C. Wesley, Minneapolis. (a) None. (b) "Same as yours, scleral puncture in addition, temporary improvement in several cases."

14—Black, Melville, Denver. (a) None. (b) "On back in bed, pilocarpin sweats, scleral puncture, subconjunctival injections of solutions of salt, saccharinate of sodium, etc."

15—Blair, Wm. W. Pittsburg. (a) None. (b) "Rest in bed, dionin, normal salt solution (subconjunctivally) and scleral puncture."

16—Blakesley, T. S., Kansas City. (a) None.

17—Bonner, Horace, Dayton. (a) None. (b) "No matter

what treatment I used I always wished I had used some other one."

18—Bordley, James, Jr., Philadelphia. (a) None. (b) "I remember once, years ago, seeing a case with Dr. Theobald, which, under constant use of pilocarpin, apparently made a complete recovery. This case he reported, I believe, at Utrecht."

19—Bosse, Edwin, H., St. Louis. (a) None. (b) "Salicylate of soda and sweats, pilocarpin and sweats, rest in bed. In two cases punctured sclera without results.

20—Bossidy, John C., Boston. (a) None. (b) "Pilocarpin or scleral puncture."

21—Bowers, John W., Portland, Me. (a) None. (b) "I have always considered detachment as mechanical, even in high myopia."

22—Brinckerhoff, G. Edwin, Oakland. (a) None. (b) "I have tried all the usual methods of treatment. One case I recall that after we had given up, the patient went about groping his way and finally his vision improved very considerably."

23—Broughton, Wm. R., New York. (a) None. (b) "One partially cured, 20/100 vision; treatment same as outlined."

24—Brown, Earl J., Chicago. (a) None. (b) "Rest in bed, sweats, subconjunctival injections, dionin (actual cautery in one case)."

25—Brown, Edward J., Minneapolis. (a) None. (b) "Have seen temporary marked benefit from treatment you mention, but no cures."

26—Brown, E. V. L., Chicago. (a) None. (b) "Rest in bed; have punctured sclera. The Fuchs clinic was 'up against' this same failure."

27—Brown, H. H., Chicago. (a) None. (b) "Have had some flattering prospects, but the ultimate results have been failures."

28—Brown, Samuel H., Philadelphia. (a) None. (b) "Rest in bed for one or two months, sweating, purgation, k. i. as ordinarily advised."

29—Bulson, A. E. Jr., Ft. Wayne. (a) None. (b) "I have never yet seen one that obtained any very satisfactory improvement from any kind of treatment adopted."

30—Burck, Frank E., St. Paul. (a) None. (b) "Exactly same as yours, have tried this repeatedly."

31—Butler, W. K., Washington, D. C. (a) None. (b) "Have tried rest in bed, subconjunctival salt injections, alteratives, sweats, without avail."

32—Calhoun, F. P., Atlanta. (a) One. (b) "Rest in bed, pilocarpin sweats, syr. hydriodic acid."

33—Callan, Peter A., New York. (a) None. (b) "I have never seen a permanent cure. I have had temporary improvement. The late Dr. Henry D. Noyes in his work stated that he had four spontaneous cures."

34—Carpenter, John T., Philadelphia. (a) None. (b) "In more than twenty years' practice I have never seen a case cured."

35—Carroll, J. J., Baltimore. (a) None. (b) "I cannot recall any case of nontraumatic detachment of the retina permanently cured; i. e., return to normal both as to central and peripheral vision."

36—Chamberlin, J. W., St. Paul. (a) None. (b) "The regular routine, but with varying and temporary improvement."

37—Chance, Burton, Philadelphia. (a) None. (b) "One did well by methods you detail with paracentesis, but, alas! missing her way in the dark hallway, the lady fell down a long flight of steps (about two years later) with effect of total convoluted detachment resulting."

38—Chandler, H. B., Boston. (a) None. (b) "Several showed temporary improvement. Even when scleral puncture was performed, separation returned."

39—Cheney, Frederick, Boston. (a) None. (b) "Rest in bed and scleral puncture. It has seemed to me that in a certain number of cases, the separation has been nonprogressive for a much longer time than was to be expected, as a result of scleral puncture." (Refers to two cases cured by E. K. Ellis (*vide infr.*) reported in *Knapp's Archives*, 1909, No. 3.)

40—Charles, J. W., St. Louis. (a) None. (b) "As outlined."

41—Cohen, Lee, Baltimore. (a) None. (b) "Rest in bed, sweating, iodids, etc."

42—Coleman, W. F., Chicago. (a) None. (b) "In one with high myopia, a double galvanocautery puncture restored vision in forty-eight hours and retina was reattached, relapse, double puncture, improvement, relapse and cataract occurred

a year later." (Refers to the success reported by Stillson by double galvanocautery puncture.)

43—Connor, Ray, Detroit. (a) None. (b) "Have never seen one permanently cured."

44—Coover, D. H., Denver. (a) None. (b) "Same as yours and tapping through the sclera, but no success."

45—Claiborne, J. H., New York. (a) None. (b) "Rest, atropin, pilocarpin and resignation."

46—Clapp, C. A., Baltimore. (a) None. (b) "Sweats, rest in bed, and at times k. i."

47—Clark, C. F., Columbus, O. (a) None. (b) "My experience has practically coincided with your own."

48—Croskey, John W., Philadelphia. (a) None. (b) "Active mercurials, salicylates, iodids, pilocarpin, dorsal position, pressure bandage, scleral puncture followed by injection of salt solution in the vitreous chamber in hopes that retina might reattach."

49—Cross, F. B., Cincinnati. (a) None. (b) "The routine, rest in bed, etc."

50—Curdy, R. J., Kansas City. (a) None. (b) "Pilocarpin sweats, rest in bed, posterior sclerotomy."

51—Curry, G. E., Pittsburg. (a) None. (b) "Rest in bed, compress bandage, pilocarpin, k. i., mercurials."

52—Darling, C. G., ————. (a) None.

53—Davis, A. E., New York. (a) One. (b) "Scleral puncture, rest in bed for three weeks, atropin, bandaging; patient, a man aged fifty-five, had been seen six months before when vision = 20/20 with + 1.25 D., fundus normal, detachment in lower half, cause unknown. Complete reattachment and restoration of visual field. Observed for a year—no relapse, patient disappeared.

54—Dean, L. W., Iowa City. (a) None. (b) "Have tried every medical and surgical procedure that I have found recounted for amotio retinæ. My results utterly disheartening. Have wondered how it was possible for others to have secured the favorable results they have reported."

55—Defour, C. R., Washington, D. C. (a) None. (b) "Same as you have stated."

56—Derby, Geo. S., Boston. (a) None.

57—Derby, Hasket, Boston. (a) None. (b) "Same as your own."

58—Dixon, L. S., Boston. (a) None. (b) "I have sometimes obtained partial relief, but not permanent; could not call them 'cures'."

59—Dodd, Oscar, Chicago. (a) One. (b) "Others permanently improved. Deutschmann's operation repeated once in the cured case, with rest in bed, bandage. Have never seen any permanent benefit from any other treatment and have tried about everything." (See Discussion, Dodd's paper, 1910 meeting American Medical Association.)

60—Dowling, Oscar, Shreveport, La. (a) None. (b) "Rest, pilocarpin, etc."

61—Duane, Alexander, New York. (a) None. (b) "Rest, subconjunctival injections, pilocarpin (neither of these last two, however, in any thoroughgoing way, since they were badly borne). I did not have confidence enough in the various measures that have been proposed to try them."

62—Dudley, Wm. H., Los Angeles. (a) None. (b) "Most of my cases came in an advanced stage and I did not feel encouraged to try any special treatment."

63—Dye, Hobart, Washington, D. C. (a) None.

64—Ehrhardt, R. T., St. Louis. (a) None (?) (b) "Recumbent position with rest and nature must readhere the retina or it remains detached."

65—Ellett, E. C., Memphis. (a) None. (b) "Have treated about a dozen cases with rest, k. i., and pilocarpin. In one of these the retina reattached after I gave up treatment, but vision remained poor, 6/200. Have punctured the sclera in several, and all without benefit." (For report on interesting case, see Ellett's letter in Appendix of this article.)

66—Ellis, Bert H., Los Angeles. (a) None. (b) "Rest, dark room, pilocarpin sweats, k. i. to limit, dionin locally. The dionin has given me more and better results than anything else, but they have not been permanent."

67—Ellis, E. K., Boston. (a) Two. (b) "I am sending reprint containing history of these two cases (*Knapp's Archives*, Vol. XXXVIII, No. 3, 1909). I have seen both cases recently and after six and five years respectively, both retain the vision as given in the reprint. I have followed the same method in at least twenty others with no particular benefit, but I feel it is worth trying." (Note.—The first cured had vision equal to counting fingers at five feet, was put through heroic

treatment with bandage, scleral puncture, etc., and frequent subconjunctival injections of strong salt solution 5 to 20 per cent, sometimes twice a day. Ultimate vision 20/40. The second case came with vision 10/200; same plan of treatment except that instead of salt solution, 5 per cent dionin was used subconjunctivally three times. Recovery, relapse, recovery final and 20/30 vision.)

68—Ewing, A. E. St. Louis. (a) None.

69—Faith, Thos., Chicago. (a) None. (b) "Rest in bed, pilocarpin, saline catharsis, subconjunctival injections salt solution and dionin, internal administration of k. i. Deutschmann's operation repeated three times in two cases."

70—Farrell, P. J. H., Chicago. (a) None. (b) "Dark room, sclerotomy, all the various and many therapeutic agents advised."

71—Fisher, Wm. A., Chicago. (a) None. (b) "Bed for six weeks, draw off fluid, eliminatives, pilocarpin, k. i., inunctions, atropin, subconjunctival injections of salt solution, dionin. Have the nurse read Darier on treatment of detachment of the retina for encouragement."

72—Fiske, Geo. F., Chicago. (a) Two. (b) "Two cures in thirty years. Treatment like your own, not cured by me, but peculiar cases."

73—Fleming, G. A., Baltimore. (a) None. (b) "Rest and alterations with sweats."

