

Huntt (H.)

**OBSERVATIONS**  
ON  
**A CHANGE OF CLIMATE**  
IN  
**PULMONARY CONSUMPTION,**

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WITH  
ADDITIONAL REMARKS  
ON THE  
*RED SULPHUR SPRINGS OF VIRGINIA.*

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**BY HENRY HUNTT, M. D.**  
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ORIENTATION

# A CHANGE OF CLIMATE

BY HENRY H. HALL, F.R.S.

WITH ILLUSTRATIONS BY THE AUTHOR

AND

ADDITIONAL ILLUSTRATIONS

BY ALFRED R. WALLACE, F.R.S.

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**OBSERVATIONS**  
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No subject demands more seriously the consideration of the philanthropist and the physician, than the choice of climate best adapted for the relief of persons laboring under pulmonary disease. Amidst the great improvements in medicine, we have to deplore the neglect of this important subject. Pulmonary Consumption, at this time, is the most fatal and destructive disease which afflicts the human race; and its ravages are rendered more peculiarly distressing, as it generally selects the most interesting and promising part of creation. When its character is once fully established, it bids defiance, in almost all cases, to the best directed means of the physician, and pursues a sure and determined course, to a fatal termination.

Taking this gloomy and melancholy view of Pulmonary Consumption in its confirmed state, it becomes the imperious duty of the physician to inquire, min-

utely and diligently, into its causes; by doing which, he is better qualified ultimately to render essential services to humanity, by discovering the best means of preventing, or of curing it in its forming state. While investigating these causes, we are irresistibly led to inquire, what are the situations most liable to Pulmonary Complaints? This is a grave and important question. From the most scrupulous investigation of the subject, we are urged to conclude, that the Sea Coast, in all countries, is most liable to this destructive disease. We are aware, that this may be explained, by referring it to the moist atmosphere, and sudden changes of temperature peculiar to those situations; and it is true that the great preservative against pulmonary complaints is warmth, and an equal or at least a uniform mild temperature; but if the frequency of this disease on the sea coast were principally owing to a moist atmosphere and sudden transitions of temperature, why is not Pulmonary Consumption as prevalent on our *great lakes* as on the sea-shore? The fact is, that this disease, on the borders of our lakes is rare, when compared with its ravages on the sea-shore. We must, therefore, look to some other cause for its destructive ravages in the neighborhood of the sea, besides moisture and sudden changes of temperature, and we feel perfectly satisfied

that *this cause* arises from a *mixture of land and sea air*.

Professor Rush, that great observer of cause and effect, in his Inquiry on Pulmonary Consumption, observes, that “situations exposed to the sea should be carefully avoided, for it is a singular fact, that, while consumptive persons are benefitted by the sea air when they breathe it on the ocean, they are always injured by that portion of it which they breathe on the seashore. To show its influence not only in aggravating but in predisposing to consumptions, and in adding to the mortality of another disease of the lungs, I shall subjoin the following facts: From one-fourth to one-half of the adults who die in Great Britain, Dr. Willin says, perish with this disease. In Salem, in the State of Massachusetts, which is situated near the sea, and exposed during many months in the year to a moist east wind, there died in the year 1799, one hundred and sixty persons; fifty-three died of consumption, making nearly one third of the whole number. Eight more died of lung fever, probably what was called in Philadelphia the galloping species of that disease. Consumptions are more frequent in Boston, Rhode Island, and New York, from their vicinity to the seashore, than they are in Philadelphia. In the neighborhood of Cape May, which lies near the sea-shore

of New Jersey, there are three religious societies, among whom the influenza prevailed in 1790. Its mortality, under equal circumstances, was in the exact ratio to their vicinity to the sea. The deaths were most numerous in that society which was nearest to it.

“These unfriendly effects of the air in the above pulmonary diseases, do not appear to be produced simply by its moisture. Consumptions are scarcely known in the moist atmosphere which so generally prevails in Linconshire, in England, and in the inland parts of Holland and Ireland.”

Professor Foderé, a learned physician who resided many years at Nice, in speaking of consumption, observes, “it would appear, that there must be on the Mediterranean some other source of evil, beside mere variability of climate; and I am disposed to look for this in the impregnation of its atmosphere with some of the muriatic salts of the ocean.”

