

COLORADO



COLORADO:

**ABOUT ITS
CLIMATE.**

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**AMERICAN MEDICAL ASSOCIATION
DENVER MEETING
June 7th to 10th, 1898**

This special edition is issued at the suggestion
of and in co-operation with the
Denver Committee.

PREFACE



The scenery of Colorado has been widely advertised. It deserves all the praise it has ever received, and much more can be given it without either vain repetition or exaggeration.

But the climate of this region of mountain, plain, valley, park and cañon, of this "Backbone of the Continent," of this land of sunshine, blue sky and tonic air—this climate of ours calls for a more widespread appreciation than it has yet received.

It has attracted many to our state. It brings here thousands of pleasure seekers and thousands who come seeking for health, and finding it, remain here, a valued addition to the population. It should bring many thousands more. It is one of our greatest resources, and is inexhaustible. It vitally affects the character of our citizens. It greatly influences, by cheering and bracing and inspiring each individual, our civil and our industrial life. It deserves more consideration.

The following brief statement, made as simple and as straightforward as possible, is based upon the writings of medical and meteorological experts, and draws its statistics from the reports of careful observers.

J. C. D.

C. E. E.



FOR FURTHER INFORMATION

ABOUT THE CLIMATE OF COLORADO
AND ABOUT ITS RAILWAYS
RESORTS, SANITARIUMS, ROUTES OF
TRAVEL AND RESOURCES

WRITE TO

B. L. WINCHELL
GENERAL PASSENGER AGENT
DENVER

*Published in Denver, in December, 1897,
by the Passenger Department of the
Union Pacific, Denver and Gulf Railway
and Denver, Leadville and Gunnison
Railway Companies*

Colorado: About Its Climate

THE STATE IN OUTLINE.

Colorado's area is over 100,000 square miles, nearly twice that of all New England. Of this great region, the eastern part, one-third of the entire state, is a rolling plain, the eastern border of which is 3,500 feet, and the western, where it touches the foothills, 4,000 to 6,000 feet above sea-level. The mountain system which covers the western two-thirds of the state is too complex to admit of brief description. It is enough here to say that behind the high ramparts of the Front range, four great parks or valleys or mountain basins stretch north and south across the state, with an elevation, as to their rolling or level floors, of from 7,000 to 9,000 feet, and that between these and the state's western boundary are many mountain ranges and isolated peaks rising out of wide plateaus. In and out of this 60,000 square miles of mountain, park and table land, flow the Arkansas, the Platte, the Dolores, the Grand, the Bear and other rivers. Along these rivers and their tributaries are thousands of miles of valleys, some of them narrow cañons and little more, many of them broad, fertile and inviting. These valleys vary in elevation from 4,000 feet to 8,000 or 9,000 feet.

Colorado climate is, of course, as varied, in many of its aspects, as is the surface of the state itself. On the mountain peaks, 14,000 feet above the sea, is perpetual snow, with scant Alpine vegetation peeping forth at summer beside the drifts. In the lower valleys the climate is almost semi-tropical, and here delicious peaches, grapes and similar fruits are easily and profitably grown. Between these two extremes are found climates of all degrees of temperature. Places at the same altitude, moreover, in different parts of the state, varying as to the trend of the valleys in which they lie and as to their exposure to the winds, vary also, and widely, as to their temperature and their attractiveness as places of residence.

Three things common to all Colorado, however, must never be lost sight of—blue sky, sunshine and dry air. All over the state it is true that, save in the highest altitudes—say above 7,000 feet—on most days through midwinter, it is possible for one to sit in comfort in the sunshine in any sheltered nook. It is this almost perpetual sunshine which has perhaps more to do with the exhilarating effect of Colorado's climate on both well and sick than any other one factor.

WHY THE CLIMATE MAKES FRIENDS.

The Coloradoan visits his old home in Iowa, or Ohio, or Pennsylvania, or New England, or in the South, for a few weeks and returns to his adopted home, and "Did you have a pleasant time?" is the first question that greets him. And over and over again comes the answer, "O, yes; except for the weather. It was so damp and oppressive—or cold and cloudy all the time."

The climate of America as a whole is brilliant and sunshiny, relatively, to that of much of the world; but the climate of the eastern states, when compared with that of Colorado, is so cloudy and damp and depressing that one who has lived here for a year or two feels most deeply when he returns there the lack of blue sky and cheering sun.

The new life in the new country; the swift passing of events; the possibilities of advancement and of fortune; the stir incident to the beginnings of things; all these are attractive to many, and go far to compensate for the loss of old friends and for the breaking of home ties and for that shifting of the scene of one's life which is a hardship to most. But over and above all the attractions of the newness and the swiftness of western things is the attraction of the climate of our state; and many who have come to Colorado for other reasons have been led to stay, because they felt that here, under our sun and the inspiration of our sparkling dry air, their life would be happier and fuller and more satisfactory than it could be under the too often clouded skies of the East or South.

THE SUNSHINE.