74—Fox, L. Webster, Philadelphia. (a) None. (b) "Sclera is punctured with broad needle to allow subretinal fluid to escape. I puncture every third day until ten punctures have been made. Every other day an electric bath to produce profuse sweating." (Fox refers to article of Bettremieux on sclerotomy. See *Ophthalmology*, July, 1912.)

75—Francis, Chas. H., Chicago. (a) None. (b) "Pilocarpin and other sweats, k. i., subconjunctival injections, dionin, rest in bed, bandage, scleral puncture."

76—Francis, L. M., Buffalo. (a) One. (b) "Detachment in case of six months' pregnant woman with edema and eclamptic symptoms. Uterus was emptied, patient given baths and eliminatives. Second day after abortion retina was replaced and has remained so ever since."

77—Frank, Mortimer, Chicago. (a) One. (b) "Established treatments. This case is now five years' standing, vision 6/9."

78—Franklin, Clarence P., Philadelphia. (a) None. (b) "The usual treatment."

79—Fridenberg, Percy, New York. (a) None. (b) "One or two improved; usual treatment, dry diet, subconjunctival injections of salt and sugar, which were painful and of no use. Pressure bandage seemed to do well in a number of cases."

80—Fridenwald, H., Baltimore. (a) None. (b) "Puncture of sclera has given me one case of permanent reapplication of the retina (without restoration of vision). Have had no results from rest and diaphoresis."

81—Frost, John R., Philadelphia. (a) None. (b) "Same as yours. There seems to be nothing which promises better."

82—Gamble, Wm. E., Chicago. (a) None. (b) "I have seen a few that seemed temporarily 'cured'."

83—Gardiner, E. J., Chicago. (a) None.

84—Getty, Mary, Philadelphia. (a) None.

85—Gifford, H., Omaha. (a) None. (b) "One case seemed to be cured by scleral puncture, but it may have been traumatic and was not followed for more than a year."

86—Gilbert, F. Y., Portland, Me. (a) None. (b) "Rest (absolute), light diet, pilocarpin, etc."

87—Gildersleeve, C. C., Woodstock. (a) None.

88—Gill, M. H., Hartford. (a) None. (b) "Treatment as you have indicated; without success."

89—Goldberg, H. G., Philadelphia. (a) None. (b) "I do not think it is curable."

90—Goldenberg, M., Chicago. (a) None. (b) "Sweats, purgation, recumbent position, tonics, posterior sclerotomy, etc., etc."

91—Gosney, Chas. W., Kansas City. (a) None.

92—Goux, L. J., Detroit. (a) None. (b) "Rest in bed and same as yours excepting steam sweats."

93—Gradle, H., Chicago. (a) None. (b) "Rest will sometimes do it; if not, operative treatment." (Gradle refers to Elschnig's operation of excising a crescentic patch of sclera in the ciliary region, which he has seen yield qualitative vision where only quantitative vision formerly existed.)

94—Graef, Chas., New York. (a) None. (b) "Have tried the plan outlined for over two months faithfully at a stretch in two cases. No real improvement. Have tried same over shorter periods with no better results."

95—Green, John, Jr., St. Louis. (a) None. (b) "In several, temporary reattachment followed prolonged recumbent posture, sweats and k. i. Have never resorted to surgical methods."

96—Greene, D. W., Dayton. (a) One. (b) Patient operated on by Greene fourteen years ago for detached retina. Case recently examined by Van Note, of Lima, Ohio, who states the following: "Ophthalmoscopic examination reveals the retina reattached and a linear scar extending from the disc laterally on either side. The lower half of fundus is dotted with small round deposits of pigment, as in disseminated chorioretinitis."

97—Greenwood, Allen, Boston. (a) One. (b) "Dark room, bandage and subconjunctival salt solution injections. Complete reattachment, lasting now seven years. Whole lower half of retina was detached; myopia 6 D.; full visual field, but very narrow; linear scotoma where retina folded. This field shows as a white line horizontally across fundus with a break at the disc." (Greenwood refers to the two cases cured by E. K. Ellis—see above.)

98—Griscom, J. Milton, Philadelphia. (a) None. (b) "Posterior sclerotomy, injection of normal salt solution in vitreous chamber, bandage, bed, sweats and k. i."

99—Gross, Julius H., St. Louis. (a) None. (b) "Bichlorid of mercury internally, gr. 1/12 to 1/10. Kept patient quiet."

100—Grove, B. H., Buffalo. (a) None. (b) "I have used incisions through sclerotic, etc., with apparent advantage in a few cases."

101—Guilford, Paul, Chicago. (a) None. (b) "Absolute rest in bed, pilocarpin, sweats, dionin, k. i.

102—Hagler, A. L., Springfield, Ill. (a) None. (b) "Rest, dark room, k. i."

103—Hagler, E. E., Springfield, Ill. (a) One. (b) "Absolute rest in bed, atropin, k. i., elimination."

104—Hallock, Silas F., New York. (a) None. (b) "Have tried the usual methods of treatment, but without success, in several cases."

105—Hansell, H. F., Philadelphia. (a) None. (b) "Temporary improvement only from puncture, sweating and rest."

106—Harlan, Herbert, Baltimore. (a) None. (b) "But

have seen several improved greatly (which might be considered 'cured'), long after all treatment had been discontinued, with which rare and happy outcome I think the treatment had nothing to do."

107—Hawley, C. W., Chicago. (a) None. (b) "One case; reattachment was secured by large doses of dionin and pilocarpin sweats, but a detachment occurred later in another part of the same retina."

108—Heath, F. C., Indianapolis. (a) None. (b) "Rest in bed, iodids and other eliminatives, pilocarpin, etc."

109—Heckel, E. B., Pittsburg. (a) None.

110—Henderson, F. L., St. Louis. (a) None. (b) "Everything."

111—Herbert, J. F., Philadelphia. (a) None. (b) "Same as yours. None of my cases ever recovered full vision; the portion which had become detached, when it returned to place, lost more or less of its sensitiveness. Many detachments never did go back, in spite of every possible thing that could be thought of and done for the patient."

112—Holden, Ward A., New York. (a) One. (b) "In one case a partially detached retina became reattached permanently after about two years' time. The other eye was blind from an earlier detachment and the patient was willing to spend many months in bed and many more leading a very quiet life."

113—Holloway, T. B., Philadelphia. (a) None.

114—Holmes, C. R., Cincinnati. (a) One. (b) "Cure lasting one year. Pilocarpin injections and rest."

115—Holt, E. E., Portland, Me. (a) One. (b) See *American Journal of Ophthalmology,* 1886, for details. "Rest (not in bed), massage, diet, pilocarpin infusion, etc., as per paper of Mittendorf, of New York." (See letter in Appendix for further details.)

116—Hood, T. C., Indianapolis. (a) None. (b) "In three cases treated with pilocarpin, sodium salicylate and k. i., two went on to blindness. The third was an albuminuric; reattached and vision improved. Detachment occurred before patient died from chronic nephritis."

117—Hopkinson, George, Boston. (a) None. (b) "Have known of a case, as stated by Miles Standish, where the retina apparently split spontaneously and later became reattached, but for how long, I am unaware."

118—Howe, Lucien, Buffalo. (a) None. (b) Howe recites a case of apparent cure after puncture was made by Graefe's method with two needles. (See letter, Appendix.)

119—Jack, E. E., Boston. (a) None. (b) "Bed, pilocarpin, subconjunctival salt injections and puncture of sclera through retina at site."

120—Jackson, Edw., Denver. (a) None. (b) "Rest in bed, sweats, subconjunctival injections. Puncture of sclera and retina repeated."

121—Jean, G. W., New York. (a) None. (b) "In two years in Vienna and London and three years at New York Eye and Ear Infirmary, I have never seen detachment cured. The fashion here now is subconjunctival injections of salt solution or dionin."

122—Jennings, J. Ellis, St. Louis. (a) None. (b) "Rest in bed, tight bandage and injections (subconjunctivally) of normal salt solution."

123—Keiper, Geo. F., LaFayette, Ind. (a) None.

124—Kettlestrings, F. W., Chicago. (a) None. (b) "Have never witnessed a cure in the practice of others."

125—Kilburn, H. W., Boston. (a) None. (b) "Rest in bed in dark room, pilocarpin sweats, cathartics, compressive bandage."

126—Kimberlin, J. W., Kansas City. (a) None. (b) "None benefited by any treatment."

127—Klokke, W. E., St. Louis. (a) None. (b) "Same as yours."

128—Knapp, Arnold, New York. (a) None. (b) "I am sorry to say I have never seen any permanent results from any form of treatment, medicinal or operative."

129—Knipe, J. C., Philadelphia. (a) None. (b) "Have also tried salt solution injections without avail."

130—Krauss, Frederick, Philadelphia. (a) None. (b) "I have seen temporary results from rest, pilocarpin, iodids and scleral puncture, but have always felt that the result was not commensurate with the time and labor expended."

131—Lamb, R. S., Washington, D. C. (a) None. (b) "Cannot recall any case who would submit to the treatment, after having had explained the prospects of a cure. I have never urged treatment."

132—Lambert, W. E., New York. (a) None. (b) "The usual treatment."

133—LaForce, E. Frank, Burlington, Iowa. (a) None. (b) "Practically same as yours for two months."

134—Ledbetter, S. L., Birmingham, Ala. (a) None (b) "Iodids, fl. ext. jaborandi, pilocarpin, rest and operative treatment."

135—LaFever, C. W., Philadelphia. (a) None. (b) "Have had temporary cures. Sclerotomy has been most successful. I always give mercurial inunctions to point of gingivitis; also bandage, rest in bed, sweats, atropin, etc."

136—Loeb, Clarence, St. Louis. (a) None. (b) "Same as yours."

137—Love, L. F., Philadelphia. (a) None. (b) "Have tried most everything. In many cases there was improvement for a short time."

138—Lebensohn, M. H., Chicago. (a) None. (b) "Same as yours, medicinal treatment."

139—Lichtenberg, J. S., Kansas City. (a) None. (b) "As above; also in some cases subconjunctival injections of salt solution up to 5 per cent, with a little acoin to diminish pain."

