Annual report on the ophthalmic section.

MINISTRY OF THE INTERIOR, EGYPT.

2nd Annual

REPORT

ON THE

OPHTHALMIC SECTION

OF THE

DEPARTMENT OF PUBLIC HEALTH,

1913,

BY

THE DIRECTOR OF OPHTHALMIC HOSPITALS.

CAIRO.
GOVERNMENT PRESS.

To be obtained, either directly or through any Bookseller,
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Cairo, March 31, 1914.

SIR,

I have the honour to enclose my Report on the Ophthalmic Hospitals and on Ophthalmic Progress in Egypt during the year 1913.

I have the honour to be,

Sir,

Your obedient servant,

A. F. MACCALLAN,

Director of Ophthalmic Hospitals.

The Director-General,

Department of Public Health,

Cairo.

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REPORT ON THE OPHTHALMIC SECTION, 1913.

I.—INTRODUCTION.

A description of the origin in 1903 of the campaign which led to the establishment in Egypt of special hospitals for diseases of the eye was given in the first Annual Report of the Ophthalmic Section of the Department of Public Health, 1912. A synopsis of the functions and of the approximate cost of the different varieties of hospitals which the needs of Egypt have called into being is appended to this Report (*see* Statistics, Tables I, II, III).

Number of Hospitals.—The number of hospitals at work during 1913 was 12; four of these were opened during the course of the year.

Travelling Hospitals.—The travelling hospitals have well maintained their popularity among the *fellahîn*; they present the great advantage that with a limited sum of money a certain amount of ophthalmic relief can be distributed in many districts; though the inhabitants of some of the more important district towns (other than capital towns of provinces) naturally are in favour of exchanging a travelling hospital, which moves about frequently at a distance from them, for a permanent hospital in their own town.

Permanent Hospitals.—Permanent hospitals, which form the backbone of the Egyptian system of ophthalmic relief, have been built in seven of the principal towns, and arrangements for building in the capital towns of five other provinces have been completed.

There still remain four provinces which are unprovided with any form of ophthalmic relief, including those in which are situated the pyramids at Gîza, the tombs at Saqqâra, the temples at Luxor and Karnak, and the great dam at Aswân.

Staff and their training.—The surgical work of the hospitals is maintained by twenty-one Egyptians, who have obtained their medical diplomas at the Government Medical School, and have spent not less than two years in the post-graduate study of ophthalmology at the ophthalmic hospitals, where annually a six weeks' course of lectures and practical pathological course are given by the Director and the Inspecting Surgeons, of whom three are English and one Egyptian.

School Inspection.—Ophthalmic inspection of all the Government primary schools and of a certain number of the infant schools will be commenced at the beginning of the next school session. This will be based on the experience gained during the last seven years at Tanta school, where systematic inspection and efficient treatment have been carried on.

Finances.—The annual Government grant for the maintenance of the ophthalmic organization and ophthalmic hospitals has risen to L.E. 17,305; this includes the interest on the Cassel Fund: in addition L.E. 3,300 has been granted by the various Provincial Councils. A total of L.E. 20,605 is therefore available each year for the relief of eye disease.

Clinical Work.—The actual sum spent last year on hospital maintenance, not including Central Administration expenditure, was L.E. 12,165. For this sum, 40,670 new patients were treated; 544,267 attendances were made by out-patients; 35,046 daily diets were issued to 1,807 in-patients; and 30,648 operations were performed.

Blindness.—Out of 62,233 persons examined at the hospitals during the year, 9,238, or nearly 15 per cent, were found to be blind in one or both eyes.

Means of Relief.—The means of ophthalmic relief which have been decided to be the most useful for Egypt are a permanent built hospital or its equivalent in the capital town of each province, provided locally but maintained by the Government, and a travelling tent hospital, with accommodation for a few in-patients, provided and maintained by each Provincial Council. From each of these centres will develop various branches of work, including treatment of the pupils in the schools, lectures on ophthalmic hygiene, distribution of pamphlets giving instructions for the prevention of infection, provision of first aid in eye diseases in the remoter villages, talks in simple language to collections of women on the necessity of cleanliness for their children and on the way in which it should be effected. Money, skilled labour, and time, will gradually work a vast improvement among a people who are intensely anxious to avail themselves of the ophthalmic relief which is at present available.

II.—WORK AND PROGRESS DURING 1913.

A.—Travelling Hospitals.

The two large travelling hospitals known as the Cassel Fund Hospitals have worked at Gîza, Abu Hommos, Shebîn el Qanâter, Menûf, and Maghagha.

The period spent at each locality was six months. The localities already visited by the hospitals are Damietta, Mansûra, Menûf, Shebîn el Kôm, Qaliûb, Benha, Shebîn el Qanâter, Zagazig, Damanhûr, Abu Hommos, Rosetta, Zifta, Gîza, Fayûm, Beni Suef, Minia, Maghagha, Assiût, Sohag, Luxor, and Aswân.

The travelling hospital belonging to Assiût Provincial Council continues to do good work. It has visited Abnûb, Abu Tig, Badari, and Manfalût.

The travelling hospital belonging to Daqahlîa Provincial Council was opened by Lord Kitchener on June 16, 1913. The towns of Simbellawein and Dekernes have been visited by it.

The two travelling hospitals belonging to the Provincial Council of Gharbîa were closed during the greater part of the year. It is to be hoped that the next financial year will be more propitious for their re-establishment.

B.—Permanent Hospitals.

At the permanent hospitals at Tanta, Assiût, Mansûra, and Beni Suef satisfactory work was done. New hospitals were opened at Zagazig, Mehalla el Kubra, and Kafr el Zayât. The Zagazig hospital was built at the expense of the Provincial Council of Sharqîa ; it was equipped and is maintained by the Government. The hospitals of Mahalla el Kubra and Kafr el Zayât were built, equipped, and are maintained by the Provincial Council of Gharbîa.

