there are few parts of India where it may not occasionally be seen, and some villages and communities, such as parts of Tirhoot, at a considerable distance from the submontane regions referred to, furnish ample proof of its more general distribution, and that the causes exist elsewhere.

With regard to the presence of lime in the water as a cause in the Terai districts, Colonel Sleeman has pointed out, in his work on Oude,—"The kingdom of Oude must once have been the bed or part of the bed of a large lake formed by the diluvial detritus of the Himalayah chain; and, as limestone abounds in that chain, the bed contains abundance of lime, which is taken up by the water that percolates through it from the rivers and from the rains and floods above. The lime thus taken up and held in solution with carbonic-acid gas is deposited around the small fragments of flint or other hard substances which the waters find in their way." These nodular masses are called "kunker," and are the staple for road-making in India. They consist, according to O'Shaughnessey, of carbonate of lime, silica, alumina, and sometimes magnesia and protoxide of iron. Their existence, in fact, accounts for the presence in the water, which has percolated from the hills and infiltrated the subjacent soil, of agents which are generally considered to be so potential in causing bronchocele.

In a valuable paper contributed by Mr. H. M. Greenhow, of the Bengal Medical Service, to the *Indian Annals of Medical Science* of July, 1859, he alludes to the presence also in the water, from similar physical causes, of salts of sodium; but it is questionable if this can be regarded as having anything to say to the causation of goitre, though it is suggested as worthy of consideration by Mr. Greenhow, who remarks: "I cannot help concluding that drinking-water containing lime is the main cause of goitre. At the same time it must be admitted that the exact mode of action of this calcareous water on the system is as yet unknown to us; and it is also, as it appears to me, uncertain whether other circumstances do not aid the development of goitrous tumours. One of these circumstances is the impregnation of drinking-water with soda, and possibly potash. I do not know that carbonate of soda, which is very probably connected with the lime in the water, has ever been specially referred to as taking a part in the causation of goitre. Dr. Inglis, indeed, as before noticed, mentions that in Tirhoot, where goitre is very common, the soil is saturated with saltpetre, but that is all. Now, as I mentioned in noticing the topography of Secrora and the trans-Gogra division of Oude, the soil contains a great quantity of soluble salts, which are deposited on its surface, and which render it *oosur*, or barren; and this is the case not only in Oude, but in Scinde, in Egypt, and probably, as General Sleeman remarks, in the 'greater part of the deserts which now disfigure the face of the globe in hot climates.'

"The chlorides (and nitrites) of sodium thus brought to the surface affect the soil, and of course must affect the water too; and whether the resulting carbonates play a part in producing goitre seems an interesting question, and one on which I should gladly be able to offer more evidence. I throw this out more as a suggestion for future inquiry than anything else, and, indeed, as it does not appear that there is anything like the correspondence between the occurrence of salts in the earth and water and of goitre that there is between the impregnation of the water with lime and the prevalence of goitre, it may be that these salts have nothing to do with the causation of the disease.

"With regard to *race*, I do not think that this can be considered even as a predisposing cause of goitre, for we have all nations—Europeans, Asiatics, and Americans—affected by it. Among the natives of India I cannot make out that one *caste* is more prone to the disease than another. Most of my three hundred cases were Hindoos; but then the mass of the Oude population is Hindoo. The Mussulmans, I should suspect, are equally liable to it, for I have had many cases among them also—perhaps as many in proportion as amongst the Hindoos. Of the latter, no one class seemed to be more liable to the disease than another."

Without expressing any positive opinion on the subject, I would merely again point to the extreme prevalence of goitre in the Terai, which is so extensively malarious, as suggestive of another origin in addition to the presence of lime or iron in the water of the springs or wells and sub-soil drainage of that region. The association of goitre with cretinism, especially in Switzerland, is notorious, and in

some localities it seems to be more common than in others; but it is remarkable that this is not so in the goitre of India, and especially in that of the Terai. Mr. Greenhow says that of three hundred cases of goitre, only one was of weak intellect, but not a cretin. Nor do I remember ever to have seen a well-marked instance of cretinism in India, though I have seen feeble and imbecile persons who were the subjects of goitre and spanæmia. Many who were the subjects of advanced goitre were otherwise strong and in excellent physical and mental health.