140—Libby, G. F., Denver. (a) None. (b) "Sweating, k. i. to limit, catharsis." (See letter in Appendix.)

141—Little, A. H., Portland, Me. (a) None. (b) "Practically same."

142—McConachie, A. D., Baltimore. (a) None. (b) "Rest in bed on back, compress bandage, atropin, pilocarpin, k. i., cautery to sclera, paracentesis, subconjunctival salt solution, isotonic and hypertonic, dionin injection 10 per cent."

143—McDavitt, Thos., St. Paul. (a) None. (b) "The only case I thought was really benefited was given the following treatment: Bed in dark room, subconjunctival injections dionin. The improvement lasted a number of months. Have not heard from the case for several years."

144—McReynolds, J. O., Dallas. (a) Some. (b) (See letter in Appendix.)

145—Madden, Wm. Boston. (a) None. (b) Refers to Ellis' cases, see above.

146—Mann, G. W., Chicago. (a) None. (b) "Dr. Starky, of Rockford, had a case recover, which I saw. I do not remember the treatment."

147—Marple, W. B., New York. (a) None. (b) "I consider detachment of retina a hopeless condition. I have tried

everything." (For interesting account of Marple's experience, see letter in Appendix.)

148—Martin, H. H., Savannah. (a) None. (b) "Have tried all that I have ever heard of."

149—May, Chas. H., New York. (a) None. (b) "Most often rest on back, atropin, bandage, pilocarpin, and hot-pack sweats, iodid of potassium, etc. I have also tried sclerotomy at the situation of the detachment; also sclerotomy combined with cautery at this point. Results equally unsatisfactory in every instance. Sometimes some improvement for a few days, but invariably a return to detached condition."

150—May, J. W., Kansas City. (a) None. (b) "Practically same as yours except bichlorid in large doses, 1/10 gr. t. i. d. per orem in place of k. i. or in combination with it." (May refers to work of G. W. Maser, Parsons, Kansas, who claims "same percentage of cures as Deutschmann" and by the same operative procedures. See *Medical Fortnightly,* St. Louis, 1912.)

151—Meierhof, E. L., New York. (a) None.

152—Miller, F. W., Los Angeles. (a) None. (b) "I think I have used every possible form and method of treatment, but with no positive result."

153—Minney, J. E., Pasadena. (a) None. (b) "Rest, k. i., etc. Rest and let alone is the treatment. I consider anything else charlatanism."

154—Minor, Chas. L., Springfield, Ohio. (a) None. (b) "Have had four cases in the last few years. Not improved by any treatment, even temporarily."

155—Montgomery, W. T., Chicago. (a) None. (b) "Similar to yours. In addition have used galvanocautery puncture. Have reported these cases at meeting American Medical Association at Atlanta, Georgia, twelve or fifteen years ago."

156—Moore, C. C., Philadelphia. (a) None. (b) "About same as yours. In bed and alteratives, hg. and k. i. I have not operated on a case; believe it justifiable."

157—Moore, T. W. Huntington. (a) None. (b) "Rest in bed, pilocarpin sweats, etc."

158—Morrison, F. A., Indianapolis. (a) None. (b) "Have tried about all—iodids, rest, sweats, simple scleral punctures and deep scleral incisions. Have had very temporary improvement from scleral puncture."

159—Moulton, W. B., Portland, Me. (a) None. (b) "Same as yours with variations. Best results from rest in recumbent position."

160—Muetze, H., St. Louis. (a) None. (b) "I have tried everything recommended in the textbooks and literature of the last fifteen years. The few cases of idiopathic amotio retinæ I have seen went on from bad to worse."

161—Muncaster, S. B., Washington, D. C. (a) One. (b) "School girl, aged 18. Iodid potassium, rest in bed for six weeks."

162—Mundt, G. H., Chicago. (a) None. (b) "No results from treatment."

163—Murphy, J. W., Cincinnati. (a) None.

164—Murray, W. R., Minneapolis. (a) None. (b) "Have never gotten a permanent cure by either medical or surgical treatment."

165—Nance, W. O., Chicago. (a) None. (b) "As outlined in your letter."

166—Neeper, E. K., Colorado Springs. (a) None. (b) "Everything."

167—Norris, E. J., St. Louis. (a) None. (b) "One case of this kind, a boy aged 12, seemed to be a congenital affair. Vision was much improved by careful refraction tests, but fundus remained the same."

168—Oliver, Chas. A., Philadelphia. (a) None. (b) "Absolute and protracted rest in bed, all kinds of eliminatives, sweats, purges, etc. All kinds of iodin preparations, punctures, etc.

"This has been the unfortunate experience in the above of Dr. Chas. A. Oliver."—Signed, CHARLES J. JONES.

169—Owen, F. S., Omaha. (a) One. (b) "Pilocarpin, moderate doses k. i., rest in bed in a dark room for four months, ten years ago, and has remained cured."

170—Paine, Geo. F., St. Louis. (a) None.

171—Pancoast, J. Wm., Philadelphia. (a) None. (b) (For interesting and unique experience with a case, see Pancoast's letter in Appendix of this article.)

172—Parker, F. P., St. Louis. (a) One. (b) "Rest in bed with subconjunctival injections normal saline solution. Think this was more providential than anything else. Aside from this one, have never seen any cures."

173—Parker, H. H., Indianapolis. (a) None. (b) "If a fresh case, rest in bed, sweats, subconjunctival injections concentrated salt solution. In one case scleral puncture. Old cases, no treatment advised except moderately frequent observation for possible tension."

174—Parker, W. R., Detroit. (a) None. (b) "Rest in bed for a period of six weeks' time, pilocarpin, steam sweats, repeated punctures and puncture with counter-puncture, including division of the retina. Often seemed temporarily improved, but never a single case of permanent cure."

175—Patterson, J. A., Colorado Springs. (a) None. (b) "Rest in bed and pilocarpin sweats."

176—Patillo, R. S., Chicago. (a) None. (b) "Similar to your own."

177—Payne, D. A., Chicago. (a) None. (b) "Have had no cases nontraumatic detachment except due to tumor."

178—Payne, S. M., New York. (a) None. (b) "Same as yours." (For result of conference with Dr. Webster concerning cured cases observed in Webster's practice, see Payne's letter in Appendix.)

179—Peter, L. C., Philadelphia. (a) None. (b) "Similar to your own."

180—Peterson, H. E., Baltimore. (a) None. (b) "About fourteen years ago, while I was resident physician at the Baltimore Eye, Ear, Nose and Throat Hospital, I had under my care a patient of Dr. Theobald's, who was permanently cured by pilocarpin sweats. The eye was myopic. I met the man on the street a couple of years ago and he told me his eye was still in good condition." (Vide infr. Theobald.)

181—Pischel, Kasper, San Francisco. (a) Two. (b) "Puncture of eyeball, electrocautery, salt injections subconjunctivally, dionin."

182—Polkinhorn, H. A., Washington, D. C. (a) None. (b) "Rest in bed, pilocarpin sweats, atropin (at times) locally; also dionin, leeching, salt injections. Final results always negative."

183—Pooley, Thos. R., New York. (a) One. (b) "Postural, k. i., pilocarpin. The rigid adherence to the postural treatment was in my mind responsible for the cure. The case was one of high myopia in both eyes."

184—Post, M. H., St. Louis. (a) None. (b) "Various treat-

ments; have never used any surgical treatment. Have seen retina reattach as a sequence of confinement in bed from other causes, but these two cases occurred so long ago that I am not very certain about the details."

185—Prince, A. E., Springfield, Ill. (a) None. (b) "Have never seen any permanent improvement effected by any kind of operative treatment for any kind of detachment. Have heard of such cases, but have not seen one myself."

186—Quackenboss, A., Boston. (a) None.

187—Radcliffe, M., Philadelphia. (a) None. (b) "Improved one case for nine months, but she finally went blind. I use pilocarpin, k. i., sweats, thyroid extract, gr. j, t. i. d., compress bandage, but all with very limited success."

188—Ranley, John, Cincinnati. (a) None. (b) "Lying flat on back in dark room, k. i. to limit, subconjunctival injections normal salt solution."

189—Ray, J. M., Louisville. (a) None. (b) "Six weeks in bed, sweats, hot baths, puncture, etc. Have seen improvement lasting a few days or a week after patient was allowed up and about."

190—Ray, Victor, Cincinnati. (a) None. (b) "Subconjunctival injections, puncture of sclera, rest in bed with eyes bandaged, sweats and k. i."

191—Reber, Wendell, Philadelphia. (a) None. (b) "Same as yours, only I add large subconjunctival injections of normal saline solution."

192—Reed, W. M., Kansas City. (a) None. (b) "Subconjunctival injections of salt, pilocarpin, rest in bed, bandaging, iodids, laxatives when necessary."

193—Reik, H. O., Baltimore. (a) None. (b) "Rest, diaphoresis, even scleral puncture."

194—Reim, Hugo, St. Louis. (a) None. (b) "Some inject a few drops of decinormal salt solution under the conjunctiva every two or three days and keep the patient on his back."

195—Remmer, N. E., Chicago. (a) None. (b) "Have had some good results by simply puncturing and letting out the fluid. Have not been able to observe them long enough to say they were permanently benefited."

196—Renaud, G. L., Detroit. (a) None.

197—Rinehart, H. D., Dayton. (a) None. (b) "Same as yours, outlined in your letter."

198—Risley, J. N., Philadelphia. (a) None. (b) "Recumbent position, posterior sclerotomy, diaphoresis; reattachment for about three months, then spontaneous complete detachment."

199—Risley, Samuel, Philadelphia. (a) One. (b) (For report on this and interesting observations, see Risley's letter in Appendix.)

200—Roberts, W. H., Pasadena. (a) None. (b) "Same as yours."

201—Rogers, W. K., Columbus. (a) None. (b) "Everything that any one has suggested."

202—Roy, Dunbar, Atlanta. (a) None. (b) Same as above. My experience coincides with that of yours.

203—Satterlee, R. H., Buffalo. (a) None. (b) "Have had some increase of vision and permanent benefit from puncturing, causing a reattachment, but no real cure in the proper sense of the term."

