who was more suited to put before you some of the problems of modern obstetrics and gynæcology and their solution.

ART. VIII.—*Insomnia*.^a By THOMAS JAMES KELLY, M.D.
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INSOMNIA is a word which means literally want of sleep, but it has come to be applied popularly to all degrees of disturbances of the night's rest.

The mysterious condition of repose in which our consciousness is in abeyance, and which we call sleep, has ever been a subject of interest and investigation, but we still know very little of its true nature or the ultimate physical conditions upon which it depends. Cerebral anæmia seems to be an important factor, and this is probably associated with exhaustion of the brain and chemical changes due to an accumulation of fatigue products, with consequent diminished receptivity for afferent stimuli. Dr. Howell, of Philadelphia, has made several contributions to the physiology of sleep. By means of a plethysmograph he was able to watch the relationship that existed between sleep and the circulation, more particularly in reference to skin circulation. Arterial tension was seen to fall slowly before the onset of sleep, and continued to sink until deep sleep was reached, and then only began to rise during the waking period. The charts produced by this instrument were very interesting, as showing not only the general curve, but also intermediate curves which represented sensory or bodily stimulation which occurred during sleep, and which remained, one may say, in the subconscious area. The whole of the skin is, as it were, flooded during sleep, while the brain is blanched. No similar increase seemed to occur in the internal viscera. The temperature of the brain and of the bowel was said to be the same. From

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this it does not follow that sleep depends only on brain anæmia. At one time it was thought rather to depend on venous congestion. But allowing that there is a degree of anæmia, probably the vasomotor system is involved ; and Dr. Howell looks to the investigation of this vasomotor system as leading to the vascular changes which undoubtedly are present.

Sleep disturbance depends upon many circumstances in ordinary life when the health is apparently robust, but in its more serious manifestations sleeplessness is mostly related to conditions of disease in which the normal balance of organic or functional activity is interfered with.

Apart from pain and organic disease, perhaps the most common causes of insomnia are overwork and worry. The one condition like the other leads to the accumulation of an excess of waste in the body, and upon this there ensues, in time, disturbed digestion, nervous irritability, mental depression and sleeplessness. In those who are pre-disposed one of the earlier consequences of overwork and worry is neurasthenia, and in this unstable state of the nervous system sleep disturbance is one of the most depressing associations. In the milder forms of neurasthenia it takes the form of light and easily disturbed slumber, which is often interrupted by dreams mostly bearing upon the events of the preceding day. In more advanced stages of the disease insomnia may become the most clamant symptom, all attempts at sleep being futile without the aid of some form of sedative. Next to worry and work, and often associated with either or both, some form of disturbed digestion is responsible for many restless and sleepless nights.

Insomnia, which accompanies all painful and pyrexial illness, becomes part of the general disturbance of health, and its treatment is merged in the management of the foundational conditions.

What I desire especially to direct attention to is, not the insomnia which is caused by acute disease, but that form which is a chronic condition induced by the wear

and tear of everyday life, and in the main is due to digestive disturbance. Whether this digestive disorder is to be looked upon as cause or effect, it is difficult to say, but it seems almost inevitable that metabolism must be influenced by any condition which so upsets the general economy as to encroach upon the resting-time requisite for the recuperation of spent energies, and it is not unlikely that, in most cases, a vicious circle becomes established whereby digestive faults are accentuated by insomnia, to which in their turn they contribute materially.

Apart from the indigestion, which is symptomatic of organic disease in the stomach or elsewhere, there are two varieties of the functional type of dyspepsia which are closely associated with neurasthenia on the one hand and with insomnia on the other, and which when present must be dealt with before either the neurasthenia or the insomnia by which they are accompanied can be cured.

The one type which may conveniently be called the asthenic type of indigestion is dependent upon a want of power in the stomach as regards both secretion and contractility, and is met with in people—mostly women—who are badly nourished, pale, thin, and run down. They complain of loss of appetite, flatulent distension and stomach discomfort immediately after taking food, eructations that are sometimes sour and often offensive, a fear of food because of its effect in increasing discomfort, and a desire to relieve the situation by vomiting. These patients are always troubled by persistent insomnia, or at best short and unrefreshing sleep. It is not uncommon in these cases to find a displacement of the right kidney accompanied in some instances by a sagging of all the abdominal contents, which causes the patient to experience a wearying sense of bearing down.