Sir Alexander Crichton, late physician to the Emperor of Russia, states, that “the sea-coast, whatever may be its locality, is highly injurious to phthisical patients, provided there be any breach of continuity in the pulmonary apparatus.”

It is admitted that sea air, when breathed alone, is favorable to Pulmonary Consumption, and generally allays, or suspends the cough; and it is a re-

markable fact, well known to sea-faring men, that old sailors, laboring under chronic cough, can always anticipate the approach of land by their cough, which becomes aggravated as soon as they breathe this mixture of land and sea air.

Mr. Poinsett, our distinguished Minister in Mexico, who labored under a chronic cough, observed that his cough, during a sea voyage, was always suspended, and invariably became aggravated as soon as he reached soundings.

Dr. Rush states, that he "crossed the Atlantic Ocean in the year 1766, with a sea captain who announced to his passengers the agreeable news, that they were near the British coast, before any discovery had been made of their situation by soundings, or by a change in the color of the water. Upon asking him upon what he founded his opinion, he said, he had been sneezing, which he added was the sign of an approaching cold, and that in the course of upwards of twenty years he had never made the land without being affected in a similar manner."

These are important facts, and deserve the most serious and deliberate consideration. They plainly show that there is something in the atmosphere of the neighborhood of the sea-shore deleterious to the lungs,

besides moisture, and sudden changes of temperature. Dr. Parr, in noticing Dr. Rush's suggestion of the disadvantages that may arise from a mixture of land and sea air, observes "until these have been found to differ, we may neglect the distinction as an unnecessary refinement." This is certainly a very unphilosophical conclusion, and is unworthy the high reputation of Dr. Parr. The particular states of the atmosphere which cause diseases in different seasons, are totally unknown to the medical profession, and the subject is "wrapt in inexplicable mystery," sometimes one disease is excited, sometimes another; and would Dr. Parr, or any other person pretend to deny that these various diseases were produced by some peculiar state of the atmosphere, because they were unable to trace those different changes? This objection then in the present state of our knowledge, cannot affect the doctrine which we are endeavoring to establish. We will, therefore, discard it, and proceed to give an account of the mortality from consumption in different parts of the country.

In Salem, Mass. during the last five years, it is calculated that the mortality from consumption is about one-fifth of all the inhabitants that have died.—In Boston, about one-sixth.—In New York, about one-



fifth.—In Philadelphia, about one-seventh.—In Baltimore, about one-seventh.—In Washington, about one-eighth.—In Charleston, S. C. about one-sixth.

Sullivan's Island is very unfavorable to consumptive invalids. Dr. Richard Randall, late a surgeon in the United States' army, who was stationed at different military posts throughout the southern country, states, that to those predisposed to phthisis, the air of Sullivan's Island is highly dileterious in comparison with that of Charleston—that acute pneumonic inflammation is also more prevalent in the former than in the latter place: that the air of the City of Charleston, though otherwise more pure than that of the interior of lower Carolina, is not so well adapted to those predisposed to phthisis: that the inhabitants of Augusta, Savannah, and New Orleans, though possessing fewer advantages of climate, and less obnoxious to pulmonary affections, than those residing in the otherwise comparatively healthy situations on the sea board. "Soon after my arrival," says he, "at Sullivan's Island in 1821, as surgeon to that military post, I thought I discovered a stronger predisposition among the soldiers to pulmonary affections of all kinds, than I had observed at any former stations at the south, and my experience during the succeeding winters confirmed this belief; for the proportion of cases of pneumonia,

and of deaths from phthisis, were three fold greater at this post than at my former stations in the interior of Georgia and Alabama.”

The bay of St. Louis and Passa Christiana are also very unfavorable to pulmonary complaints. Colonel George Gibson, of the United States' army, who was stationed at the latter place during three summers, informed me that Passa Christiana was a great resort for invalids from every description of disease; and it was a remarkable fact, that the consumptive cases survived but a short time after their arrival there: whereas invalids of every other description recovered most rapidly. This fact is totally subversive of the common opinion relative to the cause of pulmonary affections in the neighborhood of the sea. Passa Christiana is liable to no variety of temperature—its atmosphere is warmed by the gulph stream, and is exempt by distance and the intervening forest from the cold air of the mountains.

