ON THE LIABILITY OF SOLDIERS TO CONTRACT DISEASES OF THE CIRCULATORY SYSTEM.*

By DEPUTY SURGEON-GENERAL D. CULLEN, M.D.

IN selecting a subject for discussion, I have had in view to bring forward one on which military medical officers have taken much interest, the annual reports presented since 1861 embodying a mass of information on diseases of the heart and great vessels; and to sift out some of the more prominent features of this combined labour is what I would now attempt.

First, the question arises, Are our soldiers deriving benefit, in respect of less liability to this class of diseases, from the modifications and ameliorations in their lot of recent years? Have they profited by the labours of those who have investigated in the past the causes, and the effects of the causes of cardiac disability, and who have been instrumental in reforming much which tends directly and indirectly to the soldier's detriment in this particular? I need but hint at the looser dress, the more scientific equipment, the easier carried kit, the improved transport service, the advocacy of the engagement of a more mature class of recruits, the regulation by means of the Contagious Diseases Prevention Act of crying evils in camps and various garrison towns, the opening in barracks of recreation and coffee-rooms, and the safeguarding of the troops on foreign service in the choice of healthier localities—reforms which had in view the correction of tight clothing, of badly adjusted dead-weight, of immaturity, syphilis, intemperance, and malaria—and even the partial operation of which would lead us to expect year by year a well-marked decline, such as has been the case with other old scourges now well-nigh extinct.

Starting from a statistical basis, I would ask you to look at the Table No. 1, which gives from 1861 to 1880, twenty years, the total admissions, deaths, and invaliding, year by year, of the circulatory class of diseases. There are columns for the home troops, and troops abroad, and the total; and each column has a corresponding ratio to show the rate per 1,000 of mean strength. By dividing the period into two decades, we get a ready method of comparison.

* Read before the Gloucestershire Branch.

From 1861 to 1870, the admission-rate for troops serving in the United Kingdom was 9.50, and from 1871 to 1880 it was 14.98; this shows no improvement, but very much the reverse. The lowest admission-rate in the first period was in 1867, when it was 8; the lowest admission-rate in the second period was 11 in 1871. The highest admission-rate in the first period was 12.2 in 1869; and in the second period, three years give an average of 17.

The troops on foreign service show an admission-rate of 10.10 in the first period, and of 17.24 in the second; the highest rate in 1870 is 13.07; while four years in the second period average 19.6.

Taking next the deaths, and comparing the two periods, 1861, 1862, and 1863, may be contrasted with 1878, 1879, and 1880, these being the lowest death-rates in each period. At home, the aggregate of the first three years is 2.36, and of the last three 2.42, showing slightly in favour of the earlier period. For the twenty years the ratio is 1.24 in the first decade, and 1.20 in the second, and the difference is equally slightly in favour of the second period in the army abroad. There is, in fact, a remarkable uniformity in the results of the two decades, the balance in favour of the second for the whole army being .03.

With the statistics of invaliding, or final discharge from disability, the rate for the first decade is in the home army 4.12, in the army abroad 2.46, and for the whole force 3.16; and these figures contrast advantageously with the second decade when the invaliding-rate was slightly higher in each corresponding section.

From this table may be calculated the proportion which the diseases of the circulatory system bear to the total admission, death, and invaliding rates for all diseases; and, again, the second decade will show a preponderating liability to the incidence of the diseases under review. The proportion of these to all admissions in the first decade is 1 in 113.2, and in the second 1 in 64.6; the proportion to all deaths is in the first decade 1 in 13.1, and in the second 1 in 10.5; and the proportion to all invalids in the first decade is 1 in 7.8, and in the second 1 in 6.2.

It seems, therefore, admissible that, in all three respects, diseases of the circulatory system appear to be assuming a more rather than a less important aspect in the long list of disabilities.

The average number of deaths *per annum* in the twenty years is 218, the average number invalided is 612, and the combined average

No. 1.—Table of the Diseases of the Circulatory System in the British Army at Home and Abroad, for Twenty Years, from 1861 to 1880; showing the Annual Total Admissions, Deaths, and Invaliding, and the corresponding Ratios per 1,000 of Mean Strength per annum: also the same by Decades.