III.—CLINICAL.

Number of Cases.—The number of new cases treated has risen during the last year to 40,670, and the total attendances of out-patients to 544,267, the average number of visits of each patient to the hospital being 13·3. Only such a number of patients are accepted for treatment as can be thoroughly examined and as can receive the requisite treatment, including operation when necessary. Besides those patients treated, 15,850 were postponed on various occasions because there was no available time to treat them efficiently; many of these, returning to the hospitals on days when the pressure was less severe, were treated or were operated on.

Entropion Operations.—It is usually impossible to do operations for all the patients who desire relief for trichiasis entropion (in-growing eye-lashes). 11,700 operations for this distressing condition were done, the operations usually performed being the operation devised by Snellen somewhat modified,* or the grafting of mucous membrane from the lip to the eyelid devised by Van Millingen.

Age of Patients.—It is noteworthy that nearly one-third of all the patients treated were under the age of one year.

Cataract.—288 extractions of senile cataract and 167 operations for the removal of juvenile cataract were performed. These cases only represented a small number of the cataract cases actually seen, which amounted to 1,917. The reason so few of them were actually operated upon is that the condition either of the cornea or of the eyelids forbade it. It must be remembered that operations by charlatans for trichiasis entropion annually spoil thousands of eyes. The association of cataract with the anæmia of ankylostomiasis, which is so prevalent in Egypt, was pointed out by Dr. Waddy, one of the ophthalmic inspectors, in a paper read before the Ophthalmological Society of Egypt at the annual meeting, 1914.

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* See "Trachoma and its Complications in Egypt," by MacCallan, Cambridge University Press.

Glaucoma.—Glaucoma simplex is an extremely frequent condition, being met with in 3·43 per cent of all the cases examined.

	1912.	1913.
Glaucoma Cases :—		
Primary acute	3	12
„ sub-acute	10	17
„ chronic	829	902
Absolute glaucoma	282	217
Operations for Glaucoma :—		
Iridectomy for primary	60	28
Trephining with iredectomy	152	317

The number of cases of blindness seen in Egypt in the six years, including 1913, of which there are accurate records (out of 269,187 patients examined), was 36,281. Of these the following were due to primary glaucoma :—

Monocular	1,946
Binocular	2,464

At the Egyptian ophthalmic hospitals, Elliott's operation of trephining the corneo-sclera for primary glaucoma has almost entirely superseded the classical iridectomy operation, which was the only one performed until towards the end of 1911. The reasons are several :—

First, the ease with which the operation can be performed by an expert operator and with which the technique of the operation can be taught to Egyptian surgeons.

Secondly, the operation can in all except acute cases and in very nervous patients be performed under the local anæsthesia of cocaine and adrenaline.

Thirdly, the results of the operation as regards diminution of tension are better after trephining than after the classical iridectomy operation.

Fourthly, the complications of the operation, when combined with iridectomy through the trephine hole, are almost non-existent.

Fifthly, the operation can be successfully carried out in many blind painful glaucomatous eyes, thereby saving the globe ; I have only seen one case of expulsive hæmorrhage occurring in such cases.

Sixthly, the operation can and should be performed for a patient on an unaffected eye, as soon as the fellow eye has been definitely diagnosed as glaucomatous, since the operation is almost devoid of risk, and early operation is prophylactic against the development of increased tension, glaucoma usually affecting both eyes sooner or later.

The following notes occur to me as useful :—

(1) In old people the conjunctiva is sometimes very friable. In such cases it may be better to do the classical iridectomy operation.

(2) In turning down the conjunctival flap it should never be taken hold of with the forceps, which may tear it. The conjunctiva should be picked up with the iris forceps, and after having been nicked with the scissors, should be stroked down on to the cornea with the convex side of the closed iris forceps, during the splitting of the corneal lamellæ.

(3) The flap does not need stitching after the operation.

(4) The splitting of the cornea is much more difficult in our cases in Egypt, in nearly all of which there is or has been trachoma, than in ordinary cases seen in Europe, owing to the cicatrization in the superficial layers of the cornea in old cases and owing to the pannus in recent cases. The bleeding that occurs can be checked by adrenaline. Any kind of knife may be used for the splitting, but I prefer Landolt's broad-bellied scalp, with which I performed all lid operations.

(5) The trephine must be sharp and should be carefully examined before the operation by the operator himself.

Any variety of instrument may be used, but I now use a 1·5 millimetres Bronner's trephine. The circular movements made with the trephine after its applications should be bold while remaining careful. Loss of the trephine disc in the anterior chamber is without importance, but rarely occurs with a sharp instrument and a practised operator. It may be fished out with a spatula or lens hook if desired. A thin lamella or corneo-sclera (a trap door) is sometimes left in the depth of the wound by a careless operator; the result is failure to reduce tension permanently. The position of the trephine hole should not be too far forwards in cases of old trachoma where the cornea is considerably cicatrized, as the resulting œdema is deficient in such cases.

(6) Iridectomy through the trephine hole by a single snip of the scissors is invariably performed at the Egyptian ophthalmic hospitals. No iritis then follows the operation and no atropinization is necessary. The advisability of producing miosis by eserine before operating is perhaps an elementary hint, but it should be remembered that both cocaine and adrenaline * raise the tension and dilate the pupil. It is therefore advisable to alternate eserine with cocaine during the production of anæsthesia and to only instil adrenaline immediately before putting in the speculum. Personally I always wear a gauze mask and very thin indiarubber gloves.

The adoption of the operation has enabled me to confide the operation to all my Egyptian assistants who have had two years' experience of constant operating practice in the ophthalmic hospitals.†

When the classical iridectomy, the peripheral corneo-scleral incision being made with a Graefe's knife, was the only operation in vogue, primary glaucoma cases were only operated upon by one of the senior surgeons.

