diet, as no one could hope to cure a gastric ulcer while irritating food was continued. But, making all due allowance for the great improvement which always follows the regulation of the diet, I think the treatment by small doses of arsenic gives results to be obtained by no other mode of treatment. More than, at the outside, two drops should never be given, as the irritating action would then commence, to the injury of the patient. By an action on the end organs of the gastric nerves, small doses relieve the pain wonderfully, and improve the general tone of the gastric mucous membrane, curing the gastric catarrh which exists at least in the immediate neighbourhood of the ulcer, and thus relieving the patient of the vomiting of mucus, which is sometimes an important feature of the case. We also know that a weak solution of arsenic will, out of the body, heal unhealthy ulceration, *e.g.*, onychia, or even when given internally, so that it is not strange that it should act locally as a cicatrising agent on a gastric ulcer. Nitrate of silver, the next best remedy, recommended by such men as H. C. Wood, Da Costa, and Wilson Fox, is not nearly so efficacious, either in relieving the pain or in promoting cicatrization. Indeed, in all gastric and intestinal affections in which nitrate of silver is so much recommended, and is so successful, I believe that the small dose of arsenic is far more valuable, and it is certainly far more convenient. Bismuth is highly recommended by Brinton and many high authorities, but it has been recently said that it very often owes its powers as a sedative to the stomach, to a trace of arsenic which it contains.

Some people are sceptical as to the reality of the cure in a case of gastric ulcer; there is no ground for this, for, although many ulcers continue open for periods of from four to thirty years, that occurs probably in absence of proper treatment. Besides, Brinton estimates that a cure takes place in about one-half of the cases which occur. This estimate is based on the number of instances of cicatrised ulcer found in *post mortem* examinations. It is also a more common disease than is generally believed. Dr. Brinton's researches show that it is found after death in an average of 5 per cent. of persons dying from all causes. Jaksch, quoted by Niemeyer, found, in 2,330 necropsies, ulcer in 57, and cicatrices denoting ulcers which had healed in 56; making the ratio of an ulcer, either existing or having existed, as one to every twenty subjects. My cases, too, were of the most dangerous sort, as they all occurred in young women; and it is in young women that perforation, with all its consequences—collapse, peritonitis, or abscess in the abdomen—is most liable to occur.

Perforation is most liable to occur when the ulcer is situated on the anterior surface of the stomach, as adhesions cannot so easily form between the stomach and the anterior abdominal wall as they can in other situations; but, as I diagnosed the ulcers in all of my cases to be situated on the posterior wall (on account of the pain darting straight through to the back), I was not uneasy about this danger, and did not confine the patients to bed, or hinder them from following their usual occupation, except in one case where the patient had to remain in bed on account of debility from hæmatemesis. When an improvement in the symptoms renders it probable that the ulcer is healing, great care in diet is important to prevent a relapse; and it is to be borne in mind that remissions are apt to take place, followed by a renewal of all the symptoms. Care is necessary for some time after the healing appears to have been completed; the patient is not to be considered as altogether safe for a year or two after apparent recovery, as the cicatricial tissue by which the ulcer is closed is of lower vitality than the mucous membrane generally, and in the case of lowered health from any cause, or the occurrence of chronic gastric catarrh, the ulcer is very liable to reopen; perhaps by the cicatrix being digested off by the gastric juice, should it become lowered in vitality by congestion or other cause.

Why young women should be so liable to the perforating form of ulcer, still remains unknown. It has been conjectured that the anæmia common at that period may stand in some relation to it, or affections of the endocardium, as no doubt the immediate cause of ulcer is usually embolism or thrombosis of a small gastric arterial twig, or even capillary, causing necrosis of the mucous membrane, or of the whole coats of the stomach within the space nourished by the obstructed branch, the gastric juice then digesting the affected part off. Small ecchymoses within and beneath the mucous membrane might act in the same way. Still, we cannot account for the fact that females are more liable to ulcer, in the proportion of two to one.

THE Epsom Guardians have, with the sanction of the Local Government Board, increased the salary of Mr. Allan MacLean, Medical Officer for the Leatherhead and Fetcham District, from £50 to £65 a year.