Years.	ADMISSIONS.						DEATHS.						INVALIDING.					
	Home.	Abroad.	Total.	Ratio at Home.	Ratio Abroad.	Ratio Total.	Home.	Abroad.	Total.	Ratio at Home.	Ratio Abroad.	Ratio Total.	Home.	Abroad.	Total.	Ratio at Home.	Ratio Abroad.	Ratio Total.
1861.	916	939	1,855	10.3	8.83	9.49	70	65	135	0.79	0.61	0.69	482	144	626	5.41	1.35	3.20
1862	694	983	1,677	8.9	8.09	8.40	53	112	165	0.68	0.92	0.83	350	219	569	4.47	1.80	2.85
1863	702	1,019	1,721	9.2	8.32	8.67	68	117	185	0.89	0.95	0.93	268	248	516	3.52	2.02	2.60
1864	623	1,222	1,845	8.5	10.36	9.64	87	142	229	1.19	1.20	1.19	302	229	531	4.12	1.94	2.77
1865	703	1,184	1,887	9.7	10.49	10.15	96	146	241	1.30	1.25	1.29	302	258	560	4.13	2.29	3.01
1866	636	1,181	1,817	9.0	11.09	10.28	87	166	253	1.23	1.56	1.43	283	261	544	4.16	2.45	3.13
1867	589	1,103	1,692	8.0	10.76	9.63	102	133	235	1.29	1.29	1.34	225	258	483	3.07	2.51	2.75
1868	717	916	1,633	9.2	9.57	9.38	141	143	284	1.80	1.49	1.63	219	351	570	2.78	3.67	3.22
1869	899	1,072	1,971	12.2	11.79	11.96	131	142	273	1.78	1.56	1.65	350	346	696	4.75	3.80	4.22
1870	812	1,074	1,886	10.8	13.07	11.49	122	133	255	1.49	1.62	1.55	368	295	663	4.48	3.59	4.04
Total	7,291	10,693	17,984	9.50	10.10	9.85	956	1,299	2,255	1.24	1.22	1.23	3,159	2,609	5,768	4.12	2.46	3.16
1871	1,016	1,164	2,180	11.0	14.77	12.24	148	128	276	1.49	1.62	1.55	328	199	527	3.30	2.53	2.96
1872	1,362	1,216	2,578	14.8	15.32	14.39	129	115	244	1.30	1.44	1.36	494	214	708	4.97	2.68	3.95
1873	1,152	1,603	2,755	12.9	19.84	15.60	156	121	277	1.63	1.49	1.57	390	174	564	4.07	2.15	3.19
1874	1,462	1,714	3,176	16.8	20.87	18.79	132	118	250	1.42	1.43	1.42	499	244	743	5.35	2.97	4.23
1875	1,544	1,584	3,128	17.5	19.53	18.48	127	104	231	1.37	1.28	1.32	456	226	682	4.91	2.80	3.92
1876	1,313	1,479	2,792	15.0	18.16	16.50	121	91	212	1.30	1.12	1.21	400	329	729	4.31	4.04	4.18
1877	1,310	1,462	2,772	14.2	17.67	15.85	95	83	178	0.97	1.03	0.98	216	216	432	2.61	2.61	2.61
1878	1,716	1,291	3,007	17.0	15.39	16.25	90	80	170	0.86	0.96	0.90	276	276	552	3.29	3.29	3.29
1879	1,056	1,360	2,416	15.1	16.20	14.67	54	70	124	0.64	0.83	0.73	389	251	640	4.61	2.99	3.82
1880	1,370	1,061	2,431	16.3	14.01	15.23	81	63	144	0.92	0.83	0.88	390	266	656	4.44	3.51	4.01
Total	13,301	13,934	27,235	14.98	17.24	16.03	1,133	973	2,106	1.20	1.20	1.20	3,346	2,395	5,249	4.53*	2.96	3.45*
Total in 20 years ...							2,089	2,272	4,361	Total in 18 years ...			6,505	4,512	11,017			