Trachoma.—About 96 per cent of the Egyptians are afflicted with trachoma. Details of the classification of the stages of the disease adopted at the Egyptian ophthalmic hospitals and of the treatment usually carried out were given in my last report.

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* MacCallan: "Transactions of the Ophthalmological Society," Vol. XXIII.

† *Also see* paper by El Rasheed in the "Bulletin of the Ophthalmological Society of Egypt," 1913.

IV.—SCHOOLS AND KUTTABS.

A.—Schools.

An elaborate system of ophthalmic inspection and treatment has been carried out during the last six years at the Government Primary School at Tanta. This has been done at the expense of the Department of Public Health and by means of the ophthalmic staff of this Administration.

The measures adopted include the active surgical repression of trachoma, the correction of errors of refraction with the gratuitous provision of spectacles, isolation and treatment of cases of acute conjunctivitis, and the preparation of detailed statistics.

The methods of treating trachoma carried out at the school do not differ from those in use at the Egyptian ophthalmic hospitals; they vary with the stage of the disease and detailed descriptions are available in ophthalmic literature.*

Trachoma.—The number of pupils affected by trachoma in the school of about 400 pupils has only varied slightly during the period of treatment and has remained about 96 per cent. As infection with the disease usually occurs during the suckling period, it is inconceivable that school treatment can influence the incidence of the disease.

The more contagious cases of trachoma (stages I and II of the disease) in 1907 amounted to nearly 60 per cent of the total number of pupils in the school. These cases have been reduced to about 7 per cent in 1913.

The completely cicatrized cases of trachoma (stage IV) in which a cure has resulted have been increased from 2 per cent in 1907 to 55 per cent in 1913 (Statistics, Table VIII).

At the beginning of every school year (October) there is an influx of contagious cases of trachoma into the school, 55 per cent of the first-year pupils being affected with trachoma of this nature at the beginning of the session. However, by the end of the session, treatment has reduced this proportion to less than 9 per cent (Statistics, Table VIII, paras. 5 and 6).

The number of pupils treated regularly was 130, or about one-third of the total number of pupils in the school. Of this number about 81 per cent were substantially benefited, as compared with 39 per cent whose trachomatous condition improved although it was untreated. These untreated cases include the healthy cases and those trachomatous cases in which cicatrization had begun (trachoma, stage III) satisfactorily, and in which the evolution of the disease might be expected to progress normally.

Sixty pupils, or about half those treated, were subjected to surgical treatment of the trachomatous conjunctiva by scraping, grattage, etc. These operations were all performed at the local ophthalmic hospital.

Vision.—Estimation of refraction was made by retinoscopy under atropin, checked by subjective testing of all pupils who did not get 6/12 vision and in whom the corneæ were fairly clear.

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* Practical Medicine, Series 1911: "The Eye," by Wood. The Year Book Publishers, Chicago. "Trachoma and its Complications in Egypt," by MacCallan, Cambridge University Press.

The Statistics (Table VIII, para. 3) give details of acuity of vision among the pupils. With the assistance, if required, of moderately strong spectacles (not greater than + or — 6 dioptres), about 47 per cent of pupils were found to enjoy good vision and 16 per cent fair vision, while 37 per cent had bad vision.*

This result is not unsatisfactory; it shows that about 63 per cent of the pupils in school have sufficiently good vision to pass the visual acuity tests demanded previous to entering the Government service in a clerical position.

Only seven pupils had more than 6 dioptres of myopia, which has not increased during the time they have been under observation; in five of these cases both corneæ were nebulous, in two cases there was no nebula, but pannus was evident to the naked eye.

The main cause of subnormal vision (Statistics, Table VIII) is opacity of the cornea. This opacity is partly the result of the invasion of the corneal tissue by trachoma, but is more generally caused by ulceration of the cornea due to acute conjunctivitis.

In spite of the fact that about 50 per cent of the pupils had opacity of one or both corneæ, no evidence has been obtained in favour of the theory that myopia may be caused by this condition. In this connection it is interesting to observe that the acuity of vision improves with stay in the school (Statistics, Table VIII). If myopia was really caused by the corneal opacity, the prolonged use of the eyes at school would be followed by a startling depreciation of vision in a large proportion of those pupils with opaque corneæ. The reverse, however, is the case.

Spectacles.—The number of pupils who have been ordered spectacles and who are now attending the school is 82. On the date of the final inspection, 39 pupils were wearing their spectacles, and the supply of spectacles to 13 pupils was delayed by the maker; this leaves a difference of 30 pupils who had actually obtained spectacles but who were not wearing them, either because they were broken or for other reasons.

Besides the difficulty of keeping careless boys supplied with spectacles which they are constantly breaking, the constantly altering astigmatism is a difficult matter for the ophthalmic surgeon to deal with, as if cylinders are ordered they must be frequently changed.

The beneficial effect on the pupils of the primary school at Tanta, which has resulted from the ophthalmic treatment above described, during the last six years, has been so marked that the Government has decided to extend the system of treatment to the schools in other provincial capital towns where there is a permanent Government ophthalmic hospital. This will be carried out from the beginning of the school session 1914–1915.

B.—Kuttabs.

Tanta.—The total number of pupils examined on the days of inspection in the twenty-eight State-aided *kuttabs* was 2,278. The number of pupils who showed evidence of trachoma (*ramad el hebeibi*) was 2,123, or 93·2 per cent, of whom 38 per cent were in a definitely infective condition. The number of pupils who were blind in one eye was 65; the number of those blind in both eyes was 21.

While the inspection was carried out for the purpose of inquiring into the ophthalmic condition of the pupils, *kuttabs* which were dirty or overcrowded were noted, as their effect on the eyes of the pupils is injurious.

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* Good vision = 6/6 and 6/6, or 6/6 and 6/9, or 6/9 and 6/9.
Fair vision = 6/6 and 6/12, or 6/9 and 6/12, or 6/12 and 6/12, or 6/6 and 6/18.
Bad vision fails to attain any of the above standards.

