aphasia and right hemiplegia, only a few hours after the apoplectic stroke, has conclusively shown that in such instances the movements of the vocal cords are perfectly preserved.

4. We have observed that on powerful or long-continued excitation of the laryngeal area true epilepsy of the vocal cords supervenes, gradually spreading to the neighbouring muscles of the face, neck, head, and upper limbs. From this we conclude that the epileptic cry is not, as has been so long believed, the result of a discharge primarily from the medulla oblongata, but rather represents a stage in the cortical excitement popularly termed an epileptic fit.

5. Whilst we have found so distinctly specialised an area of representation of adduction in the cortex, and no corresponding area of abduction in this region, we have, on the other hand, found that direct excitation of the accessory nucleus in the medulla oblongata evokes abduction of the cords, and never anything else.

From all the foregoing it follows that our results are in complete harmony with the most recent views of the relation of the cortical to the lower centres; for our experiments have shown that the representation of the laryngeal movements in the cortex is essentially that known as purposive or volitional, since it is adduction, that is, phonation; whilst, on the other hand, the bulbar representation of the larynx is as essentially adapted for the so-called automatic processes of organic life, that is, abduction-in-spiration.

Finally, this series of experiments, as well as those we have previously published³ on the peripheral innervation of the larynx, corroborates in the fullest manner the ideas which one of us [F. S.] has put forward in his first papers⁴ on abductor paralysis, namely, the proclivity of the abductors to fail in organic, and of the adductors in functional, disease.

ENGLISH AND FOREIGN WINTER RESORTS.

By I. BURNEY YEO, M.D., F.R.C.P.,

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RECENTLY, both in the medical and lay press, some severe criticisms have appeared reflecting on the conduct of those "fashionable London physicians" who recommend certain patients to pass their winters out of the island of Great Britain. As I have been for some years past a considerable offender in this respect, I have felt the severity, although I have not been able to admit the justice, of these animadversions. I had, however, no intention of offering any comment on these criticisms, as I knew well that time and experience—a bitter experience probably to some—would prove their baselessness. Moreover, the absence of all competent knowledge of the subject was so apparent in many of the communications, that there was nothing worth calling an argument to reply to, and it is always an unprofitable task to combat mere assertions. But now that Sir Edward Sieveking has published, in the *JOURNAL* of December 14th, some reliable statistical details as to the winter climate of Falmouth, where we are invited to send those invalids who are usually sent abroad, I am afforded an opportunity of dealing with facts instead of mere assertions or impressions, and I am given the means of presenting a comparison which should prove instructive, especially to those who are accustomed to look to facts for their instruction.

When we recommend patients a winter change of climate, we usually desire to submit them to the beneficial action of some very definite physical influences. The chief of these are (1) sunshine—exposure to health-restoring sunshine in the open air; (2) a warmer temperature, which usually accompanies more abundant sunshine; (3) absence of atmospheric humidity; and (4) absence of rain. No one who has any right to express an opinion on the subject will deny the paramount importance, in the selection of a winter climate for delicate persons, of those four conditions. Now I will take from my bookshelves, as a fairly representative

account of an ordinary, somewhat commonplace Continental winter resort, Dr. Hassall's work on San Remo, and it is especially appropriate in this connection, as Dr. Hassall had had a prolonged personal experience of a well-known English winter resort, Ventnor, with which he is able constantly to make instructive comparisons, and I will compare the facts as given by Sir Edward Sieveking of the winter climate of Falmouth in the four particulars I have named, and those collected by Dr. Hassall of the winter climate of San Remo. It is usual to regard the invalid's winter as consisting of the months of November, December, January, February, March, and April; or we may speak of November, December, and January as the three winter months, and February, March, and April as the three spring months.

Let us first take the three winter months, and compare the mean amount of sunshine to be obtained at Falmouth in November, December, and January, with that obtainable at San Remo.

In Falmouth, the mean amount of bright sunshine in hours for eight years was, in November, 70.9 hours; December, 57.8 hours; January, 46.6 hours:

Dr. Hassall's mean of three years at San Remo, November, 185.6; December, 219.5; January, 194.0 hours.

I must remark here that it is to me quite inexplicable that a place in which the mean amount of sunshine in the month of January reaches only 46.6 hours should be vaunted as a winter resort.

Let us next take the three spring months, February, March, and April.

Hours of Sunshine.				
	Falmouth.			San Remo.
February	...	71.3	...	209.5
March	...	130.8	...	261.7
April	...	174.1	...	267.9

Taking the whole six months, we get 551.5 hours of sunshine at Falmouth, against 1,338.2 at San Remo; but if we take the four wintry months of November, December, January, and February we get the truly enormous difference of 246.6 hours of sunshine at Falmouth, against 808.6 at San Remo.

In the second place, let us look to the condition of a warmer temperature.