A FEW REMARKS ON HAY-FEVER.

By WM. S. PAGET, M.D. Lond., M.R.C.P., Great Crosby, Liverpool.

I READ with much interest the lecture on hay-fever by Dr. Morell Mackenzie, in the JOURNAL of May 17th; as I have myself been a sufferer from the complaint for the past six summers, the susceptibility to it, in my case, somewhat curiously, having only arisen since coming to reside in a seaside locality, peculiarly destitute of vegetation. I suppose it is now a tolerably well established fact that the pollen of the *Graminaceæ* is the active agent in producing the symptoms of the disease. I believe, however, that when once the complaint has set in, inhaling the perfume of almost any flower in full bloom will evoke an attack; at least, I have found this to be so in my own case.

Although the flowering grasses are the noxious agents, there are other factors (alluded to by Dr. Mackenzie) of such great importance, that they ought to receive due attention, influencing, as they do very materially, the course of the disease, and affording suggestions as to its successful treatment; of these influences, I have generally considered intense heat, bright light, and east wind, as the most potent. With reference to east wind, I remember well that, six years ago, when my first attack occurred, the wind, during the whole hay-season, never shifted from the east or south-east, the weather being glaring and sultry; victims to the disease suffered greatly during that summer. Here, on the west coast, when the wind blows from the sea, I enjoy comparative immunity; the ready explanation of this of course is that, when it blows from the opposite quarter (easterly land breeze), the pollen is wafted down towards the shore from the country districts. No doubt this is, in great measure, the true explanation, but it does not cover the whole question, for I have noticed this peculiar fact, that even when I have driven up into the heart of the country, and have been surrounded on all sides by hay-fields in full flower, if the atmosphere be bright and clear, with a west wind, I have scarcely suffered at all. Consequently, one is driven to the conclusion that there is something specially noxious about the east wind during the hay-season, as well as at other times of the year.

With reference to bright light, every sufferer knows what an immense relief it is when the sky is overcast. Not that light alone can produce the disease, but, when once it has set in, the supersensitive conjunctiva is easily irritated by bright light, and the complaint materially aggravated. So, again, intense heat, especially if combined with glaring light, intensifies the suffering, particularly when the body is prostrated by over-fatigue.

With reference to treatment, I am afraid I am somewhat sceptical as to any specific internal remedy, though one would naturally expect a good result from some of the nervine tonics. I have tried most of them, but it is difficult to estimate their relative value. It is, no doubt, however, exceedingly important to have the general bodily condition at its best. Unfortunately, just as the hay-season comes on, most of the educated classes (and it is among these we chiefly find the complaint) are run down by a year's hard work, have had no holiday, have passed through the trying influences of spring, and consequently their resisting power is below par, and they are prone to suffer severely, unless they can get right away to sea for a holiday.

With regard to local measures, I attach the greatest importance to the protection of the eyes. In my own case, as well as in those of many with whom I have conversed, conjunctival irritation, especially intense itching at the inner canthus, precedes, as a rule, by some days, the nasal irritation; consequently, by wearing goggles or a veil, as suggested by Dr. Mackenzie, whenever out of doors, and commencing their use early, before the disease has developed, a great point is gained. The comforting, cooling effect, not only to the eyes, but to the whole surface of the body, can hardly be overestimated. By this means, not only are the eyes shielded from pollen, dust, and wind, but also from the glare and heat.

It is also of great importance not to get the body overheated, if possible, as an aggravated attack almost always supervenes upon severe physical exertion; therefore everything should be done as leisurely as possible.

With regard to local applications to the eyes, I have found the greatest relief from very gentle sponging, either with tepid water or a tepid lotion of zinc, morphia, and hydrocyanic acid. I think cold applications should be avoided; for, though they give great comfort at the time, they lead to a disagreeable reaction afterwards. When the nasal irritation is great, I find inhaling a mixture of equal parts of carbolic acid and liquor ammoniæ very grateful. It is best to saturate a piece of sponge in this mixture, and keep it in a stoppered bottle, and inhale frequently. When the nose is much clogged, the employ-

ment of the nasal douche is valuable, using a weak carbolic lotion, or one of common salt or carbonate of soda. The plugging of the nostrils with cotton-wool is useful in preventing the entrance of pollen and other irritating matters, but is not altogether comfortable.