The *kuttabs* which were dirty were seven in number. The *kuttabs* which were dirty and overcrowded were six in number. One *kuttab* was merely overcrowded.

Assiût.—The number of pupils examined in the fifteen State-aided *kuttabs* at Assiût town was 969. The number of pupils who showed evidence of trachoma was 894, or 92·4 per cent, of whom 56 per cent were in a definitely infective condition. The number of pupils who were blind in one eye was 34, none were blind in both eyes.

The *kuttabs* which were dirty were three in number. The *kuttabs* which were dirty and overcrowded were three in number. Two *kuttabs* were merely overcrowded.

V.—BLINDNESS IN EGYPT.

From the examination of 62,233 patients in 1913, 11,361 eyes were found to be blind. The causes were as follows :—

Congenital	12
Acquired :—	
Conjunctivitis resulting in :—	
Total corneal opacity	2,553
Shrunken globe	2,647
Secondary glaucoma	2,070
Other conditions	787
Fundus :—	
Optic atrophy	100
Retinitis pigmentosa	29
Various	304
Detachment of retina	1
Glaucoma absolutum :—	
Monocular	553
Binocular	651
Cataract	930
Injury	63
Operation	23
Infectious disease	27
Iritis endogenous	224
Various	387

All patients were accounted blind who could not count fingers at a distance of one metre.

As was to be expected in a country in which various forms of acute conjunctivitis are rife, 70 per cent of the blindness resulted directly or indirectly from this condition.

The large number of cases blind from secondary glaucoma (2,070) points to the advisability of performing a prophylactic iridectomy as soon as possible after adhesion of the iris to the cornea has taken place.

An enumeration of the number of patients who were found to be blind, and a comparison with the total number of patients examined at the hospitals, is highly interesting :—

Blindness.

Total Number of Patients Examined.	(a) Monocular.		(b) Binocular.		Total (a) and (b).	
	Number of Cases.	Per Cent.	Number of Cases.	Per Cent.	Number of Cases.	Per Cent.
62,233	5,360	8·61	3,878	6·22	9,238	14·84

It is seen that more than 14 per cent of the patients examined were blind in one or both eyes.

Blindness.

Year.	Total Number of Patients Examined.	One Eye.		Both Eyes.		One Eye and Both Eyes.	
		Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
1906	40,103	1,297	3·2	663	1·6	1,960	4·9
1907	24,416	1,450	5·9	697	2·8	2,147	8·7
1908	19,614	1,189	6·0	852	4·3	2,041	10·4
1909	22,373	2,116	9·4	1,385	6·1	3,501	15·6
1910	25,506	2,438	9·5	2,010	7·8	4,448	17·4
1911	31,274	3,196	10·2	2,811	8·9	6,007	19·2
1912	43,668	4,115	9·4	2,824	6·4	6,939	15·8
1913	62,233	5,360	8·6	3,878	6·2	9,238	14·8
Total...	269,187	21,161	7·8	15,120	5·6	36,281	13·4

The increasing percentage of blindness from 1906 to 1913 is significant of the greater care taken by the surgeons to make full clinical records of all cases of blindness seen among the hospital out-patients.

VI.—STAFF.

The ophthalmic inspecting staff consists of Dr. Mohammed Tahir, Dr. E. V. Oulton, and Dr. Granville Waddy ; Dr. St. H. Horgan is just about to join. The staff of surgeons, twenty-one in number, are all Egyptian ; they continue to carry on highly satisfactory work under the careful supervision of the inspectors.

The post-graduate teaching of ophthalmic surgeons in Egypt is claimed to be of greater value for those intending to practise in this country than that to be obtained in Europe.

The interest shown by Egyptian surgeons in the annual meeting of the Ophthalmological Society of Egypt is praiseworthy.

VII.—OPHTHALMIC POLICY IN EGYPT.

It is now a settled policy in Egypt to extend ophthalmic relief by means of a permanent hospital in the capital town of each province, built and equipped by local effort and maintained by the Department of Public Health from funds granted by the Ministry of Finance. This is to be supplemented in some provinces by a travelling hospital with accommodation for a few in-patients, touring round the smaller towns, equipped and maintained by the Provincial Council and administered by the Director of Ophthalmic Hospitals on behalf of the President of the Provincial Council. This system has up to the present been carried on to the complete satisfaction of the Provincial Councils concerned and of the Department.

While the policy enunciated above is feasible and will probably be carried out during the next twenty years, it should be borne in mind that there is sufficient clinical material in every small town in Egypt to occupy the whole time of an ophthalmic surgeon.

Cheaper methods of ophthalmic relief than by permanent or travelling hospitals have been considered and have been rejected.

The eye diseases met with in Egypt are such that more than half the patients require to be operated upon. To carry out operations satisfactorily, conditions of asepsis must prevail in the operating room and skilled assistants (*tamurgis*) for the surgeon must be provided. There is therefore a minimum expenditure of about L.E. 600 a year for the cheapest form of ophthalmic dispensary built at a cost of about L.E. 1,500.

VIII.—STATISTICS.