204—Sattler, Robert, Cincinnati. (a) None. (b) "Similar to above, beside punctures and drainage with silver wire, etc."

205—Savage, G. C., Nashville. (a) None. (b) "Such as outlined by you above. In one day this past week I had two cases, one of which had detachment of both retinas." (For interesting account of an entirely new treatment devised by Savage since the above was received, see letter in Appendix.)

206—Saxl, E., St. Louis. (a) None. (b) "Tried everything from k. i. to Deutschmann."

207—Saylor, E. S., Philadelphia. (a) None. (b) "Position and practically same course you have pursued."

208—Scales, J. W., Pine Bluff, Ark. (a) None. (b) "I have never seen a case of retinal detachment which was not of traumatic origin."

209—Schutz, W. H., Kansas City. (a) None.

210—de Schweinitz, G. E., Philadelphia. (a) One. (b) (For interesting account of de Schweinitz's experience in treatment detachment of retina, see his letter in subjoined Appendix.)

211—Schwenk, P. N. K., Philadelphia. (a) None. (b) "Pilocarpin sweats, in bed, iodids, low diet, saline purgatives. The only cases that have been cured were not detached retina, but diagnosis was in error."

212—Seabrook, H. N., New York. (a) None. (b) "Various treatment, rest, etc.; later on operative."

213—Shahan, Wm. E., St. Louis. (a) None. (b) K. i., pilocarpin, etc. I regard the condition as practically hopeless, and promptly acquaint my patients with my state of mind."

214—Sharpe, A. H., Philadelphia. (a) None. (b) "The only case I had was due to trauma and had to be operated on ten years after injury."

215—Sherer, J. W., Kansas City. (a) None. (b) "Have tried all the methods of treatment recommended."

216—Sherman, H. C., Cleveland. (a) None. (b) "Ask something easy."

217—Shoemaker, J. F., St. Louis. (a) None. (b) "Rest in dark room, subconjunctival injections dionin, internal administration k. i. and hg."

218—Shoemaker, W. A., St. Louis. (a) None. (b) "Rest in bed, sweats and k. i."

219—Shoemaker, Wm. T., Philadelphia. (a) Three or four or more. (b) "Scleral puncture evacuating the subretinal fluid."

220—Shumway, E. A., Philadelphia. (a) None. (b) "Have had none under my personal care."

221—Simpson, J. D., Minneapolis. (a) None.

222—Silex, Prof. Dr., Berlin. (See letter in Appendix.)

223—Smith, Eugene, Detroit. (a) None. (b) "Puncture of sclera, gold thread drainage, a la Wecker, rest on back and pilocarpin, kali iod., etc., etc. Treated many during past forty years: all failures. Scleral puncture afforded relief in some cases for several days, but relapses followed."

224—Smith, E. T., Hartford, Conn. (a) None. (b) "Have tried every treatment of which I have heard."

225—Smith, Jos. I., Philadelphia. (a) None. (b) "About the same as yours. We have had quite a number of cases in our hospital."

226—Snydacker, E. F., Chicago. (a) One. (b) "The only case I have seen cured was that of a young man who would not submit to any kind of treatment whatsoever. When told he must lie on his back for weeks, and even then the condition would probably recur, he refused all treatment. In a few weeks the detachment fell back in place, and four years after the detachment, to my knowledge, he was well.

227—Snyder, W. H., Toledo. (a) None. (b) "Have never had a case which even approximated a cure. If by

'cure' you mean a reposition with normal vision, I do not think it will ever be done. There is always the possibility of error in diagnosis; some cases reported as 'cured' may have been such."

228—Spratt, C. W., Minneapolis. (a) None. (b) "Rest, scleral puncture."

229—Stacey, Chas. F., Boston. (a) None. (b) "Same as yours, rest, k. i., pilocarpin and sweats."

230—Starr, Elmer, Buffalo. (a) None. (b) "Recumbent posture with eliminative treatment, scleral puncture, retinal puncture."

231—Stevens, H. B., Boston. (a) None.

232—Stieren, Edw., Pittsburg. (a) None. (b) "Same as yours."

233—Stall, K. L., Cincinnati. (a) None. (b) "None permanently."

234—Stricker, Louis, Cincinnati. (a) None. (b) "Same as your method of treatment."

235—Strout, E. S., Minneapolis. (a) None. (b) "Treatment as above with addition of dionin and 5 per cent subconjunctival injections of salt solution."

236—Stucky, J. A., Lexington. (a) None. (b) "Ditto."

237—Sturm, S. A., Pittsburg. (a) None. (b) "As above. I had one case that was operated on in 1907 by Deutschmann, of Hamburg. I saw him in 1911 again and his retina was attached. He was then suffering from optic neuritis and was almost blind."

238—Suker, Geo. F., Chicago. (a) None. (b) "Do not know of anyone who has. Treatment—too numerous to mention; one line as good as another; only temporary results. We read of cures, but do not see them. I believe operative measures give best results, such as they are. One cannot speak of 'cures' in the strict sense of the term."

239—Tangeman, C. W., Cincinnati. (a) None. (b) "Pilocarpin, sweating, rest, sealing up eye. I recall treating four cases with results amounting to practically nothing."

240—Tarum, Wm., Baltimore. (a) None. (b) "Same as outlined above." Tarum kindly sent a letter written by a layman who had gone to Hamburg to Deutschmann's clinic. As this letter is of no scientific interest, I only publish extracts from it. (See letter, Appendix.)

241—Taylor, T. M., New York. (a None. (b) "About as you have indicated."

242—Tenny, J. A., Boston. (a) None. (b) "Have tried treatment outlined in your letter and never saw it do any good. I have some cases on hand and shall try the method set forth by Stillson, of Indianapolis, namely, letting out the liquid with galvanocautery or using a cataract knife. I shall not promise great results from what I know of the disease."

243—Theobald, Samuel, Baltimore. (a) One. (b) "Rest in bed, pilocarpin; eye was myopic. Case is reported in *Knapp's Archiv. Ophthal.*, 1900, Vol. XXIX, No. 1. In more recent cases I have thought subconjunctival injections of salt solution helpful."

244—Thigpen, C. A., Montgomery. (a) None. (b) "Tapping through sclera, cautery and trephine; constitutional treatment."

245—Thompson, J. L., Indianapolis. (a) None. (b) "Pilocarpin with profuse sweating, rest in bed, k. i. I have had a large number of cases in a practice of exclusive eye work for forty-two years and have never met with a cure. Write to Prince, of Springfield, Illinois, who can tell you of cured cases reported by other eye men in which Prince had to enucleate the cured eye." (Thompson writes further concerning the subject. See letter, Appendix.)

246—Thompson, E. S., New York. (a) None. (b) "Have tried all usual methods, but have only gotten a reattachment in a small proportion of cases. Even in these the detachment promptly recurred when the patient got out of bed. Have recently been trying subconjunctival injections of dionin after the suggestion of R. G. Reese, of New York, but have had no success at all."

247—Thorington, J., Philadelphia. (a) None. (b) "Same as yours, including the use of dionin."

248—Thorpe, L. S., Los Angeles. (a) None. (b) "Have given up treatment for this condition, excepting the relief of any conditions bearing upon the etiology."

249—Thuner, A., Detroit. (a) None. (b) "About the same as yours."

250—Timberman, N., Columbus. (a) One. (b) "Complicating pregnancy and albuminuria; abortion induced, elimination treatment, hot packs and pilocarpin sweats. Vision,

p. 1 before treatment (oc. ambi), became: Right 20/40, Left 20/30. The retina was positively detached." (See letter, Appendix.)

251—Tingley, L. P., Boston. (a) None.

252—Tivnen, R. T., Chicago. (a) None. (b) "Absolute rest, recumbent position, dark room, sweats and k. i."

253—Todd, Frank C., Minneapolis. (a) None. (b) "Rest in bed with depletion (sweats); but I give such a poor prognosis that most patients do not take treatment; therefore, experience is limited and unsatisfactory."

254—Turnball, C. S., Philadelphia. (a) None. (b) "Same treatment as yours, except that the full doses of k. i. followed a full mercurial course in advance, and my only success has been in 'traumatic cases.'" (Turnball facetiously remarks as a travesty on "statistics" that he has "likely cured" twenty or thirty cases in as many years.)

255—Turner, J. B., Philadelphia. (a) None. (b) "The case I reported was well for two months after rest in bed with head depressed, but relapse ensued after riding over rough roads." (Turner refers to a case now under treatment in the hands of P. H. Moore, Philadelphia, which is doing well after one scleral puncture and draining off the subretinal fluid combined with numerous punctures through sclera and retina with surgeon's needle. No return of detachment in five weeks; too soon to report "cured.")

256—Tydings, O., Chicago. (a) None. (b) "Rest in bed, subconjunctival injections, pressure bandage, pilocarpin sweats, iodids, salicylates, etc."

257—Tyson, H. H., New York. (a) None. (b) "Saline injections (subcon.), sweats, salicylates, iodids, rest in bed, four to six weeks or longer."

258—Valk, Francis, New York. (a) None. (b) "Believe no treatment of any service except in recent detachment, when operative interference may be of much service."

259—Verhorff, F. H., Boston. (a) None.

260—Vinsonhaler, F., Little Rock. (a) None. (b) "Pilocarpin, rest, k. i."

261—Walter, Will, Chicago. (a) None. (b) "Same as yours."

262—Ware, L., Chicago. (a) None. (b) "Nor have I ever seen a case of detachment cured. Have had a number my-

self and have seen several in consultation. Treatment same as yours."

263—Weed, H. L., Buffalo. (a) None. (b) "About same as you have outlined. Have used no surgical measures."

264—Weeks, John E., New York. (a) None. (b) "Have treated two cases by multiple punctures penetrating the retina. Reattachment over the punctured areas occurred and was maintained while the patients were under observation, six weeks and four weeks, respectively, after the last series of punctures. Vision was very considerably improved in both cases."

265—Wells, David W., Boston. (a) None. (b) "Have no permanent cure to my credit. Have never tried any operative treatment, depending on rest in bed. Inclined to try the scleral puncture."

