SOME MEDICAL ASPECTS OF HOLIDAYS.*

BY

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The Need of a Holiday.

THOUGH bank holidays are comparatively modern inventions, dating from Lord Avebury's Act of 1871, holy days and saints' days are very ancient institutions, so that in Plantagenet and Tudor times the routine of labour was probably more interrupted than in the nineteenth century. But the prolonged summer holiday has now become a much more established article of faith than it was fifty or sixty years ago—long after railways made travelling comparatively easy. Many causes for this change of custom have been suggested, such as mere fashion and imitation, the increased rate and stress of living, of which each successive generation rather boastfully grumbles, and, of course, the explanation, beloved of the *laudator temporis acti*, that the present race has become degenerate and less hardy than its predecessors.

In an interesting paper in the second volume (1924) of *Reports of the St. Andrews Institute for Clinical Research*, Professor P. T. Herring explains "the Law of Fluctuation"—namely, that the constituent units of the body tissues are constantly varying between the two conditions of complete activity and complete rest, and that this mechanism prevents undue fatigue and its bad effects—this law being a necessary sequel to that of Keith Lucas's "all or nothing" response of nerve and muscle. Further, the graded response of a muscle as a whole is due to varying numbers of its units taking part in the response. What is true of the part is, *mutatis mutandis*, true of the whole, and the new law of fluctuation expresses in physiological terms the old ideas of rhythm and alternating phases of activity and repose. The momentary systoles and diastoles of the heart, the diurnal periods of wakefulness and sleep, and the annual holiday are illustrations of the same sequence. But just as the "all or nothing" law applies to units, so do the cardiac relaxations and the night's rest concern the shorter periods of man's life. The taking of holidays or relatively prolonged periods of cessation from work is on rather a different plane and is not of universal application, for those who do no work obviously cannot, by definition, have a holiday; work and holidays are the natural complements of each other, and there should not be any workers without their holidays; it has, indeed, been said that overwork is no more meritorious than overeating or any other form of excess.

It would be interesting to attempt an estimate of the value of a reasonable yearly holiday in terms of healthy longevity, by comparing those who have worked hard and taken an annual holiday with those who have toiled without a real break. General impression would unhesitatingly lead to the conclusion that constant work without a proper respite for repair must favour early senility. But in marshalling the evidence from individual examples of these two classes of workers other factors must be taken into account; long and healthy life depends to a great extent on a wise selection of parents, for heredity may counteract many sins against the laws of physiological righteousness; thus, as regards longevity, the average duration of life among a number of persons, both of whose parents reached the age of 80, was twenty years higher than in another series in which the parents died under 60 years of age (vide Raymond Pearl¹); a regular holiday may not be adopted until a warning of ill health or a nervous breakdown has made precautions imperative; and a complete life-history, especially of the incidence of infections, must be available. Examples of teachers, colleagues, or others who have ordered their lives on one or other of these lines will no doubt occur to you, so I shall mention two examples only of former leaders of our profession. Sir James Paget

(1814-1899) did without a real holiday for fifteen years (1845-1860) during his hard struggle as a young surgeon-pathologist; this, of course, was long before he "learned the misery of making only £4,000 a year"² (eventually he earned £10,000 for some years). He had pneumonia six times between 1851 and 1870, a severe illness from *post-mortem* infection in 1871, at the close of his long life became, as he philosophically recorded, less and less able to do what he would, and died with "signs of congestion of the lungs."³ He had the advantage of a long-lived family behind him. Sir Henry Holland (1788-1873), whose span of life was the same, early determined never to allow his income from practice to exceed £5,000 a year, and to spend two months every year in travel; this he did for nearly sixty years (1814-1873), and, like Sir Thomas Browne, died on his birthday, two days after attending the trial of Marshal Bazaine in Paris, being ill for three days in all.

It must sometimes happen that a holiday is unconsciously taken just in time to prevent a breakdown or the onset of an infection such as tuberculosis, and it would be interesting to speculate on the frequency of aborted diseases. The lowered resistance which was just about to allow infection to occur is braced up by the good conditions, and infection either does not make a start, or, if it has already taken root, is nipped in the bud or becomes latent.

While fully endorsing the physical and psychical need for a holiday in others, some seniors must admit that they have lost the keen zest of their earlier days to be off for a complete change, and that they no longer count the days before its advent with the same pleasant anticipation as in the past. Age has added inertia, a clinging to the home comforts, and a dislike to face the ills they know not of in unfamiliar surroundings. They no longer have the desire

"To burst all links of habit—there to wander far away
On from island unto island at the gateways of the day."