The other or sthenic type, more common in men than in women, presents a striking contrast to that just now described. The patient is often well nourished and plethoric. He complains of pain three or four hours after food, which is relieved by an alkali such as bicarbonate

of sodium. He has a good appetite and is seldom sick. His sleep at night is uncertain, and is often disturbed at about 3 a.m. by "hunger pain." His bowels are confined, and he is depressed about himself and curiously introspective. On examination the stomach is found dilated, frequently below the umbilicus, due partly to enfeeblement of the muscular coat and partly to spasm of the pyloric and cardiac orifices. There is an excess of hydrochloric acid and also of organic acids. This sthenic type resembles the clinical picture of duodenal ulcer, but in the purely functional cases there is no hæmatemesis or melæna. The symptoms disappear under suitable medicinal and dietetic measures. The insomnia which accompanies these two varieties of disturbed digestion can be cured in the asthenic cases by stimulating the gastric functions mainly by the use of a non-fluid diet and by giving a simple bitter alkaline mixture before each meal, such as—

R Sodii bicarbonatis,	...	gr. 20
Tinct. nucis vomicæ,	...	℥. x
Tinct. zingiberis	...	℥. xx
Infusi gentianæ co., ad		℥ j

In the sthenic cases the treatment must be essentially sedative. It should aim primarily at counteracting the hyperacidity which is the chief disturbing factor. To this end milk should be the main food for three days, tea should be avoided, red meat used sparingly, sugar and starches left out altogether. Medicinally each meal should be preceded by a sedative mixture such as :—Tincture of belladonna and tincture of opium, of each ℥. x ; solution of chloride of adrenalin ℥. x, spirit of peppermint to ℥ j, to be taken in one teaspoonful of water a quarter of an hour before the meal. This combination of drugs serves to control the glandular secretion of the stomach and diminishes the excitability of the mucous membrane.

I have dwelt at some length upon this question of the treatment of dyspepsia because a disturbed state of

digestion is such a common cause of insomnia. Many people who become the life-long slaves of hypnotics and sedatives would never have acquired the habit if their digestive disturbances had been treated at the outset.

Many devices have been suggested as a means of procuring sleep for those who, apparently healthy and free from strain of any kind, are yet unable to command it. The drowsy effect of monotony is a well-known sedative, the enumeration of figures, the falling of rain, the droning voice of an uninteresting and prosy reader are familiar examples.

In mild cases of insomnia change of scene, a sea voyage, moderate exercise in the open air, temporary withdrawal from the ordinary activities of life are each and all not to be neglected.

Massage, especially when practised thoroughly and rapidly over the abdomen, a hot bath, a mustard foot bath, a wet pack applied to the body, all act by producing anæmia of the brain, and so bring about a refreshing sleep.

When all these measures fail recourse to drugs of the narcotic and hypnotic class becomes a necessity. The most certain is morphine, though its use is not to be advocated.

When sleep is prevented by neuralgic or muscular pain aspirin, phenazone, acetanilide, exalgin, phenacetin, by relieving pain, assist in inducing sleep.

Of all the hypnotics the bromides are the least harmful, and a full dose of one or other of the salts is sometimes sufficient to procure sleep.

Next to the bromides, chloral hydrate is the most valuable hypnotic. It should not be given in cardiac cases.

Hyoscine is one of our most powerful hypnotics, and is said never to induce a habit, but owing to its toxicity care must be observed in its administration.

Of the vast army of recent hypnotics no mention need be made. The demand for them obviously exists, else the supply would not be forthcoming in such luxuriant

abundance, and the inference would seem to be either that humanity is more sleepless than it used to be, or that it is less tolerant of occasional disturbance of its night's rest.

ART. IX.—*Treatment of Syphilis by Salvarsan in Dr. Steevens' Hospital, Dublin.* By H. C. SMYTH, L.R.C.P. & S.I., House Surgeon; and G. E. PEPPER, L.R.C.P. & S.I., Assistant House Surgeon.

So much has been written on the dangers of salvarsan treatment of syphilis that it may not be out of place to refer to the system adopted in this hospital for its administration, and which in eighty cases has not only been without ill effects, but has in all cases, with one exception, proved beneficial.

Some of the earlier patients were treated by intramuscular injections into the gluteal region, according to the method devised by Alt, but it was found that painful swellings, and sometimes ulceration, resulted, causing the patients considerable suffering, while the beneficial results aimed at were not always attained.

In consequence we adopted intravenous injections, using the following technique:—The urine is examined for albumen and sugar, and should either be present it is looked on as a contra-indication to the injection until general treatment has been used lest the elimination of arsenic should further damage the kidneys. All heart lesions are also looked on as contra-indications.

The patient is prepared the night before the injection as for a major operation, and a purgative is administered, the site of injection being shaved, washed with soap and water, followed by ether and alcohol, and dressed with aseptic dressings. On the morning of operation a light breakfast, consisting of a cup of tea and a little toast, is allowed at an early hour.

The site of election is always the median basilic vein immediately below the bend of the elbow, both because it is easily accessible and because it allows a firm, even sur-