Mr. Greenhow further remarks, "that though in Switzerland the same causes may seem to conduce to the production of goitre and cretinism, there are some circumstances referred to which lead to the occurrence of the latter which are not necessary to that of goitre, and that the converse is probably true. Cretinism appears to be an essentially hereditary disease, which goitre is not."*

I have not noticed, nor has it, I believe, been observed by anyone else, that goitre in India is associated with exophthalmos. If the morbid condition of the thyroid body depend on a neurosis, and a consequent disturbance of the normal vaso-motor arrangements, it seems to be limited to the thyroid body itself, and generally most remarkably to the right lobe. The extreme vascularity of this organ, which is supplied by four arteries, the united diameters of which, according to Hyrtl, is not much less than that of those of the brain, enables it to increase very rapidly under certain influences, and exposure of a few days to the exciting causes has been sometimes known to produce a well-marked bronchocele.

(To be concluded.)

WHY WE GO TO FOREIGN WATERING-PLACES.

By EDWARD JOHN TILT, M.D.,

PRESIDENT OF THE OBSTETRICAL SOCIETY OF LONDON.

WHAT foreign watering-place is more beautiful than Bath? A seven-hilled city, with stone terraces rising one above another, with a Royal-crescent and a Camden-crescent set on high, like coronets on the brow of beauty; a city surrounded by lovely hills, with their villas built upon the tessellated pavements of the Roman occupation. How few foreign watering-places can boast of a mineral spring, held in great repute by the sagacious Romans and by the various races who have successively occupied the land; and yet, although I am told that, of late years, there has been no falling off in the number of patients, still they do not flock to Bath, as in the days of Queen Anne or Beau Nash, but rather go to Aix-les-Bains, Aix-la-Chapelle, or Wiesbaden.

Last summer, my most intimate friend, a French medical man, well acquainted with these places, was bent on going to one of them for a chronic affection of a knee-joint, when circumstances occurred to render this undesirable, so I said to him, "Come with me to Bath." He did so, and I have dotted down what he thought of it, as compared with foreign watering-places of a similar type. He came to me on the day after his arrival, in a state of amused excitement, and said he, "Imagine my surprise, on strolling about this morning, not to be able to find an 'Etablissement des Bains.' At last I saw a handsome modern building, so I walked up to the porter, and I said to him, 'This is the Etablissement des Bains?' 'No,' says he, 'it is the Pump-room Hotel, Limited; but you can have a bath, and the Pump-room is opposite.' I turned to the Abbey Church, and to the right I saw a large, imposing building, with a Greek inscription at the top of it; but having forgotten the little Greek I ever knew, I concluded, from the intense blackness of its walls, that it was some philanthropic institution for decayed chimney-sweeps, when my attention was attracted to huge painted boards, one on each side of the principal entrance, like those that adorn the entrances of London gin-palaces, and there I saw written 'Pump-room, Mineral Waters, Bath,

* The absence of cretinism in the subjects of bronchocele of India, where the disease is so prevalent, and where the tumour often attains so great a size, appears to prove that the theory that the morbid condition of the brain and head is due to diversion of the blood in forming the hypertrophy of the thyroid gland is incorrect.

&c.' Happy at last, I pushed and pushed the door, until a little boy told me I must go in by a side door. I found myself in a very dingy, gloomy, well-proportioned hall, all alone with a comfortable old woman, sitting before a little fountain, surrounded by yellow glasses, of which she instinctively filled one, and handed it to me, with an encouraging smile. I drank it, thinking if Bath water cures, it must be in virtue of its own intrinsic properties, quite independently of the many charming concurrent circumstances by which the drinking of mineral waters is attended at foreign watering-places. 'Show me the pump,' said I to my solitary priestess. She looked amazed, but, soon guessing my meaning, she pointed to the trickling fountain, more like a squirt than any pump I had ever seen. 'Show me the spring'; and she led me to a window in an adjoining passage, and an involuntary feeling of reverence came over me, when I saw the spring that the Romans found welling up in exactly the same manner, and that has ever since continued to rise with the same chemical constituents, the same high temperature, and with the same inexhaustible abundance. Countless generations have sought health from its waters and passed away. Other parts of our globe have been shattered and reconstructed, but here is a geological phenomenon dating from before the Roman conquest. Shaking myself out of this poetic trance, I set myself to understand the surroundings of the spring, and I found it rose in a large square basin, in which men bathed, freely exposed to the angels of heaven and to any curious lookers-on, from the windows of the surrounding houses. All these houses and all the walls down to the level of the yellow waters were dark as soot, while from two windows the long shreds of rotten blinds flapped obediently to the breeze. Such is the shrine prepared for the spring, that gave both origin and name to a great city, and which has immeasurably contributed to its wealth and prosperity for eighteen hundred years."