Such men may no doubt plead that their lives are not like those of most other medical men, not confined to monotonous routine, but varied by different forms of mental activity and their professional occupations diversified by official and public duties. In fact, like some contributors to *Who's Who*, they would subscribe "Work" as their recreation. There may be much argument in this contention from the mental point of view, but it does not provide for hygienic repair and fortification.

Some people never take a holiday and yet seem to get on well. A medical man told me that for twenty years he had never left London, except for professional reasons, and that by walking five or more miles every day he kept in good health, and I know another member of our profession whose experience is the same after ten years. These are, of course, exceptions, and their example is not without danger for the rank and file. Years ago a physician whom I found ill in town in August quoted Sir James Paget's record as a reason for his own self-denial; it certainly seemed that his early death from pneumonia, a few years later, may have been due to lowered vitality induced by following too closely in the footsteps of the great. Comparison between those who "live" and take holidays, sometimes spent at spas undergoing "cures," on the one hand, and those who take exercise but no holidays; though otherwise obeying the dictates they preach, on the other hand, might show but little difference on the whole, and so account for the apparent success of the medical man who never left London for twenty years.

The holiday requirements at different ages of life deserve some attention; the young, especially when rapidly growing; need much more rest and holidays than is perhaps generally recognized, and certainly more than adults; this is a point which the harassed parent of a large family does

* A paper read at the Liverpool Medical Institution on February 20th, 1922.

not always gratefully acknowledge. It is, however, hard to find any physiological reason for the discrepancy between the length of the terms at Oxford and Cambridge and those of students in the medical schools of London. As age advances and habits gain a firmer hold, the demand for holidays becomes less obvious or at least less clamorous. But perhaps the best test as to the suitability of a holiday to the various ages is the simple therapeutic one, so to speak, and to conclude that as long as a person really enjoys a holiday, he or she is of the right age for that form of holiday.

The time of year for a holiday is for many of us largely determined by the general lull which accompanies the absence of others during August and September; it is true that the younger generation, who act as substitutes and pickers up of the rather elusive crumbs left by the absentees, go away earlier or later. But otherwise a holiday at unaccustomed times may be considered to savour of mild eccentricity or impaired health, neither of which is a recommendation or advertisement of solid worth. From the hygienic point of view there is much in favour of splitting up the annual holiday allowance into two or three parts, but each of these should be a complete holiday. Some people are slow starters and take about two weeks to get into the holiday frame of mind and body, and therefore need a more generous vacation than others.

There are the two alternatives: (1) of returning year after year to the same favourite spot, which has become a second home with well proved sources of pleasure and satisfaction; and (2) of going to a new place every year so as to expand our limited knowledge of the world and to avoid the disappointment from less favourable circumstances than on the previous occasion. On general grounds it would appear that the plan of a fresh place each year is more suitable for the young and energetic, who are more able to find manifold outlets for their bursting vigour, and that those approaching "the sere, the yellow leaf" will be happier in the haven that they know suits them.

The length of a holiday, like its nature, varies with the individual; although six to eight weeks is the ideal, it may be suggested that just as the necessary hours of sleep show considerable variation, so do the holiday requirements of different individuals. Holidays may be divided into several categories, such as the complete, the partial, the educational, the therapeutic, and the failures. The conception of holidays includes two rather different aspects, which, however, overlap—first, that of recreation, and secondly, that of rest and repair.

1. Recreation consists in change, distraction, and activity of a pleasant nature in a direction other than that of ordinary routine life. It is mainly a psychological remedy, as shown by the good effect of switching off from one line of work to another, thus relieving one part of the mind while healthily exercising another, and possibly, though here we are on rather uncertain ground, exerting a beneficial influence on the corresponding areas of the subconscious. As Sir James Paget⁴ pointed out, there is a remarkable contrast between man and other animals in the matter of recreation—for except in the case of young animals, man alone refreshes himself by seeking fresh forms of activity.