It is evident as we recede from the sea shore, that the cases of Pulmonary Consumption become diminished. This disease is scarcely known among the Indians of our forest; and in many parts of the interior of the country consumption is extremely rare; particularly on the borders of Ohio, Mississippi, and Missouri, where bilious intermittent fevers mostly

prevail. Colonel Benton, of the United States' Senate, from Missouri, informed me that the climate of that State was peculiarly favorable to consumptive invalids; and this fact is so notorious, that many persons afflicted with this complaint have removed their residence to Missouri, in order to prolong their lives. It is not unusual in that climate for consumptive invalids to linger a long time;—sometimes ten or fifteen years, whereas near the sea-shore it generally destroys life in a few months.

Pulmonary Consumption is very destructive in Great Britain, and the annual victims to its ravages are calculated at fifty-five thousand. Dr. Good states, that in Great Britain this disease carries off usually about one-fourth of its inhabitants—at Paris about one-fifth, and at Vienna about one-sixth, while it is by no means common in Russia. “It is a singular fact,” says he, “and not well accounted for; that of all places which have hitherto been compared, the proportional mortality from consumption appears to have been the greatest at Bristol; and this not among its occasional visitors, but its permanent inhabitants; and yet, as though in defiance of experience, this very place has been chosen as the great resort of consumptive persons.”

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The south of France, which has been a fashionable resort for consumptive patients for the last sixty years, and was first brought into notice by Dr. Smallet, is perhaps of all others, the most fatal climate to this unfortunate class of invalids. No American, within our recollection, afflicted with this complaint, has ever visited the south of France, who did not fall a sacrifice to its climate. Dr. James Clark, of England, influenced by a spirit of inquiry, which does honor to his heart and his profession, visited the south of France and Italy, bordering on the Mediterranean; and from information obtained on the spot, as well from observation, as from conversations with the most intelligent and experienced medical gentlemen, he has published a most valuable treatise on the climate of those places, containing more important information than any other work which has ever been written on the same subject; in which he concludes, that the climate of those places is most fatal to all invalids laboring under pulmonary affections.

Professor Foderé observes, "I have always been astonished that our older physicians should have sent their consumptive patients to our sea-shores, since it is irrefragably proved, by the experience of our time, that the climate of the shores of the Mediterranean is hurtful to such invalids. At Marseilles, Nice, and

\* Smallet

Villa Franca, consumption is not, as in Switzerland, on the banks of the Soane, and in Alsace, a chronic disease; on the contrary I have very often seen it terminate in forty days." Again, he observes, "upon the whole, I consider it as contrary to experience to send patients afflicted with the tubercular phthisis to the sea shore, and yet it is singular that the practice should continue to be persisted in."

Dr. Samuel Sinclair, surgeon in the British Navy, after several years' service in the Mediterranean, and especially in the fleet employed off the shores of the south of France, says, "I am the more desirous of making known my own experience in this matter, as I am well convinced that the prevalent opinions respecting it are most erroneous. So far from coinciding with these opinions, I must declare that I am borne out by the united experience of all my medical friends who have served in that country, in asserting that the climate of the Mediterranean, more especially, at certain seasons of the year, is particularly hostile to phthisical patients, and productive of pulmonary complaints."

Sir A. Crichton regrets that patients are still sent to Nice, Naples, and Madeira, all which places are destructive to these unfortunate people. "It is a singular circumstance," says Dr. Clark, "that while

the English practitioners were sending their consumptive patients to the shores of the Mediterranean, our Naval medical officers navigating that sea, were sending theirs to England.”

Dr. James Johnson, in his valuable treatise on the diseases of tropical climates shows, by comparing pulmonic and other diseases received into the hospitals of Minorca, Malta, and Gibraltar, from the Mediterranean fleet, during the years 1810, 11, and 12, that the ratio of pulmonic to other complaints was one to two and a half. “Out of 455 cases of phthisis alone, one hundred and fifty-one died before the remainder could be shipped off for England, where in all probability most of them perished; whereas, out of 1242 cases of fever, only fifty-eight died, and a very small number were invalided. This authentic document will speak volumes on the climate of the Mediterranean.”

It is well known to the American officers who have cruised in the Mediterranean sea, that all sailors predisposed to Pulmonary Consumption, who have visited that sea, have fallen victims to this complaint; and many others, whose constitutions have never before exhibited any signs of pulmonic affections, have been seriously predisposed to the disease by remaining in that climate.