TABLE I.—**Amount and Varieties of Work Dealt with at Various Forms of Hospitals.**

NATURE OF HOSPITAL.	WITH OR WITHOUT BEDS.	MONTHS WORKING DURING THE YEAR NOT LESS THAN	VARIETIES OF OPHTHALMIC DISEASE DEALT WITH.	NUMBER OF BEDS.	NUMBER OF NEW OUT-PATIENTS DEALT WITH PER DAY.	NUMBER OF OLD PATIENTS DEALT WITH PER DAY.
Permanent	With beds.	12	All.	14	20	200 — 300
	Without beds.	12	Strictly limited.	—	10	100 — 150
Travelling...	Large camps with beds.	11	All.	12	20	200 — 300
	Small camps with beds.	10	All.	6	10	100 — 150
	Small camps without beds.	10	Strictly limited.	—	10	100 — 150

TABLE II.—**Cost of the Various Forms of Hospitals.**

Nature of Hospital.	With or Without Beds.	Building.		Equipment.		Maintenance.	
		Provided by	Cost.	Provided by	Cost.	Provided by	Cost.
			L.E.		L.E.		L.E.
Permanent	With beds.	Gift, subscription, or Provincial Council.	4,000	Government, gift, subscription, or Provincial Council.	1,000	Government.	1,500
	Without beds.	Provincial Council.	1,500	Provincial Council.	500	Provincial Council.	650
Travelling	Large camps with beds.	—	—	Cassel Fund.	850	Cassel Fund.	1,500
	Small camps with beds.	—	—	Provincial Council.	720	Provincial Council.	900
	Small camps without beds.	—	—	Provincial Council.	500	Provincial Council.	650

TABLE III.—**Source of Provision and Maintenance of Hospitals.**

	PROVIDED BY	MAINTAINED BY	DATE OPENED.
PERMANENT:—			
Tanta	Government grant.	Government grant.	1908
Assiût	Public subscription and Government grant.	Government grant.	1910
Mansûra...	Gift by Badrawi Pasha.	Government grant.	1912
Beni Suef	Public subscription.	Government grant.	1912
Zagazig	Provincial Council.	Government grant.	1913
Mahalla el Kubra...	Provincial Council.	Provincial Council.	1913
Kafr el Zayât ...	Provincial Council.	Provincial Council.	1913
Sohâg	Public subscription.	Government grant.	1914
Damanhûr	Provincial Council.	Government grant.	1914
Shebîn el Kôm ...	Public subscription.	Government grant.	1914
Minia	Provincial Council.	Government grant.	1914
TRAVELLING:—			
No. 1 Camp	Sir Ernest Cassel.	Sir Ernest Cassel.	1904
No. 2 Camp	Sir Ernest Cassel.	Sir Ernest Cassel.	1905
Gharbia No. 1 ...	Provincial Council.	Provincial Council.	1911
Gharbia No. 2 ...	Provincial Council.	Provincial Council.	1913
Assiût No. 1	Provincial Council.	Provincial Council.	1912
Daqahlia No. 1 ...	Provincial Council.	Provincial Council.	1913

TABLE IV.—**Permanent and Travelling Ophthalmic Hospitals.**

	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
HOSPITALS IN EXISTENCE:—										
1.—Travelling	1	2	2	2	2	2	2	3	4	5
2.—Permanent	—	—	—	—	1	1	1	2	4	7
New patients treated	2,954	4,210	7,327	7,446	7,794	12,092	14,342	20,488	28,029	40,670
Total attendance of out-patients	15,039	50,680	94,204	146,830	132,278	177,761	190,247	236,411	341,211	544,267
Operations performed	1,282	2,480	5,846	6,794	6,426	9,930	11,486	14,322	21,315	30,648
In-patients	49	140	202	184	208	390	443	678	909	1,807
DETAILS:—										
Patients examined					19,614	22,373	25,514	31,274	43,668	62,233
Patients regularly treated					7,794	12,092	14,342	20,488	28,029	40,670
Incurable cases					4,550	2,302	1,776	2,620	7,100	9,544
Blind in one eye					1,189	2,116	2,438	3,196	4,115	5,360
Blind in both eyes					852	1,385	3,010	2,811	2,824	3,878
Trichiasis cases examined					8,159	10,060	7,507	7,871	13,176	17,329
Trichiasis cases operated on and cured					2,262	3,128	2,022	3,933	6,942	11,700
NEW PATIENTS TREATED PER AGE:—										
Under 1 year					247	516	457	761	1,495	2,700
From 1 to 5 years					585	1,645	1,497	1,903	3,317	4,631
„ 6 to 10 „					902	1,442	4,469	2,101	3,210	4,786
„ 11 to 15 „					849	1,294	1,475	2,051	3,056	3,799
„ 16 to 20 „					829	1,156	1,499	2,067	2,588	3,253
„ 21 to 40 „					2,584	3,775	4,845	6,116	8,167	12,679
41 and over					1,798	2,206	3,100	5,589	6,196	8,822

TABLE V.

1.—IN-PATIENTS	1,807
Number of available beds	140
Number of diets issued	35,046
2.—OPERATIONS: Total number (30,648):—	
I.—Major (15,677):—	
(*a*) Senile cataract	377
(*b*) Soft cataract	202
(*c*) Trichiasis	11,700
(*d*) Other operations	3,398
II.—Minor (14,971):—	
(*a*) Scraping lids of trachoma patients	8,347
(*b*) Other operations	6,624
3.—OUT-PATIENTS:—	
I.—Incurable	5,713
II.—Postponed	15,850
III.—Tickets issued, *i.e.* new cases	40,670
IV.—Old cases	482,034
V.—Visits made by patients to hospital for treatment, I+II+III+IV	544,267
VI.—Average number of visits made to hospital by each patient under regular treatment (old cases + tickets issued) Tickets issued.	
Factor of incurable cases neglected per cent	13·33
VII.—Discharges:—	
(*a*) Cured	3,975
(*b*) Relieved	5,645
(*c*) Incurable	3,831
(*d*) Spontaneously ceased to attend after having attended only once	5,741
(*e*) Spontaneously ceased to attend after having attended more than once	21,911
VIII.—Trichiasis cases seen among new out-patients:—	
(*a*) No previous operation having been performed	14,644
(*b*) Previous operation perfomed:	
(i) Successfully	655
(ii) Unsuccessfully (not at an ophthalmic hospital, but probably by charlatans)	2,685
IX.—Ophthalmoscope and refraction cases	9,917
X.—General anaesthetics	5,521
XI.—Number of tickets in ticket box on January 1, 1914	3,504
XII.—Ages of patients examined:—	
(*a*) Under one year	2,700
(*b*) From 1 to 5 years	4,631
(*c*) „ 6 to 10 „	4,786
(*d*) „ 11 to 15 „	3,799
(*e*) „ 16 to 20 „	3,253
(*f*) „ 21 to 40 „	12,679
(*g*) „ 41 and over	8,822
TOTAL	40,670
XIII.—Origin of patients:—	
Patients from:	
Town in which hospital is situated	17,668
Markaz in which hospital is situated	14,729
Other markazes	8,273
TOTAL	40,670
XIV.—Number of days' work:—	
Number of full days' work	2,651
Number of half-days, *i.e.* Government holidays (Fridays not counted)	14