266—Wescott, C. D., Chicago. (a) None. (b) "In over twenty-five years of experience have seen no case of non-traumatic detachment of the retina permanently cured, and my assistant has been through my records carefully, that I might speak by the card."

267—Wiener, A., New York. (a) None. (b) "As above, including operative measures."

268—Wiener, Meyer, St. Louis. (a) Four. (b) "Rest in bed, restricted liquids, small doses k. i., occasionally bromids." (Wiener lays great stress on the value of the roller bandage and rest in bed and subconjunctival salt solution. He has two cases now undergoing this treatment combined with the usual local and general measures, both of which are very promising. He writes of a case of cure that occurred in a classmate of his who suffered a detachment fifteen years ago. Cure complete.)

269—Wilkinson, Oscar, Washington. (a) One. (b) "Rest in bed, pilocarpin injections, sweats, k. i. and hg. The man was fourty-four years old, myopic, detachment about 2/5 nasal field; gave specific history; large doses k. i. and hg. I think did the work. It was a typical detachment and not a subretinal gumma."

270—Willetts, J. E., Pittsburg. (a) None. (b) "Nothing. I have always considered the condition incurable and so tell the patient. If treatment is insisted upon, rest, iodids and

dark room, but I have never seen any benefit derived. Have never tried withdrawal of fluid with hypodermic needle."

271—Williams, C. H., Boston. (a) None.

272—Williams, E. R., Boston. (a) None.

273—Wolfenstein, L., Cleveland. (a) None. (b) "Compressive bandage, sweating, bed, eliminants, subconjunctival injections saline solution. Never tried operative measures."

274—Woodruff, F. E., St. Louis. (a) One. (b) "Subconjunctival injections dionin with rest in bed. This case was supposed to have been cured before by the use of normal salt injections. Vision was 17/150, and was improved to part of 20/40. Patient had myopia of 5 D. This improvement has held since February 26, 1912, to date, May 25, 1912. Don't know how long it will last."

275—Woodruff, H. W., Joliet, Ill. (a) None.

276—Woods, Hiram, Baltimore. (a) None. (b) "I have seen two or three cases reattach after prolonged rest in bed and pilocarpin sweats. One such case was reported to American Medical Association."

277—Würdemann, H. V., Seattle. (a) None. (b) "I have, however, seen two cases of spontaneous reattachment of the retina occurring after retinitis nephritica gravidarum. Oeller's Atlas, C Tab. III, C Tab IV, also shows two punctures and give case histories. The anatomopathologic lesions do not warrant the assumption of a cure from any form of treatment in nontrauamtic cases, i. e., myopia, tumor, diabetes, etc."

278—Wyler, Jesse, Cincinnati. (a) None.

279—Zentmayer, Wm., Philadelphia. (a) None. (b) "One for eighteen months. Bed, on broad of back, atropin, roller bandage, sweating and purgation, subconjunctival injections of normal salt solution, sclerotomy, Deutschmann's operations and trephining the sclera."

280—Ziegler, S. Lewis, Philadelphia. (a) Several. (b) "T-shaped posterior sclerotomy. I referred to one notable case of this kind in discussing Casey Wood's paper before the American Medical Association. I have always intended trying galvanocautery puncture with a sharp, thin, well-heated wire, but have not so far tried this. Have used electrolysis with only moderate results. I think this condition is

due to a perverted lymphatic secretion, and that is why I feel sure the cautery ought to be of some service."

281—Zugg, C. L., Kansas City. (a) None. (b) "Dark room, sweats and k. i."

APPENDIX.

The following letters came unsolicited, and since they contain some unique personal experiences as well as interesting and valuable data, I publish them. They are arranged alphabetically.

Dr. Ellett, of Memphis, recites a case of double detachment, in which "the eye to which nothing was done is in better shape than the one to which much has been done."

"Dear Doctor Vail:

"I answered your circular letter in regard to detachment of the retina to the effect that I had not seen any good results from medical treatment. Since then I have seen a patient, whose history I am sure would be of interest to you. She is an elderly lady, in good health, and with no eye trouble except presbyopia.

"In June, 1911, she suddenly lost the sight in the right eye, due to detachment of the retina. I treated her with rest in bed and sweats for nearly four weeks, but I did not insist on her lying absolutely quiet, because it was very irksome for her to do so, and I did not believe she would be benefited by the treatment. At the end of the four weeks I told her that I thought further treatment would be useless. At that time her left eye was perfectly normal. In December she had exactly the same experience with the left eye. In sent her to New York, where she has been ever since under Dr. Week's care. He treated her exactly as I had done for the other eye, except that he was very strict about the rest, and she was not permitted to raise her head from the pillow for some weeks. As the result of this the retina reattached in the left eye and her vision improved to about 20/200.

"As soon as she got up the retina became loosened again and the vision failed. He then did scleral puncture several times and the retina became attached, and the vision, when she left New York some two weeks ago, was 20/200. I examined this lady yesterday, and the significant thing to me is

that the right eye, the one to which nothing has been done, is in better shape than the left, to which so much has been done. Of course the right eye partook of the benefit of the rest in bed, which was prescribed for the left eye, but the detachment in the right occurred in June, and after the treatment was stopped nothing was done until after the left eye became affected in December. When I examined her in December the retina in the right eye had regained its color, but still seemed to stand further in the vitreous, and the vessels could be seen with about a + 7. I think there are several interesting points about this case and therefore relate it. Her vision now is about 12/200 in the right eye and 10/200 in the left. In both eyes the retina is reattached except in the lower part of the field in the left eye. In the corresponding portion in the right eye there are some pigment changes, consisting of streaks lying parallel to the vessels.

"Yours very truly,

"(Signed) E. C. ELLETT."

Dr. E. E. Holt, of Portland, Maine, reports that after twelve years a myope of high degree retained good vision in an eye that had had its retina detached and replaced.

"Dear Doctor Vail:

"I am returning your letter of the 4th inst. answered in the affirmative. The case that impressed me as most important was that of a lady about fifty years old, who had detachment of the retina. She had myopia of high degree and had consulted several different oculists in different parts of the country, as she and her sister traveled about the country. I think it was right after Dr. Mittendorf, of New York, read his paper before the American Ophthalmological Society, detailing the treatment of detachment of the retina by the use of nitrate of pilocarpin and an infusion of pilocarpus. A detailed account of the treatment I reported in the *American Journal of Ophthalmology* in 1886, I think in December. This case of high degree of myopia with detachment of the retina came back to see me for over twelve years and there was no recurrent attack, she having a useful eye and binocular vision.

"Yours very truly,

"(Signed) E. E. HOLT."

Dr. Lucien Howe, of Buffalo, had a case that recovered "almost perfect vision," but alas, after some years a relapse occurred.

"Dear Doctor Vail:

"In acknowledging your suggestive inquiry of May 4th, it is difficult to say of course that a permanent cure has been effective in any individual case.

"I do recall a young man, however, then living in the town of Olean, who had a distinct nontraumatic detachment with almost total loss of vision. Puncture was made by the Graefe method with two needles, and some improvement followed within about a week, and later he regained almost perfect vision. It could be stated, however, that he also lay quietly for some two or three weeks and went through the usual sweating process. Moreover, some years later a relapse occurred, though this did not impair the vision in a decided degree.

"We will all be interested to know the result of your inquiry.

"Very sincerely yours,

"(Signed) LUCIEN HOWE."

Dr. George F. Libby, of Denver, comes forward with a unique case. Note that a detachment occurred three years ago; this was followed by unusual phenomena.

"Dear Doctor Vail:

"My treatment was sweating and k. i. to limit and catharsis. Have just enucleated an eye in which 'spontaneous' detachment occurred in November, 1909, blindness soon supervening. Later, severe cellulitis (no increased tension). Found a tumor springing from sclera and corresponding to detachment exactly. Macroscopically it is fibroma; we shall determine what it is microscopically soon.

"Yours cordially,

"(Signed) GEORGE F. LIBBY."

Dr. J. O. McReynolds, of Dallas, Texas, has had some cures, but evidently is anxious to find something better than what he has used in the past.

"Dear Doctor Vail:

"Your letter of recent date with reference to detachment

of the retina I have just received, and in reply will say that I have at this time a very important patient lying flat on his back in the same condition. I shall be very much delighted if you will give me any information which you may possess with reference to this condition. I will say, however, that I have succeeded in curing some of these cases, and I shall look up the records and ascertain more accurately what was done in those cases, and also ascertain the amount of vision which they have at present, if I can get into contact with the patients.

"Assuring you that I shall be glad to give you a fuller report at a subsequent time, I am

"Very sincerely,

"(Signed) JNO. MCREYNOLDS."

Dr. Wilbur B. Marple, of New York, has "run down" a "cured" case, but is not entirely satisfied that it was a real case of detachment, in spite of the eminent oculist who handled it. Marple is "from Missouri" on the subject of detachment, having had plenty of experience with all kinds of treatment. He asks for one case of undoubted cure. We can forgive Marple for being disgusted with all forms of treatment up to date—we are, too.

"Dear Doctor Vail:

"I was somewhat interested in your circular letter recently received, for I have been trying to run down a case of cured detachment of the retina without success. I recently heard of a socalled cured detachment of the retina in the person of Dr. Henry Blodgett, of Bridgeport, Connecticut. I wrote him about a month ago, having heard of his case last summer through a friend of Dr. Wilson, of Bridgeport, while I was in Europe, and I received the following reply:

"'In the summer of 1884 I found a black spot in my right eye, which did not disappear promptly, so I went to Dr. Herman Knapp about it. He said there was a detachment of the retina at that spot. Later a smaller one appeared in the other eye. I think he considered the cause of this detachment to be choroiditis. I spent a good deal of the time for the next three months in the dark, and made comparatively little use of my eyes for a year. Since then I have had no other trouble, although my eyes are congenitally very defective

(hypermetropic + 6) and astigmatic with the astigmatism in different axes).'