Average deaths *per annum* ... 218

Average invaliding *per annum* ... 612

Per 1,000 of Mean Strength.		Combined loss by death and invaliding <i>per annum</i>		Discharged the Service as Invalids.		Invaliding-rate.	
1861-70.	Annual average ratio of all diseases (10 years)	Admission-rate.	Death-rate.	1115.	16.7	24.8	...
"	Of which by diseases of the circulatory system	9.85	1.23	1 in 113.2	1 in 13.1	3.16	...
1871-80.	Annual average ratio of all diseases	1068.5	12.63	1 in 64.6	1 in 10.5	21.5	...
"	Diseases of circulatory system	16.03	1.20	1 in 6.2	1 in 6.2	3.45	...

No. II.—The Diseases of the Circulatory System, British Forces, at Home and Abroad—10 Years—1864-73.

DISEASES.	Table of Admission for 10 Years.											Table of Deaths for 10 Years.											Table of Invaliding for 10 Years.										
	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	Total 10 Years	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	Total 10 Years	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	Total 10 Years
{ Carditis, obsolete terms	132	127	163	115	32	6	...	...	...	...	575	8	2	6	7	2	...	...	...	...	...	25	15	15	14	14	2	...	...	...	...	60	
Morbus cordis "	29	4	18	4	16	...	...	...	...	...	71	7	2	2	...	...	...	...	...	...	...	11	23	6	6	2	...	...	...	...	37		
Pericarditis	98	78	63	51	61	71	65	86	61	61	693	5	7	9	12	11	8	9	9	8	7	85	...	5	12	3	1	4	7	14	5	52	
Adherent pericardium	...	...	...	...	...	...	4	2	...	...	6	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	
Dropsy of	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	
Endocarditis	...	...	...	...	...	9	3	3	...	5	20	...	...	...	...	...	...	...	...	...	...	3	3	...	...	...	2	...	1	2	...	8	
Dis. of valves of heart	601	727	624	597	659	587	455	531	573	583	5937	73	79	92	77	87	89	81	82	67	78	805	203	226	256	269	356	424	242	218	274	211	2,679
Fibrinous concretions in heart	...	...	...	...	...	...	...	1	2	...	3	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	
Myocarditis	...	...	...	...	...	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Hypertrophy of heart	270	271	280	312	288	268	219	203	200	163	2474	13	23	24	5	18	12	14	17	10	15	151	83	98	96	56	40	48	106	110	84	82	803
Dilatation	...	...	...	...	...	4	6	10	8	5	35	...	...	...	...	...	...	...	...	...	...	15	...	...	...	...	...	...	...	...	...	27	
Atrophy	10	2	4	12	6	7	4	2	5	1	53	2	3	3	1	2	1	1	...	...	1	15	1	...	...	...	1	1	...	...	4		
Excess of fat on	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	
Fatty degeneration of heart	6	8	10	16	16	10	6	8	14	12	106	6	8	10	13	18	10	11	17	12	16	121	...	12	...	2	1	4	2	...	4	25	
Aneurysm of heart	...	...	...	...	...	9	17	4	...	...	30	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	1	
Rupture	...	...	...	...	...	1	1	1	2	5	...	...	...	...	...	...	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	
Angina pectoris	57	44	39	49	27	9	5	14	15	9	288	2	2	...	...	2	...	...	...	...	2	8	6	2	8	2	4	1	1	2	1	28	
Syncope	21	27	25	15	24	6	10	13	20	13	174	2	1	...	...	...	...	...	...	...	3	10	...	...	...	...	...	...	...	...	...	6	
Palpitation	150	125	153	136	105	580	708	913	1206	1395	5474	...	...	...	...	...	...	...	...	...	...	2	26	16	8	8	24	73	136	88	188	121	683
Atheroma of aorta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	
Degeneration	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...	...	...	...	1	
Narrowing	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	
Dilatation	...	...	...	...	...	...	1	...	4	1	6	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	
Aneurysm	48	48	79	75	92	118	104	128	122	129	943	50	44	59	65	77	98	94	104	99	101	794	2	6	7	1	8	27	23	15	43	166	
Rupture	...	...	...	...	...	2	1	...	...	...	3	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	
Arteritis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Atheroma of arteries	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	
Degeneration	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Aneurysm	41	53	47	37	55	32	22	28	30	32	377	34	27	24	30	38	11	3	7	8	13	190	13	15	18	25	25	6	4	7	11	8	132
Rupture	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	
Embolism	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Dilatation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Phlebitis	13	11	4	8	7	8	13	7	11	11	93	3	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	3	
Obstruction of vein	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Obiteration	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Varix	264	205	170	143	134	163	149	129	153	198	1713	...	...	...	...	...	...	...	...	...	...	1	160	159	125	100	97	100	105	48	78	94	1,066
Rupture of vein	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...
Hæmorrhage	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Varicose navus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Angioleucitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Not specified	107	157	132	120	110	76	90	88	142	130	1152	23	42	20	20	25	22	26	24	27	30	259	...	...	...	...	...	...	...	...	...	68	
TOTAL	1845	1887	1817	1692	1633	1971	1886	2180	2578	2755	20,244	229	241	253	235	284	273	255	276	244	277	2,567	535	569	554	483	570	696	663	527	708	564	5,860