Taken aback at this truthful description of the state of things, I jestingly told my friend that there was a good deal of symbolism at Bath; that its stone stood for human nature, its dazzling whiteness being susceptible of the deepest shades of black; that the side entrance of the pump-room showed that many diseases were best cured by indirect means, and that our importing the pump into our hydrological vocabulary arose from a former popular belief that the best way to quell vice was to put it under the pump. Our forefathers, therefore, thought that diseases might likewise be extinguished by assiduously pumping on them, and if the building of temples had not quite gone out of fashion, instead of erecting one, as of old, to Minerva Salutifera, they would have deified hydrology in some stalwart attendant, and represented him hose in hand. "That's all nonsense," said my friend, "there ought to be an 'Etablissement des Bains,' for it largely conduces to the efficacy of mineral waters that they should be surrounded with a certain pomp and cheerfulness of circumstances, because the patients who can afford to go to a watering-place have nervous systems unusually excitable, even if they be not overburdened with imagination. As it is contrary to your system that the State should do it, and as the property belongs to the corporation, it ought to erect a suitable building." "There is truth in what you say," said I, "and I regret that, six years ago, when the corporation had the option of raising a suitable building, they should have preferred to let the ground to an Hotel Company, and have contented themselves with spending £12,000 on a suite of baths completely hidden from view, in a wing of that hotel." "How could the doctors have allowed such a mistake?" "The doctors have no voice in the matter; the corporation manages its bath property by a committee of retired tradesmen, and I am told they have left off consulting the doctors on what relates to the baths. You are of course wedded to the continental system, but you will find a good deal of good pathological work done in several complete sets of baths, that open upon the little dirty streets that surround the pump-room. Go and see, and let us compare notes before you leave."

A month afterwards I met my friend, and put the following questions to him:—

"What of the waters?" "A very judicious saline mixture, seasoned with a dash of carbonate of iron, and enlivened with carbonic-acid gas—a mixture suitable to many diseases; and with regard to its external use, the water reaches

a diseased limb at a temperature of from 110° to 112° Fahr., which is as high a temperature as can be well borne."

"What of the baths themselves?" "The new ladies' swimming bath in the hotel is fine; but, instead of a parallelogramic shape, it would have been better to have made it circular, and after the model of Brill's swimming-bath in Brighton. Besides the ordinary well-known reclining bath, there is the T bath peculiar to this city, with a flight of steps leading down to a well. This, no doubt, is useful, when it is a question of lowering by means of a crane a paralytic patient seated in a chair, but for most patients I see no advantage in this more expensive kind of bath over the reclining bath, and I should not have constructed so many of them at the new hotel baths. It was also great waste of money to have added a separate dressing-room and watercloset to every bath at the new baths. With regard to the waterclosets, Bath water has rather a tendency to confine the bowels than otherwise, and patients are not encouraged to stop in the water for hours together, as at foreign watering-places. Medical men would have told the committee that the first principle of thermal treatment was to send the patient to bed after its application, instead of tempting them to lounge about half dressed on comfortable sofas; and most of them should be advised to put on their underclothes as quickly as possible, then they should be wrapped in hot blankets, taken home at a double, and put to bed for a couple of hours. This is part of the system at Aix-les-Bains, and the two porters, who are frequently met there carrying patients home, constitute an essential part of the treatment. That this is applicable to Bath is clear from the fact that Dr. Tunstall, in his interesting account of the Bath waters, mentions their efficacy being far greater in patients treated in the Hospital for Mineral Waters than in other patients, because the former were immediately sent to bed on leaving the bath. I doubt whether the profession at Bath has been sufficiently impressed with the advantage of following this plan, or they would have assuredly succeeded in impressing the urgency of following it on their patients, and it would have become a popular tradition of Bath, as it is of Aix-les-Bains."