TABLE VI.—**List of Diseases.**

Ametropia :—	
Hypermetropia	210
Myopia	291
Astigmatism	128
Presbyopia	15
Conjunctiva :—	
Conjunctivitis simple	1,776
Conjunctivitis muco-purulent or purulent	5,228
Conjunctivitis gonorrheal	713
Other varieties	648
Trachoma I	3,012
Trachoma II	10,597
Trachoma III	18,736
Trachoma IV	1,793
Spring catarrh	1,923
Post-trachomatous degeneration	6,246
Phlyctenule	1,185
Pterygium	734
Pinguecula	70
Xerosis	205
Symblepharon	41
Dermoid	8
Other conditions :—	
Argyrosis	15
Colloid degeneration	20
Hypertrophied caruncle	64
Injuries (foreign bodies, burn, etc.)	34
Cyst	13
Eyelids :—	
Pediculosis ciliaris	103
Trichiasis and entropion	13,222
Distichiasis	36
Ectropion	217
Lagophthalmos	1,132
Blepharitis	4,066
Hordeolum	194
Wart	54
Meibomian cyst	159
Chalazion	65
Eczema	48
Rodent ulcer	3
Dermoid	17
Ptosis	66
Erysipelas	2
Herpes	8
Chancre	—
Epithelioma (rodent ulcer)	5
Other tumours	20
Lacrymal Apparatus :—	
Lacrymal fistula	32
Stenosis of the duct	3
Dacryocystitis, acute	18
Dacryocystitis, chronic	274
Cornea :—	
Ulceration, simple	1,955
Ulceration, hyopyon	142
Ulceration, perforation	726
Ulceration, special forms	10
Pannus	9,919
Keratitis, interstitial	94
Keratitis, trachomatous	580
Nebula or leucoma	17,179
Adherent leucoma	4,756
Totally opaque cornea	1,965
Staphyloma	1,026
Xerosis of cornea	277
Abscess of cornea	20
Conical cornea	353
Injuries (burn, foreign bodies, etc.)	117
Iris :—	
Anterior Synechia	825
Posterior Synechia	301
Inflammation	277
Iris Bombé	10
Irido-dialysis	30
Congenital coloboma	11
Aniridia	3
Persistent pupillary membrane	1
Sclerotic :—	
Ciliary staphyloma	220
Episcleritis	7
Injuries	11
Choroid :—	
Coloboma	2
Rupture	1
Disseminated choroiditis	25
Choroido-retinitis	25
Atrophy of choroid	23
Tumours	—
Albinismus	7
Retina :—	
Retinitis, albuminuric and diabetic	7
Retinitis, syphilitic	9
Retinitis, pigmentosa	38
Detachment of retina	36
Embolism and thrombosis of retinal vessels	1
Glioma	4
Other conditions	16
Optic Nerve :—	
Neuritis	16
Atrophy	136
Other conditions	4

List of Diseases (*continued*).

Lens :—

Cataract, senile	1,213
Cataract, soft	135
Cataract, traumatic	33
Cataract, lamellar	6
Cataract, anterior polar	272
Cataract, posterior polar	24
Cataract, dislocated, traumatic	31
Cataract, dislocated, operative	12
Cataract, dislocated, congenital	20
Aphakia	156
Secondary cataract	15

Vitreous :—

Opacities	64
Foreign bodies	2

Muscles :—

Strabismus, alternating	82
Strabismus, convergent	1,085
Strabismus, divergent	861
Nystagmus	356
Paralysis	9

Glaucoma :—

Primary, acute	12
Primary, sub-acute	17

Glaucoma (*continued*) :—

Primary, chronic	902
Secondary	1,977
Absolute	217

Globe :—

Shrunken globe	2,686
Buphthalmos	34
Exophthalmic goitre	1
Panophthalmitis	72
Microphthalmos	8

Orbit :—

Tumours	8
Cellulitis	9
Periostitis	1
Injuries	1
Cyst, frontal	2
Cyst, ethmoidal	1
Contracted socket	3

Blind :—

In one eye	5,360
In both eyes *	3,878

* Patients are accounted blind who cannot count fingers at one metre.