The methods of recreation are various: it may be intellectual or physical, indoor or outdoor, and must vary with the individual's temperament and tastes. Although recreation essentially produces a mental rather than a physical change, it may be effected by physical means; thus it is perhaps most rapidly attained by fast or active motion—for example, running, riding, motoring, or flying, though the last is a more or less intelligent anticipation of what will probably hold good for the future; walking, which, at any rate in streets, does not exclude the companionship of black care, is therefore far inferior to bicycling or lawn tennis. As a complete change from the saving of life, medical men not uncommonly seek a holiday in stalking, shooting, or fishing, while others, tired of percussing the chest, obtain relief in driving golf balls over or even into bunkers. "A doctor's holiday" was the subject of the late Dr. W. M. Ord's oration to the Medical Society of London in 1894, in which, while admitting a

diversity of tastes, he inclined, apparently from his own hobbies, to the distractions provided by natural history or literature. But though it would be attractive to formulate the most suitable forms of distraction for the various professions and vocations, it is probably wiser to be content with the conclusion that it should be so different from ordinary life that the individual forgets his occupation and habits in becoming a natural man. A sedentary worker's recreation should be muscular exercise in which the mental processes, though no longer the sole form of activity, are in quite a different line; exercise is therefore a specially valuable form of recreation, as it influences both the body and the mind. In a rather analogous sense reading or writing as a form of recreation for the manual worker, while altering the mental outlook, also provides bodily rest; but it should be noted that the total physical benefit must vary according as an open-air worker rests in clean air or in a contaminated atmosphere, such as that of a cinema or concert hall; or, again, according as a worker in a badly ventilated workshop takes his time off in a garden or in a stuffy room. On the other hand, an intellectual worker who seeks recreation in bridge or the theatre is thus benefiting his mind without any accompanying physical advantage. An important factor in recreation is the faculty of keeping thought-tight compartments in the mind whereby attention can at once and completely be switched off from one subject to another—a faculty said to have been possessed by Gladstone and Kitchener. Recreation is of course fully recognized in the ordinary workaday life of everyone, and the degree to which it is put into practice no doubt has a bearing on the need for a prolonged holiday; some individuals have more work than recreation, and vice versa, and, other things being equal, the need for prolonged holiday will vary directly.

2. The factor of rest and repair is part of the rhythm of life—as shown in the frequent diastoles of the heart and the night's sleep; but a holiday differs from these in being at much longer and often irregular intervals, and in being under the control of the individual's discretion or indiscretion. What should be, but is not invariably, a form of holiday recurring at short and regular intervals—one day in seven days holiday—is the weekly Sabbath ordained in the Scriptures, which has been expanded into the modern week-end habit, thus enabling the conscientious week-ender to obtain 104 days of freedom during the 365 days of the year. A well arranged week-end habit may thus to some extent obviate a prolonged holiday of six to eight weeks in the year; in the now far-off eighties a friend of mine, who was often chaffed on account of his rather frequent disappearance from the hospital where he was house-surgeon, retorted: "It is all very fine for you to laugh at me, but I keep fit, whereas you get knocked up and then have to be away for two or three weeks." But the week-end is more often a diversion or distraction than a rest, and sometimes, though a change, is not devoid of fatigue. It is perhaps only a natural outcome of the cry of "the wear and tear of modern life" that the *Daily Mail* some years ago made the suggestion that if one day a week were spent in bed, the medical profession would have much less to do than is at present necessary. A few people indeed begin the regular summer holiday by going to bed for a week, but usually these are neurasthenics and are, or think that they are, on the verge of a breakdown when the date of their annual holiday comes round.

The rest factor in a holiday, ordinarily so called, nearly always concerns mental rather than physical activity—in fact, increased exercise is usually recognized as an essential feature of holidays. An important point is to secure complete change of environment and mental atmosphere, to get away from him- or herself, to pass a sponge over the mental slate and so wash off the dust and irritants of ordinary existence; for this reason a holiday at home has distinct drawbacks. As a first step it may be necessary to have a cessation of activity before passing from one state of life to another, however different; but this again had better, because more easily, be taken away from rather than at home.