* Probably an error in return, 14 from Madras.

Admissions by Countries.

Deaths by Countries.

Year.	Home Army.	Mediterranean Group.	British North American Group.	West Indies.	Cape Group.	Australian, Straits, and China Group.	India.	Board-ship.	Abyssinia.	Total.	Home Army.	Mediterranean Group.	British North American Group.	West Indies.	Cape Group.	Australian, Straits, and China Group.	India.	Board-ship.	Abyssinia.	Total.
1864	626	110	67	16	120	118	776	12	...	1,845	87	9	23	1	14	18	73	4	...	229
1865	702	73	56	13	90	110	820	18	...	1,887	95	10	16	4	11	27	73	5	...	241
1866	635	95	78	9	109	53	822	16	...	1,817	87	17	17	3	11	23	89	6	...	253
1867	588	108	87	22	77	40	760	10	...	1,692	102	13	22	5	8	3	79	3	...	235
1868	717	83	74	21	79	26	615	8	10	1,633	141	14	21	3	6	11	85	2	1	284
1869	899	88	81	18	71	37	774	3	...	1,971	131	18	19	1	9	7	92	1	...	273
1870	811	95	36	9	62	40	825	8	...	1,886	122	11	7	3	9	7	94	2	...	256
1871	1,015	75	32	11	41	17	987	2	...	2,180	148	12	4	2	5	...	104	1	...	276
1872	1,361	102	22	16	33	33	1,009	2	...	2,578	129	9	5	1	4	3	91	2	...	244
1873	1,152	88	35	23	95	45	1,316	1	...	2,755	156	7	6	...	8	4	95	1	...	277
	8,506	917	568	163	777	519	8,704	80	10	20,244	1,198	115	140	23	85	103	875	27	1	2,567

Invaliding by Countries.

1864	301	45	13	6	27	26	117	...	535
1865	302	30	19	12	26	25	146	...	560
1866	293	29	26	3	27	19	157	...	554
1867	225	25	32	3	17	6	175	...	433
1868	219	28	36	11	32	3	219	...	570
1869	350	33	22	4	23	12	252	...	696
1870	368	50	12	1	9	12	211	...	683
1871	328	26	8	2	10	8	145	...	597
1872	494	30	6	3	8	5	162	...	708
1873	390	31	7	3	15	6	112	...	564
	3,270	327	181	48	194	122	1,696	22	5,860

Note.

In the Mediterranean group, Gibraltar, Malta.

" British N. American group, Canada, Bermuda.

" Cape group, St. Helena, Cape of Good Hope, Mauritius and Ceylon.