Mean Temperature.				
	Falmouth.			San Remo.
November	...	47.5°	...	53.54° (+6.04°)
December	...	44.3°	...	49.25° (+4.95°)
January	...	43.6°	...	47.23° (+3.63°)
February	...	41.1°	...	50.19° (+6.09°)
March	...	44.2°	...	52.00° (+7.8°)
April	...	47.2°	...	57.04° (+9.84°)

A very sensible difference of temperature throughout the whole winter, and remarkably so in the spring months of February, March, and April, the period when invalids suffer so much from the protracted winter low temperature in these islands.

Thirdly, as to absence of humidity. At Falmouth the mean humidity for the winter six months is 83.6. At San Remo Dr. Hassall's means ranged from 67.2 to 72.7. The observations at the Government Observatory, being taken on higher ground, give a mean of 59.5, against Dr. Hassall's 67.2. The mean humidity at Falmouth then is high.

Finally, as to the rainfall and the number of rainy days. In Falmouth the mean rainfall for the six months mentioned amounts to 27.418 inches. Dr. Hassall's means at San Remo for the same period vary from 10.26 (1879-80) to 16.64 (1881-82) inches. But the average annual rainfall for ten years was only 28.7 inches, that at Falmouth being 49.358, and, when we come to compare the number of rainy days, the contrast becomes even more striking.

Number of Rainy Days.				
	Falmouth.			San Remo.
November	...	22.3	...	5.6
December	...	21.9	...	3.7
January	...	19.6	...	5.0
February	...	17.8	...	4.3
March	...	17.2	...	3.6
April	...	14.3	...	7.0
Total	...	113.1		29.2

It will be seen, then, that at Falmouth, during the winter months of November, December, and January, two out of every three days are "rainy;" at San Remo, less than one out of six.

It is unnecessary to pursue this comparison further. I would, however, point out to the medical practitioners who censure those whom they are pleased to call "fashionable" physicians for sending patients out of England, that these physicians would soon

³ On an Apparently Peripheral and Differential Action of Ether upon the Laryngeal Muscles. By Felix Semon and Victor Horsley. *BRITISH MEDICAL JOURNAL*, August 28th, 1886, p. 405.

⁴ Clinical Remarks on the Proclivity of the Abductor Fibres of the Recurrent Laryngeal Nerve to become affected sooner than the Adductor Fibres, or even Exclusively in Cases of undoubted Central or Peripheral Injury or Disease of the Roots or Trunks of the Spinal Accessory, Pneumogastric, or Recurrent Nerves: *Archives of Laryngology*, 1881, vol. II, November 3rd. Ueber die Lähmung der einzelnen Fasergattungen des Nervus Laryngeus Inferior (recurrens): *Berliner Klinische Wochenschrift*, 1883, Nos. 46-49, etc.

cease to be "fashionable" or reliable if they did not give due weight to those facts of climate which the intelligent and educated portion of the public are quite capable of ascertaining for themselves; and that, by setting up pretentious claims which are inconsistent with observed facts, we run the risk of incurring suspicion and mistrust. We surely cannot desire in this matter to deceive ourselves or to mislead others.

THE CURABILITY OF PHTHISIS.¹

By THOMAS HARRIS, M.D.LOND., M.R.C.P.,

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CONSIDERING the frequency of the occurrence of pulmonary phthisis, and the large number of deaths among the young adults of our population which it occasions, there are few questions which are of greater importance to medical men than the question of the curability of the disease.

We possess many observations by reliable physicians on cases of recovery from tubercular phthisis, and in not a few instances such observations have been confirmed by subsequent *post-mortem* examination. In addition to the observations at the bedside, however, we possess another and valuable means of forming an opinion as to the curability of pulmonary tuberculosis. Pathologists have repeatedly noticed, and called attention to, the frequency with which signs of involuted tubercle, in the shape of fibrous cicatrices, old dry caseous spots and calcareous deposits, are found in the apices of the lungs of persons who have died from various forms of disease, or from injuries. During the period I was Pathological Registrar to the Manchester Royal Infirmary, my attention was repeatedly arrested by the frequency with which such relics of former tuberculosis were present in the bodies of persons dying from different diseases. It was not, however, until I had been engaged in the pathological work for about three years that I became specially interested in the question of the involution of tubercle to pay particular attention to the subject. At the end of that time, however, I became anxious to ascertain the exact frequency with which, in the *post-mortem* examinations, such cicatrices, or caseous or calcareous formations, were present. I therefore decided that, during the subsequent twelve months, I would carefully examine the lungs of all the bodies on which a complete necropsy was made for the presence or absence of such lesions. This was done, and a record made of the presence or absence of cicatrices, caseous or calcareous formations, together with the position, size, and character of each lesion. These observations were made from October 1st, 1887, to September 30th, 1888, and some of the lesions were subsequently submitted to microscopical examination.