"What about douches?" "For the douching of joints with a column of hot water through a rose, called dry douching at Bath, it seems to me the foreign plan is best, of stripping the patient, seating him in a warm room on a stool, and then letting an attendant douche the joint. By this means, in addition to the local effect, which can be intelligently adjusted, there is the action of a moderate vapour bath on the skin. Instead of this, having a stiff and swollen knee, I was made to unclot one limb, and sitting on a chair, made in the early part of the reign of George III., in front of a high pew, I had to rest my heel on a stool placed inside the pew, after which the attendant tied up the hose to a rod, so that the water might fall on my knee. This is a bungling mode of doing a good thing. Although my knee was not painful, I found it irksome to keep the knee more than five minutes on the stool, and some kind of cradle could be easily devised, so that the patient may prolong the douche without discomfort. Moreover, if the Bath faculty think it best to have only the local action of a douche, they should devise a box in which the joint might be douched without the room becoming full of vapour, for if there must be a vapour bath, better the skin should have it than the clothes. Indeed, it will very much surprise foreign hydrologists to learn that during the five weeks that I daily went to the Queen's private baths, I never once saw an attendant with his coat off."

"What of the tariff?" "No one would grumble at it being somewhat higher than abroad were not payment made troublesome. Fixed prices would be better than an additional charge if a douche be prolonged from five to ten minutes; and it is disagreeable to be obliged to be always provided with coppers for the attendant. The commercial men who compose the committee might also understand that there would be no loss in charging something less for twelve tickets taken at once. With regard to my estimate of the value of mineral waters, I consider that, however active they may be, they can be only credited with part of the benefit that follows their use. Most of those who go to watering-places have nervous systems more or less damaged by the wear and tear of a life, of business or of dissipation; and mental rest being therefore an essential element of their treatment, the three daily posts from London are to

the disadvantage of Bath as a watering-place. Though such patients want rest from habitual and exorbitant wear and tear, they need gentle, pleasant, and varied excitement, and they find it at a foreign watering-place, where, in varied ways, their whole individuality is steeped in an unaccustomed medium, that acts as powerfully on their nervous system as different food and cooking does upon their blood. This is why Bath cannot do as much good, in the same time, as Aix-les-Bains, Wiesbaden, or Aix-la-Chapelle. Nevertheless, Bath is well calculated to cure thousands who cannot go abroad; and I am convinced that its former prosperity as a watering-place would return if it were placed under competent management.

"You Englishmen talk grandly of putting the right man in the right place; but when you adopt a new system of sanitary laws, you will not trust doctors to work them; you even think that a medical man is quite incapable of having the sole control of an army hospital, so it is useless for me to suggest that a medical man should be at the head of a bathing establishment, as on the continent; but the corporation might get an intelligent lawyer to manage it, as they do to manage your great London hospitals, or the baths might be farmed to a joint-stock company. To make Bath as successful as it deserves to be as a watering-place, it might perhaps be advisable for the Bath medical men to somewhat modify their mode of attending their patients. I speak with great diffidence on this point, for my experience is limited to a bath built ninety years ago—the Queen's Private Baths—for five weeks only, and in August and September, whereas medical men may act differently, when there are more patients, as in October and in the following months. There was, however, a fair sprinkling of patients at the Queen's Private Baths, during the five weeks I daily went there, but I never once saw a doctor looking after any of them. I know that medical men at foreign watering-places do not take greater interest in their patients, than do Bath medical men; but the former make a very useful and pleasant exhibition of it. At a foreign watering-place the doctors often drop in, at the Etablissement des Bains, to see how their patients get on; they thereby know when to modify the treatment, the patients are encouraged, and the attendants are kept well up to their work.

"I feel deeply indebted to Bath and its intelligent doctors for having done me good; and you are at liberty to publish this opinion of a thoroughly independent observer, on the relative value of watering-places, should you think it desirable to call attention to defects that cannot be otherwise corrected."

Grosvenor-street.

ON INTRA-THORACIC CANCER.

By M. CHARTERIS, M.D.,

PHYSICIAN TO THE GLASGOW ROYAL INFIRMARY.

IN THE LANCET of January 24th last a case of intra-thoracic cancer was reported by me on the principle of Dr. Graves, "that rare diseases should not be looked upon as mere matters of curiosity, but should be attentively studied with a view of enabling us to recognise the true nature of similar cases when they again occur." Since then the following case, presenting diagnostic features and post-mortem results almost identical to the former one, has come under my observation.