"I was with Dr. Knapp for a good many years; in fact, at the time of which Dr. Blodgett speaks, in the summer of 1884, I was at the Institute at Twelfth street. It takes a good deal of nerve to dispute a diagnosis made by Dr. Knapp at that time, when I think he was about in his prime. As you see, the patient is not myopic and he speaks merely of a 'spot'; so that his vision could not have been at any time very seriously impaired. I personally consider a detachment of the retina (in my hands the traumatic cases have not been especially better) as a most hopeless condition. I have tried everything —confinement in bed, pilocarpin and steam sweats, iodids, etc., ad lib., ad infinitum. The last thing I tried was a treatment suggested by Mr. Ramsey, of Glasgow, in 'The Transactions of the Ophthalmological Society of the United Kingdom, in 1906'—subconjunctival injection of dionin. The following winter I had eight or nine cases of detachment of the retina in my service at the New York Ear and Ear Infirmary, in every one of which I applied Mr. Ramsey's remedy most conscientiously, associated in some cases with the scleral puncture. I did not cure (!) a single one; in fact, the vision in each patient gradually deteriorated, as it inevitably does in these cases. From experience of my own, I am disposed to think that the most likely thing to produce a reattachment is cauterization of the sclerotic, as suggested by Dor, of Lyons, and by Uhtoff, of Breslau; but I never had the nerve to apply such a barbarous treatment to a patient yet.

"I consider the prognosis in detachment of the retina, especially in myopia, as practically hopeless, whatever treatment is applied; and I think that any one who is acquainted with the pathology and etiology of this condition could not expect otherwise. My custom at present in these cases in my private patients is to tell them plainly how extremely improbable any improvement is, and to say, furthermore, that if it was my own eye, I should not feel inclined to give it up without any attempt at treatment; and to suggest that we try confinement in bed and subconjunctival injections of dionin for two or three weeks with compressed bandages. If any improvement sufficient to warrant continuance of the treatment is shown, to act accordingly.

"If you hear of any case of undoubtedly cured detachment of the retina, I wish you would tell me of it, because I have yet to find such an authentic case. Deutschmann's statistics are discredited by his colleagues in Germany, although, as he claims them, his results are not especially brilliant.

"Yours very truly,

"(Signed) W. O. MARPLE."

Dr. J. Wm. Pancoast, of Philadelphia, recounts a thrilling experience with a case with which he had a "running start." This is in two ways the most unique case on record—first, it happened to a patient while in an oculist's office; second, it followed a routine examination for glasses. Here is food for thought.

"Dear Doctor Vail:

"In reply to your series of questions regarding the nontraumatic form of retinal detachment.

"I have the histories of four such cases; the first three did not respond to any form of treatment, and after several consultations and months of unsuccessful treatments, the patients disappeared.

"The one unique case happened in my office, immediately after a refraction under duboisinæ.

"Mr. A. S., aged thirty-two, was refracted by me in November, 1900, under duboisinæ. Right and Left. Right — 1.75 ⌒ — 0.50 + 180 =5/5; the ophthalmoscopic examination was negative.

"In April, 1906, he returned with the symptoms of asthenopia, and while the ocular examination was negative it was decided to go over the correction. The ophthalmoscope never showed the slightest pathologic change.

"His second refraction was the same as the old one, giving a part of 5/4, a slight increase of the acuity in each eye.

"After I finished he waited in the office for some time, expecting a friend.

"About half an hour after the examination he complained of a pain in the right eye and blurring of the vision.

"With his glass the vision of the right eye was 5/150, and that only by a distinct turn of the head. The ophthalmoscope showed a retinal detachment up and out, small in size, but very distinct. The left eye was not disturbed. The patient

was at once removed to his home, bed, dark room, low diet and a dry one, pilocarpin, sweats of various kinds, potassium iodid, alternating and changing of salts.

"The retina reattached and in about six weeks the eye was apparently quiet, with a good field and corrected vision of 5/7.5, slightly blurred. I continued treatment and semi-dark room for a total of four months, and then gradually allowed the patient to return to his usual habits.

"He retained his condition for a period of fourteen months, December, 1908, when the same retina and over the same area, but to a greater extent, detached, and treatment with frequent consultations were without avail, so that after another six months' treatment, including puncture and electric treatment, vision being nil, the patient stopped treatment.

"This is the only case I have ever seen reattach and it was only temporary.

"Sincerely yours,

"(Signed) J. Wm. Pancoast."

Dr. S. M. Payne, of New York, was with Webster, of New York, years ago, when Webster had some cases that did well after sclerotomy. Payne thought he had a clue which would reveal some cured cases, but alas! the cases were lost sight of.

"Dear Doctor Vail:

"Treatment was the same as yours. Dr. Webster, years ago did a sclerotomy in a number of cases, two of which resulted in reattaching, but they were lost sight of, and he does not know whether the attachment remained or not.

"Please pardon my delay, which was due to waiting to see Dr. Webster. As I was with him when he cured those two cases, I wanted to know of him if they were permanent. His other cases, which were not operated on, were treated the same as yours and none cured.

"Yours truly,

"(Signed) S. M. Payne."

Dr. Samuel Risley, of Philadelphia, recited a case which he thinks should be called "traumatic," but if the eye was not subject to direct violence, it would not be traumatic in the strict sense of the term. It is granted that all eyes "predisposed" to detachment, sooner or later will get the "jar" which will act as the "last straw." Such cases should not be

classified as "traumatic." It was a remarkable cure either way you take it, but will it last?

"Dear Doctor Vail:

"I think your experience in the case of detachment of the retina is entirely in accord with my own experience and that of others. It is somewhat difficult to answer your categorical inquiries, however, for the reason that detachment of the retina, even in predisposed eyes, has, in a vast majority of instances coming under my notice, been ascribed to traumatisms. For example, in two of my cases, one a professor of English literature in one of our colleges, who had been under my care for many years for his myopic choroiditis, was thrown to the ground by the premature starting of a trolley car and got up with detachment of his retina. In this case he was placed in bed in the hospital, had periodical sweats with an electric light bath, pilocarpin internally and atropin alternately with a weak solution of eserin for six weeks. He had a myopia of 12 D., with, I think, 1½ diopters of astigmatism in addition; that is to say, 13½ of myopia in the highest meridian. I had the satisfaction of seeing the retina replace after six weeks, and at last accounts, a year or more ago, and about four years after his accident, he had had no recurrence and his vision was approximately what it had been before. This case, although in a sense traumatic, was in a highly myopic eye with the characteristic choroidal changes. I cannot recall any other case of retinal detachment in sick eyes.

"On the other hand, a prominent physician, who had been my patient for many years with a myopia in the highest meridian in both eyes of 22 diopters, and who had developed a large macular atrophy in the right eye and later a cataractous lens, was knocked down by a bicycle, rose up with detachment of his retina in the better eye and has never recovered. I have in the considerable number of cases had the satisfaction of seeing the detached retina reattach itself, but no sooner were the patients out of bed and about their ordinary affairs than the detachment recurred. The first case alluded to is the only one I can remember in which treatment was successful. Although occurring in a predisposed eye, it does not come within your inquiry, for the reason that it followed a traumatism.

"My treatment has been rest in bed with atropin locally and of late years electric light baths and usually a bandage.

"Very truly yours,

"(Signed) SAMUEL D. RISLEY."

Dr. G. C. Savage, of Nashville, comes forward with data which, if time corroborates, will make him the discoverer of the golden grain of truth in all the chaff which we have been threshing out. Dr. Martin H. Fischer, referred to in his letter, is professor of physiology of the Ohio-Miami Medical College, Medical Department of the University of Cincinnati. Fischer addressed the American Academy of Ophthalmology and Otolaryngology at the annual meeting held at Indianapolis in 1911, on the subject of Glaucoma. (See 1911 Transactions.) The application of Fischer's theory to detachment of retina was first made by Savage, and his letters here published should awaken our hopes anew.

"Dear Doctor Vail:

"If I were going to the next meeting of the Academy of Ophthalmology, I would keep a secret from you and spring it at the meeting. I recall receiving some questions from you concerning retinal detachment, and I think I am correct in the surmise that you were preparing a paper for the Academy on that subject. I know I recall that you stated in the experience of twenty years you had not been able to cure a case. You will recall that I have had a similar experience, as reported to you. Now I hasten to say that my luck has at last changed. A few weeks ago I had three cases of retinal detachment come in within an hour of each other. The three eyes, however, were in two patients. A little girl had double detachment, and a student in Vanderbilt had a single detachment. The student was entering his final examinations for his degree in the university. I had so little hope for him I told him to go ahead with his examinations as if nothing happened to him, and that I would probably be able to accomplish as much for him as if he were to go to bed and remain perfectly quiet. I gave him the iodid of potash and the bichlorid of mercury, and found when his examinations were over that he was no worse, and probably just a little better as to his central vision. He had no vision above, at all. The day after his examinations had been concluded, two weeks ago to-morrow, I stated to him, 'I am inclined to think that

the fluid which has detached your retina is acid in reaction, and if it is, then I believe I can accomplish something for you with a new method of treatment.' He said, 'Try it.' His vision was 2/100. I gave him a subconjunctival injection of fifteen drops of twenty-five grains of the citrate of sodium to water one fluid ounce, after the Fischer idea in glaucoma, and, to my great delight, his vision was much improved in twenty-four hours. A week ago yesterday, I gave him the second injection, his vision having in the meantime gotten still better, and yesterday I gave him a third injection. Just before giving him the third injection, I found his vision equaled 20/40. In one hour after giving him this third injection, I saw a patient in consultation with Dr. Price, who had had a detachment of one retina for three weeks. His direct vision had been nothing, but under the treatment of iodid and bichlorid, it had improved until it was 3/200. Eighteen hours after the injection Dr. Price brought him into my office again, with his face all wreathed with smiles, and the patient was also smiling, for his vision in this short time had risen to 8/30. The remarkable result in this last case, taken in connection with the result in my first case, leads me to believe that I have introduced into ophthalmic practice a method which is worth while. I will not be able to see the little girl who had the double injection yesterday until Saturday, or possibly Monday next. Her direct vision was nothing in the one eye, and in the other eye was about 6/100. I will report to you the result in her case, and will make later reports concerning my first case. In each of the cases I am continuing to give the iodid and bichlorid. You may use this letter in connection with the presentation of your paper before the meeting.

"Yours fraternally,

"(Signed) G. C. SAVAGE."