TABLE VII.—**List of Operations.**

Eyelids :—	
For trichiasis and entropion :—	
Snellen's	8,391
Anagnostaki's	196
Snellen-Anagnostaki's	413
Canthoplasty	47
Grafting mucous membrane	1,879
Electrolysis	698
Excision of lash	17
Other operations	68
For ectropion :—	
Plastic	15
MacCallan's	17
Kenneth Scott's	—
Kuhnt's	13
Other operations	9
For Symblepharon	87
For Hordeolum and Chalazion	349
Cyst removed	33
Wart excised	37
Restitching wounds	13
Abcesses	24
Conjunctiva :—	
For trachoma :—	
Expression	1,006
Scraping	7,586
Combined excision of Heisrath	245
Post-trachomatous degeneration	5,774
Other operations	119
Pterygium	313
Iris :—	
Iridectomy for adherent leucoma	1,392
Iridectomy, visual	108
Iridectomy for glaucoma	28
Iridectomy, preliminary, for cataract	2
Cystoid cicatrix	5
Division of ant-synechia	6
Lacrymal Sac :—	
Excision	34
Various	77
Growth Sclera	1
Lens :—	
For senile cataract :—	
Extraction with iridectomy	282
Extraction, after previous iridectomy	6
For membrane after extraction :—	
Discission	156
For soft cataract :—	
Extraction	2
Discission	76
Curette evacuation	89
For membrane after extraction :—	
Discission	21
Paracentesis	27
Capsulotomy	21
Capsule extraction	9
Globe :—	
Trephining of corneo-sclera with iridectomy	317
Excision	378
Evisceration	70
Orbit :—	
Exenteration	3
For Tumour	1
For Dermoid	5
For Cellulitis	4
For cyst, frontal	—
For cyst, ethmoidal	2
Cornea :—	
Foreign body removed	72
Saemisch's Section	19
Cautery	17
Tenotomy and advancement	18
Other major operations	51

Table VIII.—Tanta Government School.

(*a*) Number of pupils inspected in November...	370
(*b*) Number of pupils discharged since November	22
(*c*) Number of pupils inspected in November now attending (*a* — *b*)	348
(*d*) Number of pupils entered school since November...	12
(*e*) Number of pupils (total) now attending (*c* + *d*)	360
Percentage infected with trachoma	96·6

(1) *Condition of Conjunctivitis.*

	Previous to Commencement of Treatment at School 1907.		1912. Before Treatment. calculated on 370 Pupils.		1913. After Treatment. calculated on 360 Pupils.	
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
Healthy	21	4·30	12	3·24	12	3·33
Conjunctivitis	—	—	19	5·13	5	1·38
Trachoma I	78	16·00	8	2·16	14	3·88
„ II	211	43·50	62	16·75	10	2·76
„ III	165	34·00	246	66·48	126	35·00
„ IV	10	2·00	42	11·35	198	55·00

(2) *Results of Treatment.*

Applied for treatment	142
Underwent	130
Untreated	218
Guardians advised to allow performance of minor operation at Ophthalmic Hospital ...	60
Guardians consented to allow performance of minor operation at Ophthalmic Hospital	57

Condition Improved.

Pupils treated : 106, or 81·53 per cent of those treated.
Pupils untreated : 85, or 38·99 per cent of those untreated.

(3) *Vision.*

I.—Good Vision :—

(1) (*a*) Normal vision in each eye 6/6 and 6/6	73
(*b*) Attains this standard with aid of spectacles not greater in strength than ± 6 D	28
(2) (*a*) Vision 6/6 and 6/9 or 6/9 and 6/9...	49
(*b*) Attains this standard with aid of spectacles not greater in strength than ± 6 D	29
(Total 179, or 46·85 per cent).	

TABLE VIII.—**Tanta Government School** *(continued)*.

II.—FAIR VISION :—

(1) (*a*) Vision 6/6 and 6/12, or 6/9 and 6/12, or 6/12 and 6/12	36
(*b*) Attains this standard with aid of spectacles not greater in strength than ± 6 D	24
(2) (*a*) Vision 6/6 and 6/18	3
(*b*) Attains this standard with aid of spectacles not greater in strength than ± 6 D	3
(Total 66, or 17·27 per cent).	

III.—BAD VISION :—

(1) Attains any of the above standards with spectacles of strength greater than ± 6 D	6
(2) Fails to attain any of the above standards	131
(Total 137, or 25·86 per cent).	
Total vision taken	382

(4) *Spectacles.*

Number of pupils ordered spectacles this year	31
Number of pupils obtained spectacles this year	31
Number of pupils wearing spectacles ordered this year on date of inspection	18

Total number of pupils now attending school and obtained spectacles	82
Total number of pupils wearing spectacles ordered during last six years on date of inspection	39

(5) *Trachoma in its Relation to School Years.*

Before Tretament.

(*a*) Numbers.

	Healthy.	Trachoma.				Conjunctivitis.
		(i).	(ii).	(iii).	(iv).	
Year 1	3	4	41	30	4	5
„ 2	4	3	13	79	—	5
„ 3	1	1	5	83	13	4
„ 4	4	—	3	54	25	5
Total... ...	12	8	62	246	42	19

(*b*) Percentage.

	Healthy.	Trachoma.				Conjunctivitis.
		(i).	(ii).	(iii).	(iv).	
Year 1	3·65	4·87	50·00	36·58	4·87	6·09
„ 2	4·04	3·03	13·13	79·79	—	5·05
„ 3	0·97	0·97	4·85	80·58	12·62	3·88
„ 4	4·65	—	3·48	62·79	29·06	5·81

TABLE VIII.—**Tanta Government School** (*continued*).

(6) *Trachoma in its Relation to School Years.*

After treatment.

(*a*) Numbers.

	Healthy.	Trachoma.				Conjunctivitis.
		(I).	(II).	(III).	(IV).	
Year 1	3	5	2	49	23	2
„ 2	4	6	1	40	46	—
„ 3	1	2	5	17	73	3
„ 4	4	1	2	20	56	—
Total ...	12	14	10	126	198	5

(*b*) Percentage.

	Healthy.	Trachoma.				Conjunctivitis.
		(I).	(II).	(III).	(IV).	
Year 1	3·65	6·09	2·43	59·75	28·04	2·45
„ 2	4·12	6·18	1·03	41·23	47·42	—
„ 3	1·01	2·04	5·15	17·34	74·48	3·03
„ 4	4·81	1·21	2·43	24·09	67·46	—

(7) *Vision in Relation to School Years.*

	Years.				Per Cent.			
	(I).	(II).	(III).	(IV).	(I).	(II).	(III).	(IV).
I.—Good vision	30	51	51	47	34·48	49·51	48·11	54·65
II.—Fair „	18	14	16	18	20·68	13·59	15·09	20·93
III.—Bad „	39	38	39	21	44·82	36·84	36·79	24·41

(8) *Causes of Subnormal Vision.*

When more than one of the following causes is present in the same or in both eyes only one is given ; order of importance 1, 3, 2.