Australian, Straits, and China group, includes Japan and New Zealand.

annual loss is 830, or that of a strong infantry regiment. About 1870, it became a question if the alterations in the system of recruiting did not throw an inferior class of men into the service, their physical qualities giving a lower standard than obtained under the old system. I find that, in the first decade, of 209,763 civilians examined, the rejected for diseases of the heart, arteries, and veins were 60.6 per 1,000; and in the second decade of 364,187 civilians examined, the rejected for the same grounds were 42.8 per 1,000. This would seem to indicate a stricter examination in the former period; but be this the case or not, we have but 126,297 recruits passed in the one decade, and 248,873, nearly double, in the second; and from this fact alone, the area of selection being limited, the opinion may be held to be well founded that the standard of physical qualification on entrance is likely to fall rather than to rise.

A consideration not to be overlooked is that of age. In 1880, of 64,866 men abroad, 47,261 were between 20 and 30; 13,865 between 30 and 40; 2,294 under 20; and 1,446 above 40. In 1875, of 64,618 men at home 41,289 were between 20 and 30; 23,347 between 30 and 40; 3,444 above 40; and 12,771 under 20. These ages are favourable, though the number at home under 20 is higher than desirable, the period of training being doubly trying to an immature recruit.

I have now to place before you some information on the diseases, functional and organic, which soldiers contract; and have for this purpose constructed a table—Table II—showing for the ten years from 1864 to 1873 the diseases which have caused the admissions, deaths, and invaliding in the army at home and abroad, which exhibits at a glance the principal disabilities from which soldiers suffer. These ten years are taken for the following reasons: before 1864, the information afforded, in respect especially of invaliding, is not very complete; after 1873, from 1874 onwards, a species of atrophy, the atrophía inopia, has affected the Blue Books, which no longer give the constituents of a group of diseases, but present twenty-four (lately enlarged to thirty-three) statistical abstractions, in place of that definite classification and individualisation of disease which distinguished the earlier statistical reports. With your permission, I will make a few observations on this table.

[To be continued.]

A SUCCESSFUL CASE OF GASTROTOMY FOR INTES- TINAL OBSTRUCTION.

By ALDER SMITH, F.R.C.S., M.B.Lond.,
Medical Officer to Christ's Hospital.

THE extreme rarity of a successful issue to the operation of gastrotomy, undertaken for intestinal obstruction, leads me to publish the following interesting case.

On January 2nd, at 11 P.M., Mrs. S., aged 53, a ward-matron at Christ's Hospital, who previously had been in good health, was seized with acute pain in the abdomen, which soon settled about the median line, just above the umbilicus. This was followed by sickness in about two hours; during the night, she was in great pain, and vomited a bile-stained fluid four or five times.

When first seen on the following morning, January 3rd, she was in such pain, that I immediately injected a quarter of a grain of morphia subcutaneously; and, as the sickness had ceased, gave her a black draught, and ordered hot fomentations to the abdomen. The pain was acute and paroxysmal, and near the situation of the gall-bladder; so that, at first, I thought the case was one of gall-stone colic.—2 P.M. The draught was only retained an hour, and was then returned. Mrs. S. was still in great pain; the abdomen was normal; there was no tenderness and no swelling. I gave her a quarter of a grain of morphia subcutaneously.—4 P.M. The sickness had ceased, and Mrs. S. was only in slight pain. Some castor-oil was ordered.—10 P.M. The castor-oil was returned in an hour, and the bowels had not been relieved. A quarter of a grain of morphia was given subcutaneously.

January 4th. Mrs. S. had slept most of the night, and was in very little pain; she had had no sickness since last night; she had retained some milk and beef-tea. As the pain was comparatively slight, and the sickness had ceased, I determined to try one more dose of castor-oil before deciding that the case was one of obstruction.—3 P.M. The oil was retained two hours, and then returned. The pain in the abdomen was increasing, but, in other respects, Mrs. S. did not appear to be seriously ill. The tongue, temperature,

and pulse were normal; the abdomen was not distended; there was only slight tenderness about the umbilicus, and no tumour was to be felt. The case now appeared to be one of intestinal obstruction. A quarter of a grain of morphia was given subcutaneously, and an injection ordered by the rectum, consisting of a quart of gruel with castor-oil; nothing to be taken by the mouth but iced water and a little beef-tea, and fomentations and poultices to the abdomen.—10 P.M. The injection was retained half an hour, a few small pieces of faecal matter being returned with it. Mrs. S. had just vomited matter, not faecal, the first time since the morning. This sickness was not caused by food or medicine. She was not in much pain; the abdomen was in the same state. A fourth of a grain of morphia was given subcutaneously, and I left a quarter of a grain to be taken in the night, if she were in pain.