After taking this review of the effects of different climates in pulmonary diseases, we are irresistibly led to conclude, that the United States afford advantages more favorable in this complaint than any other country yet known. Here the consumptive invalid has the advantage of every variety of soil and climate—every facility in travelling—mineral waters that are valuable in diseases of the lungs; and above all, the heart-felt satisfaction of enjoying the sympathy, kindness, and hospitality of his countrymen. Let us, therefore, abandon this blind and cruel fashion of sending our consumptive patients to the south of France, Italy, and other foreign countries, where it has been incontestibly proven that the climate is a sure passport to the grave.

Pulmonary Consumption, unlike most other diseases, makes its approach in the most deceitful and insidious manner. It carries with it a fascinating charm that lulls suspicion, and wraps its victims in the most fatal delusion. It, therefore, becomes the duty of the physician to act with candor, honesty, and decision; his conduct should admit of no compromise. He should feel compelled by the most sacred obligation, to communicate to the patient, or his friends, the earliest information of the approach of this terrible disease; and to urge in the strongest terms the impor-

tance of a uniform mild temperature, exercise, and a change of air. By such prompt and judicious instructions many thousand lives might probably be saved, which are sacrificed by the tame and palliating conduct of the profession.

The consumptive invalid should always remove as far from the sea as possible, and take as much exercise as is consistent with his strength, particularly on *horseback*; his diet should be such as is most easily digested—mild and nutritious. High hills or mountains should be carefully avoided; the air of such places is too pure; there, the oxygen gass is too stimulating, and is apt to increase the inflammatory action, to suppress the usual expectoration and sometimes to produce hæmoptysis. Low grounds, on the contrary, appear always favorable to consumptive patients; there, the air is of a low quality, and therefore not so stimulating to the lungs. From experiments which have been made in breathing the hydrocarbonate, and from observation, we are induced to believe that marshy countries, distant from the sea, where bilious intermittent fevers prevail, are also favorable to consumptive invalids. Places where animal putrifaction takes place are generally favorable to weak lungs. There the hydrogen gas which is intermixed with common air, destroys the irritability of



the living fibre, subdues inflammatory action, and improves the secretions. Thus it has been related, that a confirmed consumption has been cured by a residence in a coal mine; and that butchers, cat-gut makers, tanners, soap-makers, &c. surrounded by a vapour impregnated with hydrogen, are never liable to Pulmonary Consumption; and it may be from this cause that consumptive patients derive benefit from a residence in cow-houses.

The *Red Sulphur Springs* in Virginia have acquired of late great reputation in pulmonary affections; and from the high and important testimony in favor of these waters, we do not hesitate to recommend them most earnestly to the consumptive invalid.

The Red Sulphur Springs are situated in a deep narrow valley, between two mountains running from N. E. to S. W. near Indian Creek, a branch of New River, distant more than twenty miles S. W. of Monroe court house.

Dr. George W. Crump, a member of Congress from Virginia, states that he labored several years under a pulmonary affection, accompanied with hectic fever, profuse perspiration, prostration of muscular strength, great emaciation, and much derangement of the whole alimentary canal. "In this state," says he, "I resorted to the waters of the Red Sulphur Spring,

and combined with their use a shock-bath every morning—my diet consisted almost entirely of rye-mush, milk and honey. In the course of a few days the circulation became more equally distributed, the colliquative sweat was checked, the expectoration became more laudable, and the whole organic economy invigorated. By a persevering use of this plan for two seasons, I have been entirely relieved from every pulmonic symptom.” “The water is extremely cold (for spring water) and is remarkably transparent and light; it acts principally on the skin and kidneys, and not unfrequently, some aperient medicine is required to prevent constipation of the bowels.” In every instance, says Dr. C., which has fallen under my observation, and they were very numerous, it produced a rapid reduction of the pulse.

Dr. Huger, of Charleston, South Carolina, was afflicted some years ago with pulmonary disease, and all his friends thought his disease hopeless; in this situation he was advised to visit the Red Sulphur Springs in Virginia, and from the use of those waters during one season, he was perfectly restored to health. The Doctor states, that he was enabled by the aid of those waters to regulate his pulse almost as he pleased. He is now living in South Carolina, and is one of the healthiest men in that State.