A few days ago I received the following communication from Savage, which contains remarkable reports on two more cases similarly treated.

"Nashville, Tenn., Aug. 3, 1912.

"Dr. D. T. Vail, Cincinnati, Ohio.

"Dear Doctor:

"Your letter was received yesterday. The fact that you are to present your paper to the Academy constitutes a

great temptation to me to break into my plans and attend the meeting. I know, however, that I cannot yield to this temptation. I am struck with the plausibility of your theory concerning retinal detachment. It certainly is an explanation that appeals to me more than any other that I have seen.

"Since writing you last I have had two other cases of detachment of the retina, one blind for nine months and the other for one year. I did not know what I might be able to accomplish with either one of these cases by the injections, but am glad to report that gratifying results have followed.

"It is allowing too much to say that either one of these cases had vision equal to 1/200. The one of nine months' duration improved from the very first, had vision equal to 1/4 after the third injection, and this was attended by a reduction of the detachment from 7 D. to 4 D. at the highest point. This was case No. 5 in my series. Case No. 6 is the one blind for a whole year, and she had no hope that anything could be done for the blind eye. She came three weeks ago today, simply to get a better lens adjusted to the good eye. As my custom is, I looked into the bad eye to see the cause of the blindness and was delighted to find a detachment, notwithstanding its long duration. I of course did not know that I would get results in a case of so long duration, but instituted the treatment at once. Her vision came up rapidly after the first injection and has continued to improve until now it is 1/4.

"The other cases reported to you have continued to do well. Case No. 1, the Vanderbilt student, has 3/4 vision for distance and can read the finest Jaeger type. It is now seven weeks since the first injection was given. The detaching fluid continues to disappear, but the retina is not yet in contact. Most of the vessels can be seen well with a + 1.0 D., but those at the highest point of detachment require a + 2.0 D. to be well seen.

"If your theory of lessened activity of the glands in the ciliary body is correct, it is the height of absurdity to evacuate the fluid through a scleral puncture, for these already inactive glands could not quickly secrete water to prevent the diminution of the tension of the globe. I had already claimed, before receiving your letter, that the fact that the tension is not lessened in my osmotic treatment, is due to the other fact that water is supplied to the vitreous body by the glands in the ciliary body in quantity to correspond with the

exosmosis of the detaching fluid. In all of my cases I have given one grain of the iodid of potash and 1/100 of a grain of bichlorid of mercury after each meal, to improve the nutrition of the ciliary body, thereby promoting the secretion of the glands in that body. For many years I have been following this line of treatment in beginning cataract, the good results coming from the improved nutrition in the ciliary body.

"If your theory had been advanced before my thought of injecting the citrate of sodium to produce exosmosis, I could not have fallen on a better plan of treatment than the injections associated with the small doses of iodid of potash and bichlorid. Your theory, whether thought of before or after my first communication was mailed to you, explains very satisfactorily the results which I have gotten in five out of six cases of detachment.

"I believe that I have given to the profession the therapeutic plan for detachment of the retina, justifying the hope of very frequent cures.

"To put patients in bed with detachment of the retina, I think wholly unnecessary, and might go even further to say that it might be harmful.

"Use any part or the whole of this letter in connection with the presentation of your paper. It is about what I would say if I were present to participate in the discussion.

"Yours fraternally,

"(Signed) G. C. SAVAGE."

Dr. G. E. de Schweinitz, of Philadelphia, has had many cases and quite a number of temporary "cures," but as they all relapsed sooner or later, he has become "perfectly pessimistic about the permanency of the cure." Read his letter

"Dear Doctor Vail:

"Replying to your circular letter, I have to say that without going through a long series of case books, I could not possibly give you the exact number of nontraumatic detachments of the retina upon which I have performed operations with the hope of curing them. I have a good many times operated for detachment of the retina, and so far as I know at the present writing, with perhaps a single exception, the cure has not been what may be called permanent. I have a number of times seen the retina reattach itself after operation and remain in position, sometimes for a week, months, and in

one case for more than a year, and then either partial or total redetachment has occurred. Like many other surgeons, I have seen a number of traumatic detachments of the retina apparently permanently cured, and one case of nontraumatic detachment which remained cured for several years. I have not, however, heard of the patient for a long time and therefore cannot say what the present result is.

"The treatment that I have found most satisfactory has been posterior sclerotomy with drainage of the subretinal space, rest in bed, and the injections subconjunctivally of saline solutions. In recent years I have added to this dionin, sometimes sweats, usually with pilocarpin. I have never performed Deutschmann's operation, nor ever attempted permanent drainage. I am perfectly pessimistic about the permanency of the cure of detachment of the retina which occurs in myopic eyes and which is not due to traumatism, although I have had some astonishingly good temporary results, and for that reason I always do the best I can for these patients when they come to me for treatment.

"Yours very truly,

"(Signed) GEORGE E. DE SCHWEINITZ."

Prof. J. Hirschberg and Prof. Dr. Silex, both of Berlin, have been written to regarding their success in the treatment of this disease. They both reply in the same strain, giving a guarded opinion as to the prospects of curing a given case, and advising that such patients remain on this side of the Atlantic, for, as Prof. Hirschberg pertinently remarks, "Ocean travel is dangerous for such cases." He also refers to a case of his which he had many years ago given up as hopeless, which, without any treatment, but on the contrary going about as he pleased, began to improve, and recovered quantitative vision, and another case that improved beyond all expectations after a cataract was removed. I regret I have mislaid Prof. Hirschberg's letter. Prof. Silex writes as follows:

"Dear Doctor Vail:

"I am sorry that I do not see any other special treatment for the case of detached retina than you have tried. Though I would like to help him, I cannot promise to do so. It would be at his own risk to come over for that purpose. The best,

however, for a patient is to remain in the United States, keep quiet as much as possible and follow your advice.

"Very sincerely,

"(Signed) Dr. Silex."

Dr. Wm. Tarum, of Baltimore, had a case which went to Prof. Deutschmann's clinic at Hamburg. Letters from "laymen" should not be published in scientific literature. I shall, therefore, withhold the patient's name and only publish such parts of his letter as interest us who have had patients go to Hamburg to investigate Deutschmann's cures.

"Dear Doctor Tarum:

"Well, doctor, although my mission was a dismal failure, I am forced to state that it was not due to the lack of Prof. Deutschmann's skill. I remained in the 'clinic' ten weeks. I was more than repaid for my long, tiresome journey by gaining the knowledge that separation of the retina is lifted from the list of incurable diseases. By his method of treating this particular disease, Prof. Deutschmann is curing 50 per cent of the cases, and the remaining 50 per cent are benefited to such an extent that they are able to go about unassisted. It seems as though there are no results discernible until after the fourth or fifth month. I met one patient whose vision had been restored after eighteen operations, covering a period of time extending over nine months; then again, I conversed with a former patient who was visiting the clinic, and who informed me that he had received forty-eight operations and that he was a patient in the clinic twenty months. He had suffered with detachment of the retina in both eyes, but was completely restored to perfect vision. The operations follow in rapid succession, until it is evident that there is an adhesion taking place, then the patient is compelled to remain flat on his back and the operations become less frequent. I was a close observer of the professor's method of treatment and can say without fear of contradiction that there is nothing about it that any other oculist cannot do and obtain the remarkable results that are credited to this famous oculist The evident facts are 'that he is doing it—others are not.' He uses electric massage, and his serum to revitalize the nerves of the eye. Although this said serum has not received the support of the medical fraternity, I have seen some wonderful results from its use. Doctor, I shall not make myself

ridiculous by trying to give you a description of Prof. Deutschmann's 'scarotomy' method of treatment, as I know that you are more thoroughly acquainted with it than I am, but this I can say, it is the means through which the 'separated' blind can look forward to as their hope of salvation. I must be taken into consideration that very near all of Deutschmann's patients have exhausted every other means before they seek his aid.

"The patients of the clinic were quite a gathering of cosmopolitans, as every part of the globe was represented among them. There were patients from Peru, Ecuador, Mexico, South Africa, Poland—in truth, all parts of Europe were represented. In distinction they ranged from barons to stokers.

"Well, doctor, I will bring this letter to a close, but let me say in conclusion that I am so much impressed with the 'scarotomy' treatment that at times I feel like puncturing my eye with a hat pin, in hopes that I may set up a good genuine irritation, then tie myself in bed so that I cannot move. I am still supplied with a beautiful display of pyrotechnics, as a gentle reminder that I have detachment, etc.

"JOHN DOE."

Dr. J. L. Thompson, of Indianapolis, has convictions based on experience. Read his letter:

"Dear Doctor Vail:

"My opinion concerning cures in cases of nontraumatic detachment of the retina is that they are very few; doubtless the cures have been when effusions have caused the retina to bulge forward and simulate detachment. It calls for a great stretch of the imagination for one to believe that a complete detachment has become reattached in many cases. The reason why I have never operated in these cases is, first, my belief that cures by operation are so rare; second, if we operate and no success follows, we are liable to be accused of injuring the case by so doing.

"Very sincerely yours,

"(Signed) J. L. THOMPSON."

Dr. A. Timberman, of Columbus, Ohio, has had a case like the one recited by Francis and also Würdemann (see above). Since all these cases recovered, we may say 'Here is a cure,'

but alas! it must be first caused by albuminuria in pregnancy, which is the forerunner of blindness, eclampsia and death.

"Dear Doctor Vail:

"I have your communication of several days ago relative to cases of detachment of the retina. I had one case of partial detachment of the retina in each eye, vision reduced to light perception or little better, complicating pregnancy. Gave the following history: Whooping cough and scarlet fever at seven; mild attack, no renal complications; malaria at ten years, followed by pulmonary hemorrhages. Married seven years previous to my seeing her. No children. Miscarriage about two years after marriage; six months' gestation. Two years later, another at three months; no evidences of renal trouble during the last gestation. Another miscarriage February, 1910, at five months, with marked albuminuria. On the 22nd of February she was taken to the hospital with barely light perception. Was put upon eliminative treatment, hot packs, pilocarpin, sweats, and abortion produced. Final correction of the vision of refractive error after recovery was — 0.25 ⌒ — 0.25 ax. 90° right eye; — 2.0 ⌒ — 0.25 ax. 90° left eye, vision being 20/40 right eye, 20/30 left eye.