I have ventured upon these few remarks, not as containing anything novel, but with the hope that they may be of some use to others who are troubled with a very annoying and depressing complaint, for which people, as a rule, do not appear to have much sympathy. I am happy to say that my own attacks have been rather lighter each year.

THE TREATMENT OF HAY-FEVER.

By LENNOX BROWNE, F.R.C.S.ED.,

Senior Surgeon to the Central London Throat and Ear Hospital.

THE short note of Mr. W. F. Phillips, on the use of belladonna for the relief of hay-asthma, is valuable, since this remedy has, at least, the recommendation of being rational. A few further remarks in the same direction may be of interest.

It being conceded, as well established by Blackley and others, that the exciting cause of the affection is invariably irritative action of a flower-pollen on the nasal mucous membrane, possession of a peculiar idiosyncrasy as a strong predisponent must equally be admitted. It is further highly probable that this idiosyncrasy affects the subject far more locally than generally.

Now, let us consider how it is proposed to attack these causes. The most highly recommended local remedies are snuffs and insufflations. It is submitted, however, that they are most illogical for treatment of a membrane primarily irritated by mechanical atoms, however finely divided. The physiological use of the nostrils being to filter the inhaled atmosphere of irritant particles, it has always appeared to me as unscientific to blow powders, however sedative, into either nares or larynx in cases of disease, as to use snuffs in a state of health; the mechanical action of the powders being of itself, in my judgment, quite sufficient to contraindicate their employment. The same argument applies with even greater force to "plugging the nostrils with cotton-wool or wadding." I had long had experience of the use of ointments in cases not dissimilar to those of hay-asthma, in which acute coryza is produced, or a chronic nasal catarrh is aggravated, by the dust of roads or of ball-rooms, or by certain atmospheres, as of east winds and chemical fumes; and, four or five years ago, I first recommended them to patients subject to hay-asthma, the remedy to be commenced some days, or even weeks, before the season of liability. At first, these unguents were prescribed in the form of vaseline with iodoform; but repeated objections to the odour of this last named drug, and the unsatisfactory nature of every vaunted deodorant, led me to advise that the medicated ointment should be employed only at night, pure vaseline being substituted in the day. Lately, I have come to the conclusion that the vaseline acts principally as a protective of the abnormally sensitive mucous membrane, and that the iodoform is, in very many cases, unnecessary. Consequently, I now seldom add anything beyond the oil of eucalyptus (one drachm to the ounce of vaseline), and, in severe cases, solution of atropine, *B.P.*, in the same proportion. Let it be noted that use of the ointment, as now advised, by application of a camel's hair-brush, well charged therewith, inside the nostrils, followed by a good "sniff up," is a very different thing from a "smearing over of the upper lip and the margins of the nostrils." The use of strong smelling salts combined with carbolic acid is of service in many cases, and is well known. It may be needful to mention that their action is quite distinctive in theory and effect from that of snuffs.

So much for local protection against an attack, or for local relief. What is to be done to eradicate local idiosyncrasy? "Whether this be due to some local abnormality affecting the structure of the mucous membrane, the capillaries, or the periphery of the nerves, of too delicate a nature to admit of detection by available methods of research," Mackenzie says, "cannot be determined." Nor do I think it important, being content to agree with his statement that repeated examination of the interior of the nose in cases of hay-asthma will not reveal "anything more than general congestion." Such a condition is sufficiently pathological, and its treatment is easy and effectual, the indication being to change the character of the secreting membrane. In my own practice, I prefer, as superior to all other alterant procedures, a slight searing with the galvano-cautery at only dull red, or black heat, as at once the most quick and efficient, and also the least painful remedy; but, since this method is not generally available to many practitioners, trial may be made with one of the following remedies, as advised in order of their comparative value by Dr. Lefferts, of New York, for the treatment of hypertrophic chronic

