Alae membrane caused by previous peritonitis (a frequent source of obstruction of the bowels) and where, unfortunately, at the after death inspection, all their anticipations were but too forcibly verified, as strong cords were observed, which tied down the intestine at more than one point. Nothing will withstand these cords and fibrinous bridles of inflammatory lymph; the spine itself will be bent by them; the thorax, in some cases of pleuritis, will be contracted; while in the peritoneum (only that idiopathic peritonitis, in Dr. Addison's experience, is one of the rarest of our diseases) fatal obstruction of the bowels would be most frequent, as supervening on these effusions. Dr. Addison, in the majority of cases of obstinate obstruction of the bowels, is an advocate for treating them almost like strangulated hernia. Violent drastic purgatives, fluid mercury, etc., should be used with the utmost circumspection, if not entirely forbidden. Indeed, when such cases are under care in hospital, an opposite line of treatment gives the best chance of cure. The upper or obstructed part of the gut is mostly in a state of irritation, if not of active hyperemia, from the incessant previous deluge of purgatives. In the present case, Dr. Addison prescribed a mild aperient in conformity in some measure to ordinary routine; but he believes that opium, chloroform, fomentations of the abdomen, enemata of warm water; and occasionally bleeding, were likely to relieve the symptoms. In the present instance, though now somewhat unavailing, it would seem as though if Amussat's operation had been tried, or if O'Beirne's tube had been put in requisition, a better chance of cure might have been with almost certainty predicted. The valve at the ilio-cæcal pouch of the intestinal tract, Dr. Addison finds by direct experiment is a true valve under ordinary circumstances of health; but in this case, and others similar to it, the valve is overcome by the enormous force *a tergo*; yet if you relieve the valve, the vomitings of feces cease.

MECHANICAL OBSTRUCTIONS OF THE DIGESTIVE CANAL.

Curious cases of mechanical obstructions in the bowels now and again occur. A child was recently brought to St. Mary's Hospital, who had swallowed, at a grocer's counter, an ounce weight. The case, under the care of Mr. LANE, is still more extraordinary, where a large fishhook and whipcord thread stuck fast in the œsophagus; both of those foreign bodies were removed. A large bone of a partridge was mentioned at a society meeting recently as passing from a fistulous opening at the umbilicus. Mr. Dendy's case is well known, where a patient swallowed an egg-cup. Mr. HOLMES COOTE, at St. Bartholomew's Hospital, was asked to see a child who some months previously had swallowed a large pin. It seemed as if the pin passed harmlessly all down the intestinal canal, but, coming to the sphincter ani, it got a twist, and was found stuck right across, transfixing the gut.

ANEURISMS AND THEIR CAUSES.

In a very marked case of aneurism of the aorta—the case of A. E., aged 39, admitted into Guy's Hospital on November 5th, under the care of Dr. HABERSHON—the sac of the aneurism made its way under the mammary gland, and appeared on the point of bursting, when the patient died exhausted on December 2nd. At the inspection after death, the cause of the intense dyspnoea under which the poor woman suffered on admission to hospital was at once evident, as the immense sac of the aneurism pressed on the right lung and bronchus, the right lung being nearly destroyed, while in the left during life there was puerile respiration.

The point of interest in this case, and numerous others which are seen especially in the Borough hospitals, and to which Dr. Gull and Dr. Addison especially draw attention every year, is the cause of aneurism, and the cause of valvular disease of the heart in general; viz., over-straining in work amongst the working classes, by which the blood is prevented circulating in the lungs, yet the right auricle continues to fill to the point of bursting, disarranging the other cavities and valves of the heart.

CASE OF CLOSURE OF THE PULMONARY ARTERY, WITH PROBABLE FORCING OPEN OF THE FORAMEN OVALE: ABSENCE OF CYANOSIS.

Cases of disease in the left cavities of the heart form the rule; cases of disease at the right side by far the exception.