	Total.	Per Cent of those with Subnormal Vision.	Per Cent of Total Pupils Examined.
1.—Corneal opacity or Anophthalmia	200	66·88	52·35
2.—Ametropia :—			
(*a*) Hypermetropia (including hypermetropic astigmatism)	57	19·06	14·92
(*b*) Myopia (including myopic and mixed astigmatism)	37	12·37	9·68
3.—Other causes :—			
(*a*) Iris, ciliary body and vitreous disease of	—	—	—
(*b*) Lens, opacity of	1	0·33	0·26
(*c*) Fundus, disease of	1	0·33	0·26
(*d*) Central nervous system, disease of ...	2	0·66	0·52
4.—Congenital	1	0·33	0·26

TABLE VIII.—**Tanta Government School** (*continued*).

(i) Both corneæ clear	182
(ii) One cornea clear, the other showing opacity	74
(iii) Opacity of both corneæ	126

(9) *Blindness.*

For this purpose pupils are considered to be blind who cannot count fingers at one metre

Number blind in one eye	10
Percentage blind in one eye	2·61

Individual Causes of Blindness.

TICKET NUMBER.	CAUSE.
964	L. Adherent leucoma.
660	L. Adherent leucoma.
914	R. Ant. Polar Cataract.
590	R. Leucoma.
778	R. Leucoma adherent.
785	L. Persistent pupillary membrane.
750	R. Optic atrophy.
625	L. Staphyloma.
628	L. Convergence amblyopia.
423	L. Staphyloma.

TABLE IX.—**Kuttabs.**

	Numbers.		Percentages.	
	Tanta.	Assiût.	Tanta.	Assiût.
GENERAL :—				
Total number of kuttabs	28	15	—	—
Pupils, total number examined	2,278	969	—	—
Boys	1,721	950	75·5	98·0
Girls	557	19	24·5	2·0
Premises :—				
Clean	7	8	25·0	53·3
Dirty	21	7	75·0	46·7
Accommodation :—				
Sufficient	13	3	46·4	20·0
Insufficient	15	12	53·6	80·0
OPHTHALMIC :—				
No trachoma	106	57	4·6	5·8
Conjunctivitis chronic	49	18	2·2	1·8
Trachoma :—				
Stage I	164	13	7·2	1·2
„ II *a*	984	124	43·2	20·9
„ II *b'*		56		
„ II *b''*		23		
„ II *c*		—		
„ III	939	648	41·3	66·8
„ IV	36	30	1·5	3·5
Conjunctivitis, acute	216	130	9·0	13·4
CORNEAL OPACITY :—				
Cicatrical	415	189	18·0	19·5
Gross pannus				
VISION :—				
Total number examined for vision	999	676	44·0	70·0
Good	330	425	33·0	63·0
Fair	173	79	17·0	11·6
Bad	496	172	50·0	25·4
Blind in one eye	82	41	3·6	4·0
„ in both eyes	13	9	0·5	1·0

Good vision = 6/6 and 6/6, or 6/6 and 6/9, or 6/9 and 6/9.
Fair vision = 6/6 and 6/12, or 6/9 and 6/12, or 6/12 and 6/12, or 6/6 and 6/18.
Bad vision fails to attain any of the above standards.

Table X.—Publications by the Ophthalmic Staff.

1.—Four Years' Work with the Ophthalmic Hospitals in Egypt. Published in English and Arabic. Read by the Director at the annual meeting of the British Medical Association, August 2, 1907. (*Reprints are out of print.*)

2.—Ophthalmic Conditions in the Government Schools in Egypt and their Amelioration. Published in English. "Ophthalmoscope," September 1907. Read by the Director at the British Medical Association. (*Reprints are out of print.*)

3.—The Relief of Eye Diseases in Egypt with some Consideration of the Incidence of Blindness and Trachoma. Read by the Director at the Sixteenth International Medical Congress, Budapest, September 1909. (*Reprinted in English and Arabic.*)

4.—The Egyptian Ophthalmic Hospitals. Read by the Director at the Annual Meeting of the British Medical Association, 1910. (*Reprinted in English.*)

5.—Ophthalmic Hospitals in Egypt. Printed in "Ophthalmic Record," U.S.A., 1910. (*Reprinted in English.*)

6.—Communication Read at the Fourth International Blind Congress in Cairo, February 1911. Printed in "Ophthalmoscope," 1911. Reprinted in English, French, and Arabic. (*Out of print in French and Arabic.*)

7.—Les Divisions du Trachome, le Traitement de cette Affection et de ses Complications. "Archives d'Ophtalmologie," September 1911. By the Director.

8.—Trachoma and its Complications in Egypt. Published in English. By the Director. Cambridge University Press, London, 1913.

9.—Report on Ophthalmic Hospitals during 1912. Published in English and Arabic. By the Director. Government Press, Cairo.

10.—Trephining the Corneo-Sclera for Glaucoma. Read by Dr. A. F. El Rashid at the annual meeting of the Ophthalmological Society of Egypt, 1913.

11.—Trichiasis Operation without External Incision. Read by Dr. Zaki Seddik at the annual meeting of the Ophthalmological Society of Egypt, 1914.

12.—Operation of Combined Incision of Cartilage (Heisrath). Read by Dr. Mahmud Gamaleddin, at the annual meeting of the Ophthalmological Society of Egypt, 1914.

13.—Acquired Juvenile Cataract. Some Observations upon its Incidence, its Character, and its Association with Anæmia, Ankylostoma, and Pellagra. Read by Dr. R. Granville Waddy at the annual meeting of the Ophthalmological Society of Egypt, 1914.

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