rhinitis: fuming nitric acid, glacial acetic acid, and chromic acid. These remedies can be easily applied through an ivory nasal speculum, by means of a small probe, its end wrapped in absorbent cotton, saturated with the acid, the excess being well pressed out. Contact is maintained for barely a second. After-pain is but slight; a more or less deep slough is produced, with cicatrization, and a less sensitive membrane is the result. Prior to such a radical treatment, a course of inhalations of the neutral vapour of chloride of ammonium, by means of the apparatus of Burroughs or of Kerr, is often efficacious in effecting resolution, and is, moreover, of considerable service in acute attacks. Its effects may be modified or increased by the addition to the water-chamber of various medicaments, as ozonic ether, eucalyptus or pine-oil in alcohol, camphor, chloroform, or aldehyde.

It is hardly necessary to mention that any other local cause of irritation, as a relaxed uvula, enlarged veins or granulations at the back of the pharynx, or hypertrophy or polypi of nasal tissue, should be looked for, and if present should be radically treated.

So large a share of success has followed me in the line I have indicated, that I have not found it necessary to search for any constitutional idiosyncrasy once the local sensibility was destroyed. Probably a gouty diathesis is the one most commonly associated with disposition to hay-fever. A few words only are necessary on my views as to the value of internal remedies for checking or allaying an acute attack.

Above everything I rely on a combination of opium and belladonna, the former of which is recommended by Dr. Mackenzie, the latter by Mr. Phillips. The first named physician, rather to my surprise, reports that he has had no experience of the use of belladonna in this complaint, and Mr. Phillips relies on this drug alone. Belladonna, from its well known action of checking, and even of suppressing, secretions from all glands, of inducing dryness of the Schneiderian membrane, and in the relief it often affords in ordinary asthma, is indicated as the most rational of all remedies for summer catarrh.

Laudanum, also, in small doses (three to six minims), given between meals, has an extraordinary effect in checking the majority of cases of common coryza. Without presuming to offer an opinion as to the correctness of the views of Dr. Harley on the non-antagonism of opium and belladonna, I may say that the idea to combine these two drugs in treatment of the complaint under consideration originated in perusal of his interesting experiments. My own experience points definitely to the conclusion that, while opium and belladonna act antagonistically in relation to prevention of some of the disagreeable physiological effects of each drug administered separately, their combination intensifies and prolongs their respective remedial actions, and on these grounds I confidently recommend their joint employment.

In conclusion, I venture to differ from the dictum that the treatment of hay-fever need by any means be considered as unsatisfactory, provided only it be conducted on scientific, not on empirical grounds.

P.S.—Since correcting the proof of the foregoing short note, I have received from Dr. John O. Roe, of Rochester, New York, two communications to the New York Medical Society, on the Pathology and Radical Cure of Hay-Fever, in which the author brings very considerable evidence in support of the view that in this disease there is to be found either hypertrophy of nasal tissue or some localised spot of sensitiveness in the nostrils. The treatment advised is that of galvano-cautery, and the success is remarkable, one case having had an immunity of recurrence for five years, and others for less periods. A similar view is shared by other American specialists, notably by Dr. Daly of Pittsburgh, who has also reported several cases illustrative of the success of local treatment of the nostrils by cautery in patients subject to hay-fever.

THE TREATMENT OF PHTHISIS BY MEANS OF THE EUCALYPTUS ATMOSPHERE.

By A. W. MAYO ROBSON, F.R.C.S.,

Assistant-Surgeon to the Infirmary, Leeds.

WHILST it would be presumptuous to say that a cure for phthisis has been discovered, the researches of Dr. Koch on the pathology of tubercle lead one to hope that such a desideratum is not an impossibility.

The general treatment, hygienic and otherwise, of the diathetic conditions predisposing to consumption, has been extremely successful in preventing disease in some, and even in curing it in others; but these methods as a rule are only capable of being followed out by the rich, and even in them are not by any means always successful.

Now, if we believe that consumption is essentially tuberculous, and