A little girl, M. G., aged 11, was admitted, a few weeks ago, under the care of Dr. OWEN REES, into Guy's Hospital, with several abnormal cardiac symptoms, and with a history of previous rheumatic attacks. The patient gradually sank about a week ago, and a *post mortem* examination was made last Tuesday. Dr. Rees recognised a well marked regurgitant *bruit* during life, but was scarcely prepared for the condition of things shown at the necroscopic examination. The organs in general were normal, but in the heart large wart-like vegetations were found on the aortic valves, such as are now generally recognised as the production of previous endocarditis from rheumatism. The right side of the heart was very much hypertrophied; but the pulmonary artery was literally non-existent, a large firm grey fibrinous clot existing in its place. The semilunar valves of the pulmonary artery were destroyed, or merged in the fibrinous deposit; and, on tracing the clot into the lung, it was found to stop abruptly at the openings of some of the secondary branches. The formation of a coagulum such as this does not necessarily block up the entire calibre of the artery; but here the artery seemed lost or obliterated. The ventricle itself was also very much enlarged, as if caused by the abortive effort or increased work it had to perform.

Though the lesion most constantly associated with cyanosis is not, as believed, open foramen ovale, but contracted pulmonary artery, there was no history in the case of any symptoms of a cyanotic character. Dr. Wilks, in making the *post mortem* examination, was led, however, to make a careful examination with a probe of the site of the foramen ovale, and found a distinct valvular communication between the two sides of the heart, which must have acted as a species of safety-valve. Here were, then, clearly two conditions under which cyanosis is found; and yet in what manner the lesser circulation was carried on seemed difficult to decide. Mr. Paget, who has described these changes in the pulmonary artery, suggests that there is a *retardation* of the circulation in the systemic vessels, in order to allow the quantity of blood traversing them to adapt itself to the reduced quantity which traverses the lungs. In the child the subject of these remarks, we were reminded of Mr. Paget's observation, as the little girl seemed to live in a state of torpidity, and had once or twice, according to the account of the friends, very severe "fits" of insensibility, ascribed to worms. In other respects, the case did not present anything very remarkable. the regurgitant *bruit* during life very evidently depending on the wart-like vegetations of the aortic valves, and situated rather within the ventricle; the changes on the right side being such as Dr. Habershon, Dr. Wilks, or Dr. Rees, had never seen in a long familiarity with *post mortem* examinations at Guy's Hospital. K.

Original Communications.

REMARKS ON THE STATE OF EDUCATION, THE PHYSICAL CAUSES OF DISQUALIFICATION, AND LIABILITY TO DISEASE, OF RECRUITS FROM A MANUFACTURING POPULATION.

By J. I. IKIN, Esq., Leeds.

HAVING been frequently asked the result of my experience with regard to the state of education, the physical causes of disqualification for the public service, and the liability to disease of the class amongst our manufacturing population who volunteer for the line and militia, I send a short statement of facts, which may, perhaps, be considered suit-

able for the pages of the ASSOCIATION JOURNAL. Residing in the centre, at the head quarters so to speak, of the West Riding of Yorkshire, my position as militia surgeon in Leeds has afforded me ample opportunities for observation, and an amount of experience with regard to the Medical Inspection of Recruits which has rarely, I believe, fallen, in so short a time as three years, to the lot of one medical officer. This experience has been acquired in consequence of no fewer than six militia regiments having been raised in the West Riding, five of which have obtained a large number of recruits from Leeds and the neighbourhood; and the duty of inspecting these recruits has fallen upon me, when the medical officers of the respective regiments were not one of the recruiting party, which was seldom or never the case till lately, that is, till since the disembodiment of the militia. Another source of experience has arisen from my being medical officer in charge of the Garrison and Military Hospital here during the greater portion of the period of the war, as a regimental surgeon was not stationed here during that time; consequently all the recruits for the line as well as militia were inspected by me, and those were beating orders in Leeds for above twenty-five regiments. During the last three years, I have inspected above 6,000 recruits—nearly 7,000; on looking over my papers, I find that since recruiting recommenced for the militia, and even since the disembodiment of the force, that is, during the last four months, I have inspected 470 recruits, to fill up the vacancies caused by volunteering to the line, and to obtain the quota required for each regiment, which ought to number 1050 strong, exclusive of officers and non-commissioned officers. I merely name these facts in order to show how my experience has been acquired. It would be useful to ascertain the results in other counties, and perhaps some of my brethren in the militia service will favour the profession with the results of their experience.