During the period mentioned about 200 examinations were made. The number, however, available for a statistical inquiry as to the frequency with which signs of involuted tubercle were found had to be reduced for three reasons. First, in some cases only a partial examination was allowed to be made, and the lungs could not be examined. Secondly, in the majority of the cases where death had ensued from pulmonary phthisis, the changes in the lungs were so extensive and advanced that no opinion could be expressed as to the presence or absence of involuted tubercle at some former time before the fatal illness developed. Such cases were, therefore, excluded, and only four cases of phthisis were retained, since in those only was it felt that an opinion could be expressed as to the presence or absence of obsolete tubercle. And, thirdly, all cases were excluded where the body was that of a person under 20 years of age. This was done because it was felt that, as tuberculosis is commonly a disease of young adult life, we could not expect to find involuted tubercle in children or youths, at any rate so frequently as in persons more advanced in life. The opportunities also of examining the bodies of children at the infirmary are few, since but a very small number are admitted every year. The exclusions from the above three causes reduced the number of necropsies available for our inquiry to 139. In these 139 cases, there were 54 cases where relics of former active tuberculosis—a description is subsequently given of what was regarded as a relic of former tuberculosis—was present, and in the remaining 85 cases no signs of involuted tubercle were present. It is important to note that this was the result of the

naked eye examination; as we shall learn directly, the microscopical examinations of some of the cases revealed that the process was not entirely quiescent, and that consequently some of the 54 cases would have to be excluded from the list of cases of involuted tubercle or healed phthisis. But, as the result of macroscopic examination, we found that 54 cases, or 38.84 per cent. of the cases above 20 years of age presented signs of involuted tubercle.

This number is remarkable. I was prepared to find a large number of cases in which signs of obsolete tubercle would be recognised, but I was surprised, when the cases were abstracted from the pathological registers, to find the number so high. This number means that tuberculosis of lungs is not only very common but that it frequently becomes quiescent.

It is interesting to consider the ages of the bodies which were examined, and the ages of the bodies in which signs of involuted tubercle were found. The following table shows this:—

Age of body examined.	Involuted tubercle found in:	No signs of former tuberculosis in:	Total number of examinations.
20-29 years ...	7 cases	19 cases	26
30-39 " ...	11 "	24 "	35
40-49 " ...	17 "	19 "	36
50-59 " ...	11 "	15 "	26
60-69 " ...	7 "	7 "	14
70 years and upwards ...	1 "	1 "	2
	54	85	139

From this table it will be seen that the greatest number of cases of involuted tubercle were found in bodies between 40 and 50 years of age, and that the proportion of cases in which such signs were found to those cases where no such indications were present was higher in this fifth decade than in any previous decade.

The number of cases above 50 years of age which were examined is not sufficiently large, and I should not have been surprised if we had found, had the number of examinations been larger, that the proportion of cases presenting signs of involuted tubercle to those where such signs were absent, gradually increased in each decade, even beyond 50 years of age. This gradual increase in the number of cases of involuted tubercle with the age of the body examined is what we should expect, because it is probable that it is slowly progressing chronic tuberculosis where much fibrous tissue is formed, which most commonly is arrested, and the experience of the majority of observers is that phthisis does more commonly run a prolonged course in old than young adults. It is quite possible that many of the cases of involuted tubercle included in the above list did not develop in early adult life, but at a later period, at an age when phthisis tends to run a chronic course and when arrest may be hoped for.

The appearances presented by the involuted tubercle in the fifty-four cases above-mentioned varied considerably. In some cases we had only a fibrous cicatrix, which puckered the apex of a lung, the surrounding pulmonary tissue being sometimes more or less markedly emphysematous. In the majority of cases, however, we had not only a fibrous cicatrix, but a caseous or caseo-calcareous focus, of greater or less dimensions. These caseous foci were well and sharply circumscribed from the surrounding pulmonary tissue, and often had a distinct capsule of fibrous tissue. It is not common for fibrous tissue to be the sole remains of former tuberculosis of the lung; usually there can be found at some part of the cicatricial tissue small caseous foci. In our fifty-four cases of involuted tubercle, the cases where caseous or caseo-calcareous foci were present far exceeded those where only fibrous tissue remained. In thirty-two instances it is recorded that caseous or caseo-calcareous foci were present, whilst in the remaining twenty-two cases no mention is made of any caseous foci, only fibrous tissue being mentioned as being present.

Few pathologists at the present day will be inclined to deny that the caseous and caseo-calcareous foci did really represent former active tubercular disease. It may, however, be otherwise with regard to the cases where only fibrous cicatrices were present without any caseous material. Before we regard a fibrous cicatrix in the lung as representing involuted tubercle, we must consider, first, its position; secondly, what are the other causes besides tubercle which may have given rise to cicatricial tissue. In all the cases above recorded, the cicatrices, as well as the caseous foci, were found in the apices of the lungs. In some cases there were several such foci, one or more of which was present in other parts of the lung than the apex. But it is important to state that no cicatrix or even caseous deposit was regarded as an instance of involuted tubercle when it was only found in some part remote from the apex. In all the fifty-four cases the involuted tubercle was found in the apex; cases were excluded from that list when

¹ Read before the Autumn Meeting of the Lancashire and Cheshire Branch of the British Medical Association.