"I don't want you to think that this was a case of questionable detachment of the retina, because it was not. All the characteristic signs by the ophthalmoscope were present. The only case that I have had which terminated so favorably.

"Very truly yours,

"(Signed) ANDREW TIMBERMAN."

POSTAPPENDIX.

We now come to ask ourselves, why do we meet with such failure in treating this disease? Is it incurable, as stated by some? Or is it because we do not apply the proper remedies, not knowing the exact cause?

I believe it is curable in many instances. I believe we will cure the majority of the cases when the cause is recognized. My paper has already exceeded the time limit, and what I have to offer by way of a theory to explain the disease will of necessity have to be brief.

Collins and Mayou, in their work on Ocular Pathology (p. 168) mention the two following theories as to the cause of detachment of the retina: (a) The exudative theory, whereby

there is an exudation behind the retina from the choroidal circulation, accompanying chronic equatorial choroiditis. (b) The traction theory, whereby the retina is torn and dragged away from its bed by bands of adhesion which have formed in the shrinking vitreous.

von Hippel and Leber have combined these two theories by stating there is a circular choroiditis causing disturbed nutrition of the vitreous, which later becomes fibrous and contracts, so that a displacement of the vitreous forward from anterior adhesion of the vitreous to ciliary occurs, thus creating a free space under the retina, which space becomes immediately filled with transudation of serum, etc.

Granting any or all of this to be true, may we ask how can a cure be expected from cutting, cauterizing, resecting, bisecting, transfixing, inserting gold wires, silver wires, injecting sterilized air in the vitreous, or iodin under the retina, trephining, suturing the retina to its bed, or any other such line of treatment? Do any of these cure equatorial choroiditis?

Evidence is presented in the above published correspondence showing that one man was "cured" by Deutschmann after forty-eight stabbing operations. I asked Prof. Deutschmann at the Oxford Ophthalmological Congress in 1909 what he defined as a cure. He answered, "When the retina was no longer detached it was a cure." I asked, "Regardless of visual result?" He answered, "Yes, regardless of the amount of vision retained or recovered."

The rationale of Deutschmann's operative treatment is to create adhesive inflammation between the choroid and retina. What does this mean? It means that inflammatory exudate should be induced to form between the choroid and retina, which, when it becomes converted into fibrous or scar tissue, will tie the retina down to its bed. Does the retina in health adhere to the choroid? No, the pigment layer does, but there is a physiologic space between the retina proper and its pigment layer, which was created there when the secondary optic vesicle formed completely in embryo. The "rationale" of Deutschmann's theory is, therefore, "irrationale."

My theory is that there is a paralysis of the secretory function of the ciliary processes. This means that the secretion of aqueous is suddenly arrested. There being nothing wrong with the drainage channels within the eye, the watery

elements find ready egress, thus causing a minus tension. Leber found 90 per cent had minus tension. The withdrawal of normal tension causes passive hyperemia of the blood vessels of the tunica vasculosa. This allows diapedesis and transudation. The vitreous contracts because it loses its percolating supply of aqueous, which soon drains off through the efferent channels which are wide open, and the fibers of the vitreous naturally contract like a sponge would contract after losing its water.

The subretinal transudation is highly albuminous. The watery elements ooze away and are replaced by fresh serum, a poor substitute for aqueous. The tissue colloids and circulating colloids imbibe all the moisture they can. The reaction of the transuded juices becomes altered to a less than normal alkaline or an actually acid state.

What causes paralysis of the secretory function of the ciliary processes? The cause may be acute local and systemic, or chronic local.

Acute local from concussio oculi, dazzling, certain drugs which paralyze secretory function, like belladonna, duboisin, etc., where the patient has idiosyncrasy or the preceding equatorial choroiditis, or myopia.

Acute systemic from certain toxemias like those of albuminuria, diabetes, possibly acetone, indican, etc., which have a paralyzing effect on the delicate secretory function of the ciliary processes, or cause an acute inflammation of the cervical sympathetic nerves or ganglia.

Chronic local from slowly progressive atrophy of the secreting epithelium of the ciliary processes, causing a gradual loss of function. This may result from equatorial choroiditis extending forward to involve the cilary processes, myopia of high degree, atrophy of the ciliary body in advanced presbyopia, etc.

We know that in myopia the ciliary body becomes enormously atrophied from nonuse. The ciliary processes partake to a certain extent in this atrophying process, since they receive their blood supply from branches of the same arteries which supply the ciliary muscle. Myopia has been found in over 60 per cent of the cases.

Age causes vascular sclerosis everywhere, and if there is a part highly specialized and supplied with a network of capil-

laries, like the ciliary processes, such a part gradually diminishes in its physiologic function. A sudden, exciting influence may cause it to lose its weakened function entirely. To reverse the argument: Given loss of secretion of the aqueous, what would result? Answer: Minus tension, deep chamber, dilated pupil, contracted vitreous and detachment of the retina.

There are many other arguments to sustain this theory; I have touched only a few.

If arrest of secretion of aqueous is the cause, what may be expected from treatment? I shall answer first in the negative and say that from "k. i. to Deutschmann" nothing. And now in the positive. First, attempt to reestablish the aqueous flow by "alkalinizing" the intraocular juices. This may be done as Savage has reported (see *Ophthalmic Record*, June, 1912) by the subconjunctival injection of sodium citrate after Prof. Fischer's ideas. (See 1911 Transactions American Academy Ophthalmology and Oto-Laryngology, Prof. Martin H. Fischer on glaucoma.)

Second, by inducing a return of normal aqueous secretion by the use of such local measures as hot fomentations and general measures as alkaline purgatives, sweats, sodium salicylate, pilocarpin and the iodids.

Third, by directing treatment to the cervical sympathetic ganglions and nerves, such as rubefacients, blisters, massage, electricity, general depletion, and alteratives. The future will reveal the proper therapy, surgical and medicinal, which will take into account the influence of the cervical sympathetic ganglions and nerves on this disease.

These measures should be preceded by a good mercurial purge, followed by salts, rest in bed in a dark room, roller bandage to sustain the tension of the eye, for the minus tension prolongs the paralysis of aqeous secretion, and in fact all those measures and only those which have for their central idea the reestablishment of the secretory function of the ciliary processes. To summarize briefly:

First.—The established medical treatment of detached retina is a failure, because the etiology of the trouble is not recognized;

Second.—The surgical treatment is not founded on scientific principles and is therefore brutal;

Third.—Detachment of the retina is not a disease, it is a symptom.

Fourth.—The disease of which detachment is a symptom is paralysis of function of the ciliary processes, causing arrest of aqueous secretion within the eye.

Fifth.—The treatment should be the use of those measures and only those which have for their objects the reestablishment of the lost function of the ciliary processes.

DISCUSSION.

After the reading of the paper, the discussion was opened by Dr. Samuel Risley, of Philadelphia, followed by Dr. G. C. Savage, of Nashville, Prof. Anton Elschnig, the guest of the society, Dr. Allan Greenwood, of Boston, and others. Their remarks will be published in full in the Transactions of the Society. Vail's closing remarks were as follows:

I regret that the hour is so late, for I feel assured that others present would have participated in the discussion had the hour of adjournment not already passed.

I have seen detachment of the retina in several cases of hypermetropia. Dr. Risley says he has never seen it in such cases.

There seems to be some confusion as to the definition of "idiopathic," or "spontaneous" detachment. By reading over the letters which are contained in the body of my paper, it will be observed that some consider the slight traumatism which these patients relate as being responsible for the detachment, to be the real cause of the detachment. As a matter of fact, the traumatism was only a determining influence A definite, although quiet, disease of the eye existed prior to the accident; otherwise detachment would never have occurred. We who have not this disease present within our own eyes may meet with much severer traumatism and suffer no detachment. The disease present in eyes that eventually suffer detachment is one affecting the secreting epithelium which covers the ciliary processes. If we search the equatorial region of the fellow eye, which as yet suffers no detachment, we may see distinct evidences of equatorial choroiditis.

The tendency of socalled anterior or equatorial choroiditis is to extend forward over the ciliary body, affecting this selective epithelium, which controls the aqueous supply.

In studying the embryologic formation of this socalled secreting epithelium, we find that it grows forward from the edge of the optic cup in embryo, completing the imprisonment of the invaginated mesoderm which goes to make the vitreous and shutting off this mesoderm as well as the lens vesicle from the outlying mesoderm which forms the choroid and sclerotic.

As soon as its formation is complete its peculiar function begins, that of selecting the aqueous from the blood contained in the tufts comprising the ciliary processes and secreting it within the closed chamber of the eye as pure aqueous. This peculiar epithelium has no analogy in the body, unless we consider the epithelium of the glomeruli of the kidneys to be analogous. Both select watery elements from the blood and then secrete it; one as urine, the other as aqueous. Paralysis of secretion of urine may exist, and so may paralysis of secretion of aqueous. The one produces death, if not relieved promptly; the other, detachment of the retina. I have seen cases of anuria. I remember such a case. The patient had anuria, followed by coma. He was sweated and he recovered, and has remained well ever since (six years). Such an arrest of secretion of aqueous will, according to my theory, cause detachment of the retina, as explained in my paper.

Prof. Elschnig, whose kind discussion I very much appreciate, and I wish to thank him for it, calls attention to a theory of Schnable, thirty years ago, which, he says, is similar to the one I have promulgated and which Schnable called the "neurotic theory."

In my paper I made no reference to the ciliary nerves. My thought is directed rather to the epithelium, which becomes "dried up," as it were, a distinct progressive atrophy or degeneration of the epithelium of the ciliary processes alone and not in any way due to nervous impulse.

The disease I refer to progresses gradually and slowly for years, and finally reaches a climax by some ordinary everyday accident, which just suffices to precipitate what would sooner or later occur any way, namely, complete arrest of aqueous and consequent detachment of the retina.

Dr. Savage uses the solution of sodium citrate subconjunctivally, of course. That question was asked by one of the speakers.

I wish to thank those who so kindly discussed my paper.