Of the 2,000 recruits first inspected at the commencement of 1854, 950 could neither read nor write, and above one-fourth were rejected as medically unfit. Copying my last official return to the War Office, I find the number of rejections not so numerous; and this is accounted for by the fact of the great majority of the recruits in this return having been previously inspected and approved as fit by various private practitioners. Upon presenting themselves at head-quarters for final approval by the regimental surgeon, out of 1,858 men thus inspected at head-quarters, 377 men were rejected for the following causes:—

Malformation	56
Defective condition of arms or hands from old fractures, contractions, etc.	44
Defective state of feet or legs from old fractures, etc.	9
Ulcers, wounds, and cicatrices of ulcers	41
Varicose veins and varicosities	43
Muscular tenuity	38
Specks on cornea and chronic ophthalmia tarsi	26
Inguinal hernia	29
Chronic cutaneous affections	27
Disease of the heart	12
Loss of teeth	15
Unsound health, scrofula, general debility, diseases of the testicles and other causes	34
	377

It appears from the above, that malformation, that is, either of chest, spine, or lower extremities, was the most frequent cause of rejection. This might be expected; inasmuch as labour in a manufacturing district is long continued, and often in a strained posture, and is commenced very early in life. The effect of shortening the hours of labour and close confinement will tend to lessen this cause of disqualification; I think a ten hours factory bill would improve the physical stamina of the population. Legislation has, doubtless, already caused some improvement, for Staff-Surgeon Roberts, in his little pamphlet on *Recruiting and Recruits*, published in 1852, states that, "in the Leeds district half the recruits examined in 1844 were

rejected;" and, on the authority of Sir J. M'Gregor, he states that, in Birmingham and five other manufacturing towns, out of 613 men enlisted, only 238 were approved for service. One-third rejected and two-thirds approved is considered the *present average*, by inspecting medical officers; but in the case last cited, one-third only were approved and two-thirds rejected. Varicose veins and cicatrices of old ulcers were very common causes of rejection; long standing, and the arduous employment, especially as carried on by mechanics, may account for their frequency. Contractions of the muscles of the arms and hands is another frequent cause of rejection. Hernia, as is found generally to be the case, from all published statistics on this displacement, is much more frequent on the right than on the left side, in the above list, in the proportions of five to two. The ordinary average (according to Mr. Teale, and given in his valuable practical work on hernia) in cases applying at the Leeds Infirmary, is one and a half on the right side to one on the left. Scrofula, glandular enlargement, and general debility, are constant causes of rejection, especially when trade is bad and food dear. Loss of teeth is not a very frequent cause of rejection amongst the labouring population: the excellence of their teeth has often struck me, and I am inclined to think they preserve their teeth much longer than the higher classes, though not in the habit of troubling themselves with the use of tooth powder, or submitting them to the manipulations of the dentist, save when extraction is a matter of necessity. It is the front teeth (in order to nip the cartridge) that we look at most particularly; though, if the bulk of the teeth are unsound, a recruit is not considered eligible, such a condition indicating bad digestion.