A. M—, aged forty-four, engineer, was admitted into the Glasgow Royal Infirmary on June 26th, 1874, complaining of general weakness, cough, shortness of breathing, and dysphagia.

Past history.—The patient was a very healthy man until three months ago, when he caught an ordinary cold. Croton oil was applied to the chest, and he resumed his work, while the eruption caused by the oil was still prominent. The weather at this time was very cold, and the first day he commenced work he became "very hoarse." Vomiting also occurred after almost every meal. He observed in the vomited matters a quantity of clotted blood, of a reddish-black colour. He attributes his present condition entirely to the application of croton oil and catching cold afterwards.

Present condition.—The patient seems a strong, healthy-looking man. He states that he has been losing flesh of late, but this is not apparent. Liquids are vomited shortly after taking them, and solid food he is unable to take at all. He describes his sensations to be "as if the food stopped at the entrance to the stomach, in consequence of the wind from the stomach rising up and preventing it going further down." His voice has a peculiar hoarse, brassy tone. He complains of a slight intermittent pain over the stomach, which pain, however, he has only felt for the last fortnight. Percussion all over the front part of the chest is good. Behind there is marked dullness, extending from the lower angle of the scapula for about half an inch, and from close to the spine for about two inches outwards. On applying the stethoscope to this area, the heart sounds are heard distinctly, but with no abnormality in their tone. The stethoscope seems to be tilted up with each beat of the heart, yet no pulsation is felt on palpating the part. All over the chest numerous snoring and occasional sibilant râles are heard. Cardiac and hepatic dullness normal. Urine healthy, though small in quantity and high-coloured. Tongue is coated with a white fur, which appearance it retained all through his illness. Bowels are costive. Sputum very frothy and copious.

June 28th.—Difficulty of breathing and swallowing worse. He has occasionally paroxysmal attacks of difficult respiration, which threaten to end in suffocation. Some coagulated blood appeared in the vomited matters. He was examined by the laryngoscope. The left vocal cord was found to be paralysed, while the right was acting normally. Both were free from any visible disease, as was also the larynx and trachea, so far as could be seen.

July 3rd.—He is now very restless, and his increasing emaciation is very perceptible. He can only retain an occasional teaspoonful of champagne. Any other liquid is rejected. The spasmodic attacks of difficult respiration have become more frequent and violent. Beef-tea injections were ordered.

4th.—Had nitrite of amyl inhalations with no good result. To-day he complains of a severe pain, which appears to arise from between the epigastrium and right nipple, and shoots through to the right side of the spine, at the area of dullness there.

8th.—For the last four days the patient has been gradually getting weaker and more emaciated, cough more violent, and the pain mentioned on 4th July more severe. He is quite conscious of his approaching end. He died calmly at 11 55, and told me an hour previous to his death that if it were not for the obstruction he could swallow "an ocean of lemonade."

I am indebted to Dr. Joseph Coats, pathologist to the Royal Infirmary, for the following report of the post-mortem examination.

Result of post-mortem examination by Dr. JOSEPH COATS.—Very marked emaciation. Larynx normal. The heart is normal. A tumour is discovered which centres in the fork formed by the bifurcation of the trachea; thence it extends in various directions as follows:—It projects into the trachea just at its bifurcation, and also into both main bronchi, which it narrows considerably. It also extends slightly into the right lung, accompanying the branches of the bronchus for a short distance. The anterior wall of the œsophagus is involved in the tumour for a distance from above downwards of three inches. The tube is narrowed, and the wall at the part involved is in a sloughing condition. The tumour is also adherent to the concave surface of the aortic arch, and also of the pulmonary artery. It further projects slightly between the roots of these large vessels and the left auricle, and it forms a rounded prominence of the upper wall of this auricle. Its tissue is comparatively firm, and of a medullary white colour. The right lung is firmly adherent throughout; the left is non-adherent. Both of them are generally hyperæmic. The organs of the abdomen present nothing remarkable, except that the mesenteric glands are generally enlarged, but only to a slight degree.

On microscopic examination of a portion of this tumour in the fresh state, it is found to be essentially composed of multitudes of round cells of about the size of white blood-corpuscles. In addition, there are cells here and there which have undergone fatty degeneration. These are much larger than the others, and have pretty much the character of compound granular corpuscles. The fatty globules are,