In a letter dated at the Springs to a friend, from F. W. Gilmer, Esq. professor of law in the university of Virginia, who was laboring under pulmonary affection, he states, "these waters are as far superior to all others as those of Ballyspelling were to all others in Ireland. In three hours they allayed my cough so as to take away all that was unpleasant in it. They diffuse a sense of coolness, freshness, and newer life over the whole system. They abate the pulse most rapidly, remove fever, moisture, lubricate, and soften whatever is hard and dry—make one sleep as though he had taken an anodyne—are the safest of all waters, and indeed have no ill quality."

The following communication I received from Dr. R. H. Bradford, a learned and experienced physician of Virginia, who was a practitioner of medicine at the Red Sulphur Springs during nine or ten seasons:

"The Red Sulphur Spring is situated in a deep narrow valley between two mountains in the county of Monroe, Virginia, about 25 miles S. W. of the town of Union, the seat of the courts of justice held in that county; it rises on the same creek as the Salt Sulphur Spring, and is about 22 miles lower down, and within a few miles of the New or Kenhawa river, into which this creek empties its waters. The interval between the two mountains being very narrow, there

*Red Sulphur Springs*

is no room for exercise except on the strip of land which lies on each side of the creek. The climate is such as is usually found in similar situations.—The mornings and evenings (in summer) are cool, and the middle of the day generally hot.—Fogs are frequent, and there is a general dampness in the atmosphere, but it did not appear to affect unfavorably the invalids.

“About the year 1822 the waters of this spring were analyzed by an eminent chemist, Dr. John Cullen, of Richmond, Virginia, and were found to contain a large quantity of sulphuretted hydrogen gas—but no salt or mineral substance could be detected—that their contents are gaseous is further proven by the fact, that the water on being boiled, becomes perfectly pure and tasteless, and is used in cooking and other domestic purposes. The coloring matter deposited in the spring, (which is a beautiful crimson) is supposed to be a vegetable matter—its properties are unknown.

“When the author of these observations began to attend these springs, such was the reputation of the waters, that he was induced to devote much attention to their effects on the diseases for which they were at that time employed. The results were so extraordinary that he was, among others, the cause of the analysis which it has been said was made of them, and which has ultimately led to a more rational application of them as a remedy.

*X Sulphuretted*

“The effect of the water on the pulse is one of the numerous, singular, and powerful properties belonging to it. In about one-third or one-fourth of the cases in which it is employed, the pulse is reduced from fifteen to thirty strokes in a minute. It lessens arterial action to such a degree, that it seldom fails to remove fever, difficulty of breathing, and pain in the chest—unfortunately it does not lessen the appetite, which being commonly indulged, a fullness of habit rapidly follows its use—this gives rise to increased cough, pain, and spitting of blood. From much observation, I would recommend such patients as cannot restrain the indulgence of their appetite to remain at home; in such cases, the Red Sulphur Water will do no good, and may do much injury—but when the patient can practice self denial, the water may be taken with *greater advantage in all pulmonary cases, than any other remedy* I have ever seen employed for that purpose. It is also an important remedy in cases of enlarged liver or spleen, in dispepsia, and in diseases of the mucus membrane generally. I did not observe that active exercise or early rising did any injury. The sportsmen who went out early were generally more benefitted than others who remained within their cabins, or took but little exercise. The Red Sulphur Water has no effect on the bowels, of course, it

may be taken very freely—six, eight, or ten glasses a day. If the patient should be subject to *hectic chills*, it is best to omit the water during the morning, and take it in the afternoon, and at night.

“During the use of the Red Sulphur Water, I would advise that no other medicine or remedy should be blended with it—certainly the less the better.

“To derive much advantage from a course of these the patient should commence the use of them early in July, and continue to take them daily until the middle of September.”

After remaining at the Red Sulphur Springs during the summer, the best winter residence for the consumptive invalid would be in the interior of South Carolina, Georgia, or Alabama. There the soil and climate are peculiarly favorable to such persons during the winter and spring seasons; and the atmosphere impregnated with the effluvia of the *pine forest*, is highly grateful and advantageous in all pulmonary affections.

In choosing the location for a residence, great caution should be observed in selecting such as is well protected from the north and east winds, and exposed as much as possible to the warm and cheering influence of the sun.

ERRATA.

Page 9, line 17, for "*and*" read "*are*."

" 12, line 3, for "*Smallet*" read "*Smollet*."

" 20, line 11, for "*sulphurated*" read "*sulphuretted*."

" 22, line 8, after "*these*" at the end, insert "*waters*."