It may happen that a recruit is rejected for the artillery for want of capacity across the chest, and still possesses sufficient strength for the light cavalry or infantry. I do not like taking even young recruits who do not measure at least thirty-two inches round the chest. Of course, during the war, and at the period when our army was so much reduced by disease, deprivation, and active warfare, recruits were urgently required. The standard of height was lowered, and men were passed for the service at that particular time, who, in ordinary times of peace, would be rejected. Our orders were to use every possible means to obtain recruits. I think I may fairly be allowed to state that the West Riding did its duty nobly; it replenished the Scots Fusilier and Coldstream Guards; it sent great numbers into the Royal Artillery, and into most of the cavalry and infantry regiments engaged in the bloody campaign in the Crimea; and large proportions of volunteers out of the four West Riding regiments of militia that were embodied were admitted into the line, and were sent to the seat of war.* My own regiment (the 4th West York), never above 750 strong, sent above 500 men to replenish the line in less than eighteen months; and, as it was only raised after the three others, it was consequently least likely to obtain good recruits; but the effect of the excitement of the news from the seat of war was most beneficial, and caused volunteers to offer in great numbers, so much so that I have frequently examined above fifty recruits in a morning, both at Leeds and Bradford; and generally one-fourth were passed as fit. I believe it is admitted by the highest military authorities that recruits from the manufacturing districts much sooner learn their drill and duty, and become smart soldiers, than those from the purely agricultural districts. Though slighter in form, they are capable, after due training, of undergoing as great fatigue; but, on the other hand, they are not perhaps so steady and obedient. In a campaign, they have more "shift" about them, and exercise more ingenuity; or, to quote an apt expression, they possess "a faculty of adaptation to unexpected emergencies". Vast numbers of our recruits were sent to the Crimea without adequate training and preparation. Had it been possible to retain them longer at home, their physical

* The militia of the United Kingdom furnished altogether 33,000 volunteers to the line.

condition would have become much improved; for it is a notorious fact that ill fed, half starved recruits rapidly improve in condition and stamina by regular duty, a substantial mess, and habits of cleanliness. The reduction in the army at present going on will doubtless free the ranks of numbers who, except from the emergency of the war, could never have gained admission. The Guards are now sending their undersized men back to their homes; and the Act for limited enlistment (for two years) causes a further reduction.

It has often been the fashion to sneer at and ridicule the physical appearance of a manufacturing population like that of the West Riding; but, after seeing some of the metropolitan and southern regiments of militia, I will undertake to show as fine a body of soldiers in the Yorkshire regiments as any in the kingdom, and in a state of discipline surpassed by none.

In my next paper, I propose to speak of the prevalent diseases of militiamen, as furnished by the returns from my own regiment; and on other matters.

[To be continued.]

CASE OF TUMOUR OF THE BRAIN.

By G. E. TANGER, ESQ., Consulting Surgeon to the Dispensary, Nottingham.

[Read before the Nottingham Medico-Chirurgical Society, Oct. 24th, 1856.]

THIS case had been under treatment about eighteen months. The patient was a middle aged man, about 45, of temperate habits and good constitution. His first symptom was an uneasy sensation in the head, without any other indication of ill health. After a time, this symptom gradually disappeared, and dimness of sight was complained of; this went on in a short time to complete amaurosis. On examination with the ophthalmoscope, slight effusion was observed in front of the retina, with some extravasation of blood and a congested state of the blood-vessels. The progress of this case was not marked by any decided cerebral symptoms for some months, but afterwards it was noticed that the patient became peevish and irritable; that frequent attacks of stupor occurred, in which he would continue in a semicomatose state for several days. His faculties gradually became impaired; the power of articulation was evidently interfered with; and there was slight paralysis of both eyelids, and of the right arm and leg. There was no convulsion at any time.

The body was examined forty hours after death. The veins of the dura mater were much engorged, and the glandulæ Pacchioni were unusually large and prominent; near to them, a bulging of the dura mater was observed, which felt soft and elastic. One of the glandulæ Pacchioni corresponded with a depression in the cranial bone, where it was of the thinness of paper. The dura mater was adherent to the pia mater, covering the upper convolutions of the left anterior lobe; the adherent spot being deeply congested, and presenting marks of recent inflammatory effusion. Similar adhesions and effusions existed in the corresponding part of the falx cerebri, and on the convolutions of the left hemisphere looking into the longitudinal fissure. These convolutions were prominent upwards and towards the falx, which was pushed well over to the left side. On cutting through this prominent part, a firm tumour, of the size of a moderately large orange, was discovered imbedded in the substance of the anterior and middle lobes of the brain, and pressing against the opposite hemisphere, in which was a corresponding depression. The tumour was well defined, and readily turned out of its bed, which consisted of condensed cerebral substance. The tumour lay above the lateral ventricle, which was compressed by it, but not otherwise implicated. The corpus striatum and portion of the optic thalamus of that side were much pressed upon. On examining the base of the brain from below, there was no decided appearance of disease, except a general condensation, which was also evident in all other parts of the brain. Some who were present thought that