In order to secure a more complete change of mental atmosphere there is much to be said for a holiday apart

from the family or usual associates, at any rate in the case of some persons. Sir Henry Holland, who probably got the most possible out of his long life, though he was not an epoch-making pioneer in medical science, went abroad alone yearly for two months during fifty years, and depended for social intercourse on chance meetings on his journey. Respite from soul-destroying routine and worry should be continuous and complete during the holiday; but often men who obey the call for fresh air, change of scene, and exercise, keep in touch with their profession or business while staying in this country. Again, men who live most of the year in town for the sake of their work may take a house in the country for the holiday months of August and September, and come to town once or twice a week to keep an eye on their work; they thus slack off but do not leave off their usual routine, while getting more into the fresh air; but they do not get an entirely new mental atmosphere—they change their physical but not their psychical environment; in fact, such a holiday is partial instead of being complete; it is more like a glorified and oft-repeated week-end, and approaches the life of a stockbroker who lives at Brighton and comes up to 'Change so many days a week. The physical health may benefit, but the mental groove is still between the same lines. There is therefore an advantage in taking holidays abroad, where calls, consultations, and certificates are not so likely to reach their intended recipient and as a rule correspondents cease from troubling. Much wisdom lurks in the interesting announcement in the social columns of the press that "Mr. and Mrs. Climber-Brown have gone abroad, and letters will not be forwarded." Foreign travel also involves a more complete change of scene and of mental attitude, whereby the individual loses sight of self among the innumerable new objects of interest, in spite of Horace's dictum, "*Coelum non animum mutant qui trans mare currunt*." A sea voyage has similar advantages, and further secures more isolation, which, however, is now not quite so complete as in the pre-wireless days. In addition it has the virtue of enforcing rest, which may not be an accompaniment of foreign travel and the itch to see as many capitals, pictures, views, and sights in the least possible time. Such a Continental scamper may, indeed, leave the traveller with an indigestion of impressions and ideas, and more fatigued in body than when he started out, so that he really requires a lotus-eater's rest on his home-coming. A holiday abroad has, of course, a wide application as an education, and its value may be augmented by careful preparation in acquiring a knowledge of the country, its history, and its language; it thus forms what might be classified as the educational holiday.

The Educational and Utilitarian Holiday.

While the health-bringing influence of a holiday depends on fresh air, sun, and change of environment, the good effects on the mind are due to occupation in new directions—such as natural history, science, literature, art, and archaeology. A holiday may therefore promote general culture and broader interests, and thus initiate a hobby, and so prove a valuable asset by providing recreation for the remainder of the year. This, indeed, is particularly true with regard to holidays spent abroad, with a foreign language, scenery, architecture, and manners to stimulate the visitor. Reference may be made to the question whether, as medical men, we should, when passing through great medical centres, be better advised to avoid a return, even for a short space, to a professional atmosphere, or whether we should be wise to take an opportunity of widening our knowledge and sympathies by visiting the medical school and seeing the buildings, laboratories, libraries, clinics, hospital facilities, and the prominent professors and teachers. Acquaintance thus made with places, personalities, and ideas will help to correct the all too common tendency to insularity and a narrow outlook which unconsciously grows and gains on us with the passing years. Though to do so is certainly open to the condemnation of its resemblance to a busman's holiday, there is a distinct difference between a flying visit to a medical school while happening to pass through a large town, and, on the other hand, going abroad to do a definite piece of work.

Does not the benefit obtained from such an incidental visit more than counterbalance any drawbacks due to its shabby character? Medical congresses abroad may be regarded as in much the same category as the passing visit to a medical centre, for though professional in name the general atmosphere is in reality much of the holiday picnic; they are a means of obtaining a welcome change of surroundings and combining a modicum of work with pleasant travel and the opportunity of making fresh friends.

Holiday Failures.

Indian natives who have worked for but not succeeded in obtaining a B.A. degree sometimes advertise themselves as "failed B.A.s," and in like manner there are holidays that fail, though they are not correspondingly a matter for boasting. A man may go away to the seaside and uncomfortable lodgings to be cramped up with his family, whose healthy noise and riotousness—especially when, as in some Augusts, "the rain it raineth every day"—gets on his nerves the whole time, and from which he has no excuse, such as his work or real diversion, to justify his escape. In this plight a man may count the days to his release from the discomforts and boredom of a so-called holiday. A holiday without his family is sometimes the best for a man of the irritable genius type. As regards physical health, the conditions at home may be superior or inferior to those encountered on a holiday, especially abroad, and the adverse conditions when away may be little more than counteracted by the increased amount of time spent in the open air and healthy exercise.

The most serious failure is that of the perpetual holiday often anticipated vaguely without any thought, much less realization, of its actual contingencies throughout a strenuous career; a successful business man retires or a professional man is placed on the shelf by the age limit, and what does he find? Unless blessed with wide interests or mercifully armed with some engrossing hobbies, the long-expected fruit of delight may turn to ashes on his lips, and he experiences what Bernard Shaw calls "the horror of the perpetual holiday"; he will then itch for real work, and even go so far as to return in a subordinate position in his own business; or, if no deliverance in the form of public work comes to the rescue, proceeds to deteriorate both in body and mind.