January 5th. She passed a quiet night, and had no sickness. There was still pain near the umbilicus. I gave a fourth of a grain of morphia, and ordered another large injection to be used. At 2 P.M., Dr. Andrew and Mr. Savory saw the case in consultation. The injection used this morning returned without any faecal matter. Some beef-tea had been retained in the stomach; she had had no sickness. The tongue, temperature, and pulse were normal. The abdomen was a little more distended than yesterday, and there was slight tenderness near the umbilicus, but no tumour to be felt, no tenderness in the right iliac fossa. She was ordered to continue the morphia, and only to have iced water, and a very little beef-tea. A fourth of a grain of morphia was given subcutaneously.—11 P.M. Mrs. S. had not been sick, and was comparatively easy. She had some morphia at 6 P.M.. Tongue clean; temperature 98.4°; pulse 90. A fourth of a grain of morphia was given subcutaneously.

January 6th. She had had a quiet night; no sickness. The pain was the same; the abdomen was slightly distended; nothing to be felt. She had been taking five minims of tincture of opium every hour since 4 A.M. Temperature 98.4°, and pulse 88.—10 A.M. I passed a long stomach-pump tube as far as the transverse colon, and very quietly injected four pints of warm olive-oil. This caused a little pain, but it was retained; I gave one-sixth of a grain of morphia subcutaneously. There had been a free discharge of urine up to the present time.—3 P.M. Most of the oil was returned in half-an-hour, but no faecal matter came away with it. Dr. Andrew saw the case, and it was considered one most suitable for the operation of gastrotomy, as the cause of the obstruction, from the history, seemed undoubtedly to be a twist, band, or internal hernia, and a fatal result seemed inevitable unless the patient were relieved by an operation.—5 P.M. Mrs. S. had lately vomited three-quarters of a pint of thin offensive faecal matter; this was the first sickness since the night of the 4th. The abdomen had been rapidly swelling since the morning, and was very much distended with flatulence. The patient's appearance was quickly changing, and she had the marked look of one suffering from strangulated hernia.—8.30 P.M. During the last few hours a consultation was held, and consent obtained for the operation to be performed. The abdomen was greatly distended; the patient was deeply under morphia, with pin-hole pupils; temperature 98.6°, pulse 90. The apartment was ordered to be kept at 65°, and the air to be moistened with steam. Mr. Savory operated at 9 P.M., Mr. Howard Marsh kindly assisting us. All the instruments were thoroughly washed in carbolic lotion (1 in 40), and afterwards dried; the operator's hands and the patient's abdomen were likewise washed and dried. The greatest cleanliness was observed, but no steam carbolic spray was used, and no carbolic lotion, or other irritant, was allowed to enter the peritoneal cavity. The abdominal cavity was opened by an incision extending from the umbilicus to the pubes, and the intestines were found to be much distended with flatus. They were rapidly traced downwards until a portion of the ileum was found tightly nipped by some band or constriction; below this was seen the flaccid and empty intestine. On pulling this portion of the ileum, and breaking through a band, a loop of strangulated intestine came out. This portion was intensely congested, of a deep claret colour, and so tightly nipped, that gangrene must soon have supervened if the operation had not been performed. As soon as the constricted portion was found to be pervious to flatus, by gently squeezing a small quantity through the narrowed part, no unnecessary exploration was made as to the exact cause of the constriction, but the intestines were at once returned. A little blood-stained fluid was removed by clean and new sponges from the abdomen, and the wound was rapidly closed with silk and silver sutures. There was very little bleeding, and no vessels had to be tied. The dressing consisted of lint soaked in carbolic oil (1 in 40), long strips of plaster, and a broad flannel band-