the optic tracts were atrophied, but this was by no means certain.

Dr. Ransom examined the tumour microscopically. The surface was smooth, well defined, with a sheath of cellular tissue, in which were numerous large vessels. Its form was nearly round; the section, to the naked eye, was very vascular; its colour was white, with an indistinct areolation, suggestive of a mammary gland. The consistence was friable. On scraping the surface, a thick granular pulp (the contents of the loculi formed by the fibrous stroma) was obtained. Examined by powers of from 300 to 500 diameters, this was found to consist of immature fibro-cellular tissue, identical with the fibro-plastic elements of Lebert. The younger cells formed the centre of small spherical masses, round which the more developed cells were arranged. The stroma consisted of more highly developed cells of a similar character, with here and there some perfect fibrous tissue. The vessels were numerous; their walls healthy. Scattered through the substance were some minute cream-yellow spots, due to fatty degeneration of its elements. No cellular bodies or brain-sand were discovered in any part of the brain.

FATAL CASE OF POISONING BY ESSENCE OF ALMONDS.

By T. R. HEYWOOD-THOMSON, M.D., Aigburth, Liverpool.

On Saturday last, at twenty-five minutes to 2 P.M., I was summoned to the residence of one of our most respectable merchants, about two-thirds of a mile distant, by a verbal message "to come quickly, and bring a stomach-pump, as the cook had become suddenly ill, and there was a suspicion of poisoning." Taking a little sulphate of zinc, tartarised antimony, and a stomach-pump, I reached the house at a quarter to 2 P.M., and found the cook (age not known, but apparently about forty-six years) lying on a bed in the servant's room, in a state of perfect insensibility. Her face was swollen, pale, and covered with perspiration; the eyes not quite closed, and, on separating the lids, staring fixedly, as if in terror; the pupils at first a little contracted, but soon afterwards dilated. The lips were semi-closed and livid, and a frothy mucus was running from the mouth. The lower jaw was rigidly closed, so much so, that one of the teeth had to be forced out before getting the stomach-tube introduced. The muscles of the neck were quite flaccid, so that I could move the head about freely; the muscles of the lower and upper extremities were in the same state, except the fingers, which were slightly but stiffly contracted, in a half-prehensile form. Respiration was slow and heavy, about 10 in the minute; the pulse was feeble, between 30 and 40. Smelling the breath, I found a powerful odour of bitter almonds; and, at once convinced of the nature of the case before me, I ordered the coldest water to be brought, and dashed over the head and neck; this was done by a fellow-servant, while I introduced the stomach-pump, and threw in, and again abstracted, hot water, hot coffee, and spirits of ammonia, to remove as quickly as possible the poisonous essence; the odour of the almonds being powerfully perceptible in all that was withdrawn. In a short time, finding the respiration gone, a vein in the arm was opened, and then the radial artery (not that I expected any result, but experimentally); a few drops of thickish, exceedingly dark, choleraic sort of blood, came away from the vein. Artificial respiration, blowing into the larynx, and Dr. Marshall Hall's rotatory method, were followed up, but in vain; soon after 2 P.M., she breathed her last, no appearance of resuscitation having rewarded our anxious endeavours.

On inquiring into the particulars, which were afterwards confirmed at the inquest, it seems the woman had either given or received notice to leave, having been in a state of more or less intoxication for the greater part of a week, during the absence of the family. She was seen a few