An aspect of holidays that should be mentioned with due circumspection is the effect on some members of the family of the holidays of other members. In probably not very rare instances parents suffer from the strain entailed by the holidays and proper entertainment of their children; a quiet, orderly household, with plenty of elbow room for those of mature years, suddenly becomes crowded with exuberant youth, full of restless energy and not unaccompanied by audible signs of exuberant enjoyment or excessive expostulation. The middle-aged, already "set" in their habits and somewhat intolerant of noise, often find it hard, though it is undoubtedly salutary, to become young, and when there are extraneous sources of anxiety may abandon any such attempt and be left with nerves jangled and irritable.

Diseases due to Holidays.

Although a thorough change is an essential part of a complete holiday, there are possible abuses in the method of making this change, and from the practical, not from the cynical, point of view, a few remarks may be devoted to "the diseases due to holidays." They may be divided into (1) those occurring during absence from home, and definitely due to the unusual conditions and manner of life, (2) those arising after the holiday, but traceable to its conditions or influence.

1. It is unnecessary to discuss constipation due to interrupted habits caused by the exigencies of travel, food poisoning resulting from experiments in unaccustomed articles of diet, water-borne diseases, such as enteric fever, or other endemic infections, such as malaria and Malta fever, except to intimate that due precautions should be taken with regard to diet and the choice of the foreign resort and to local conditions at the time of the year, such as the endemic prevalence of influenza, of enteric fever—

which obviously suggests T.A.B. vaccination before leaving home—the presence of mosquitos and of endemic malaria. Just as I was revising this paper I came on an article by Y. Y. in the *New Statesman* (1925, xxiv, 529) entitled “Danger!” and beginning, “Holidays are for the robust,” and humorously exaggerating these risks. Accidents such as sprains do not need any reference, but the risk of cardio-vascular strain must not be forgotten. Thus a middle-aged man after ten months or more of sedentary life suddenly, without any training, launches out into active exercise such as he was accustomed to take thirty years ago; for example, he at once starts climbing in the Alps, and may come seriously to grief by dilating his heart. Unwonted sea-bathing and swimming may prove too much for a man whose heart and arteries have insidiously undergone the changes of arterio-sclerosis; some of the bathing fatalities ascribed to cramp may really be angina pectoris.

2. Diseases Arising after the Holiday but Traceable to its Influence.—A drawback to travelling, especially for long distances abroad, is the risk of picking up infection—influenza, catarrhal, or tonsillar—from railway carriages and sleeping cars. It is disappointing after an invigorating holiday, such as at a Swiss winter resort, to develop a cold or sore throat directly after return, and thus to realize that much of at least the physical benefit of the change has been neutralized. This is therefore an argument for motoring abroad, provided the weather is suitable, in preference to railway trains.

Another occasional sequence to a holiday is that the acquired immunity, due to unconscious intermittent vaccination with the micro-organisms of city catarrhs, lapses in the pure air of a holiday, and that a cold or sore throat asserts its right to afflict the holiday-maker so soon after his return that the sunburn on his face has not desquamated; if the explanation of the lapse of acquired immunity is correct, it would be natural to expect that a long holiday would be more likely than a short one to be followed by this mishap. It has been thought that those engaged in *post-mortem* work are more prone after a holiday than at other times to become infected and suffer from boils or worse. Sir James Paget⁵ held this view, and in writing on a surgeon's freedom from infection while daily exposed to pus and his susceptibility when no longer thus protected, quotes E. Symes Thompson's⁶ experience that while engaged in doing necropsies he escaped infection, but on returning from a holiday to this work a scratch on his finger was followed by severe illness.

Advice to Patients.

Where, when, and how to take a holiday to the best advantage is a subject on which most people feel that, as on a number of other subjects, they are authorities, and are more inclined to impart than to follow advice. Though medical help is commonly sought as to the best place to undergo a cure for some morbid condition or tendency, and a holiday or rest from their labours is often prescribed by medical practitioners as an essential of treatment, ordinary persons seldom take expert opinion about their holidays, except from travelling agencies. The healthy boy or young man regards a holiday as merely a return to a state of freedom from the toil and the restrictions of civilized and artificial life, and would consider it absurd to dream of taking advice or of making any special preparations for a return to a state of natural and simple existence. But however it may be with them, their elders would often gain by adopting the humble course of asking advice.

National health is attracting ever-increasing attention, and many improved methods have been instituted; among the directions in which a useful advance might possibly be made is the more careful choice and arrangements for holiday-making. Those seeking advice should be impressed with the really serious importance of selecting the right kind of holiday and place, and further with the need for self-education in arriving at a proper decision. Just like any other course of action in life, a satisfactory holiday demands some trouble, though it might be urged that some of those who are in the position of advisers in this matter are themselves castaways and should practise in conformity with their preaching. The ordinary healthy person leaves the selection

of the place of his yearly holiday largely to chance; whereas skilled medical advice might effect a good deal in obviating failure in holidays. A sedentary worker often suddenly starts on active exercise at the very beginning of the holiday without any preparation in the way of training the heart and muscles for the increased strain thrown upon them. In the young there is so much reserve power that real harm seldom results from such rapid transition from solely intellectual to mainly physical activity, though not uncommonly after a holiday full of unwonted exertion there is on returning to work a feeling of slackness and fatigue which takes a week or so to wear off. It need hardly be mentioned that after an infection, such as influenza, a young patient must be cautioned against starting active exercise with too much enthusiasm, on account of the risk of myocardial strain. But as the years glide by and middle age becomes established, the margin of reserve narrows, and the holiday-maker is surprised to find himself suddenly pulled up by cardiac pain or distress on returning to the athletic habits of his youth. The risk of such an unpleasant experience should certainly be minimized by advice based on a medical stocktaking directed to consideration of the state of the blood pressure, heart, and arteries. A holiday should not be regarded in the light of an incident, such as an evening party, which can be embarked on without some measures of preparation; some time before setting off for a climbing expedition in Switzerland or stalking in Scotland, a course of walking, hopping, skipping, or training for the muscular and cardio-vascular systems should be undertaken. Further, the week-ends might be utilized as trial trips. By such a course of training the risks of sudden strain should be eliminated. Patients with anaemia should be cautioned against taking much exercise, for clinically the importance of rest in bed for patients with grave anaemia is well recognized, and experimentally G. O. Broun⁷ found that after a long period of sedentary existence in cages, in which presumably little blood was being destroyed and made, dogs then exercised vigorously for several days showed temporarily a great decrease in the circulating haemoglobin and red blood corpuscles from increased mechanical haemolysis, the compensatory function of the bone marrow being caught napping. In dogs previously exercised, as in human athletes during training, no such anaemia results, and the general experience is that after short periods of exercise the haemoglobin and the red count are raised. In recommending a holiday to another, attention must be directed to the physical condition and power, temperament, inclinations, and hobbies; and for successful advice personal knowledge of the individual and of places counts for much, for an uncongenial holiday would be worse than useless. The worries attendant on a long journey, with the rush of getting off and the care of children and luggage, may be minimized if the anxious mother and the irritable father take a sedative dose of bromide to render them philosophic, cheerful, and less prone to a train headache.

Holidays are often taken at spas, and here the physical benefit which results, or should result, from the “cures” for some bodily disease or disorder, may be impeded or modified by the boredom and dislike of the place chosen by high authority for his victim. Therefore, in considering the course of action, the mental as well as the physical factors should be taken into account. The experienced knowledge of physicians who, like the late Sir Hermann Weber, specialize in hydrology, climatology, and balneology, is a valuable supplement to the particular knowledge of the individual possessed by his medical attendant. Avoidance of overfatigue and of overfeeding, which the stimulating air and interest may excite, should be insisted upon.

REFERENCES.

- ¹ Pearl, Raymond: *The Biology of Death*, 1922, p. 160.
- ² Marsh, Howard: In Memoriam, Sir James Paget, *St. Bartholomew's Hospital Reports*, 1901, xxxvi, 11.
- ³ *Memoirs and Letters of Sir James Paget*. Edited by Stephen Paget. P. 222. Longmans, Green and Co., London, 1901.
- ⁴ Paget, J.: *The Nineteenth Century*, 1883, xiv, 977.
- ⁵ Paget, J.: *Lancet*, 1871, i, 735, 774. *Clinical Lectures and Essays*, 1875, p. 327.
- ⁶ Thompson, E. Symes: *Lancet*, 1871, i, 868.
- ⁷ Broun, G. O.: *Journ. Exper. Med.*, Baltimore, 1923, xxxvii, 113, 207.