The sun in Colorado—in that great tract along and among the eastern foothills, in which are located Denver, Colorado Springs, Manitou, Pueblo, Trinidad, Golden, Boulder, Fort Collins and Greeley; in that region to which the tourist and the invalid are most likely to come and in which they are likely to stay longest—the sun here shines for about sixty-two hours out of every hundred in which it is above the horizon. In Philadelphia the ratio is forty-nine. During the winter months, the trying time for the invalid, the difference is more striking still. In Colorado we have from December to March, 56 per cent. of all possible sunshine. In Philadelphia they get but 37 per cent.; a difference in Colorado's favor of over one-half. In ten years there were in Denver, on the average in each year, 314 clear or partly clear days. In Chicago, in the same period, there were only 251; in New York, 262. During the three winter months the sun shines four out of every five days. Nor do these figures tell the whole story. One of the greatest advantages of this eastern belt along the front of the range is the early

morning sunshine. There are no high mountain ranges for the sun to climb, as in so many high altitude resorts in other lands, but its first rays above the low eastern horizon are at once warming and cheering. The sun is up before the invalid is awake, and the air is warmed for his outdoor life without a long wait till mid-morning. In Davos, Switzerland, the sun on January 1 does not rise till ten a. m. and sets at three in the afternoon, a possible sunshine of only five hours. In Denver on January 1 the sun rises at half-past seven a. m. and does not set till after half-past four: more than nine hours of sunshine.

Neither do the cloudy days preclude an outdoor life, as might be inferred. They do not bring the damp and rawness of the eastern or middle states. To many there is a restfulness in a clouded day from the constant intensity of clear blue sky.

THE TEMPERATURE, ACTUAL AND FELT.

The dryness and the rarity of the air make the sun's direct rays hotter and seemingly more penetrating here than in lower altitudes. Colorado sunshine will dry the soil, soften the atmosphere, and warm up every one who steps into it after a winter's storm in far less time than will the sunshine which falls through the damp and heavy atmosphere of the East.

The dryness of the air of this great mid-continental tableland, and the consequent rapidity of evaporation, must be kept in mind in considering Colorado's temperatures, would one gain an accurate understanding of the climate as one feels it. The average July temperature of Denver is 72.1 degrees. The sensible temperature of the same month, the temperature that is, reduced to eastern terms, is only 57 degrees. The Denver summer corresponds as to the feelings of those who pass through it, to that of Manitoba, of the Thousand Islands, of the Adirondacks, or of the White Mountains. (Capt. Glassford.)

The summer heat is occasionally seemingly intense; but it is really little felt, causes very little inconvenience, and never any suffering. In the hottest of summer weather it is but a step from the heat of the sunshine into the shade, which is always cool. Sunstroke is here unknown.

The coolness in the shade in Colorado, due to the very rapid dissipation of heat by reason of the rarity of the air, is something often spoken of but not easily impressed sufficiently on those not familiar with it. It makes it possible for one to live with great comfort even during a summer when the general temperature, as shown by a thermometer exposed to the direct rays of the sun, would seem to be almost unbearable.

The mean annual temperature of Denver is 50 degrees, and the mean annual temperature of all the most thickly

populated part of the state, just east of the mountains, is from 45 to 50 degrees.

Capt. W. A. Glassford, chief signal officer, department of Colorado, has contributed an article to the report for 1894 of the Colorado state board of health on the subject of the actual as compared with apparent climate, and from this article some of the points given above are taken. "When the published record," he says, "of the heat in Boston, New York, Washington, St. Louis and Chicago is above 100 degrees it is simply unbearable; while the same recorded temperature at Denver is attended with little discomfort. Why? Because in the East moisture is present to a very considerable extent in the atmosphere, while in the West it is almost absent."

Owing to this great dryness of the air, and its small capacity for holding heat, there is throughout the year a difference of from 40 to 60 degrees between the sun temperature and the air. It is this great difference which makes the summer air so cool and comfortable. And in the winter, when the air is cold and bracing, one has but to step across from the shade into the sunshine to find the great warmth of its rays, 40 degrees higher. In mid-winter it is not uncommon to see two thermometers on the same veranda, one standing at 30 degrees in the shade, and the other in the sun at 85 degrees.

The cold air in winter is not apparent nor piercing as in damp climates, but clear and bracing, stimulating to nutrition and mental activity.

SPRING, SUMMER, AUTUMN, WINTER.

Speaking again of that part of Colorado which is most inhabited and is best adapted to the wants of the pleasure seeker or the invalid, a strip of ten to fifty miles in width, where plains and mountains meet—the temperate belt, as Capt. Glassford calls it—one may say of the seasons:

Spring—In Colorado we escape March; that is, this month here is so much less a time of rain and snow and slush and mud and bitter winds, than it is in the East, that it passes without particular notice. During the month of March and in early April snowfalls are not uncommon; but they disappear very rapidly under the heat of the sun. In a few hours the snow has evaporated, there is no melting into slush or wet, and often twenty-four hours after one of these short snows the dust is blowing on the sunny side of the road. The rapid disappearance of the snow is as incomprehensible to one who has not seen it as it is astonishing to the beholder. The temperature in these months does not often fall below 30 degrees, and commonly before the end of March the warm sunshine has begun to bring out the grass and to swell the buds on the trees and to call back the birds.

April is a growing month, and in May the plains and the country generally are at their greenest.

The mean minimum temperature for March for ten years at Denver was 27.6 degrees, and the mean maximum temperature for May was 68.9 degrees. The rainfall in the whole three months of Spring in Denver averages only about 5 inches.

Summer—June and July are the hottest months—and by August the mean temperature begins to decrease. The mean maximum temperature for July is 86.3 degrees. The direct rays of the sun are very intense and hot, but the air is cool and dry, and consequently the heat is easily borne. It is rare to see moisture on the soda fountains, and there is the comfort of a dry skin and unwilted collars. At sunset the air at once cools rapidly and the nights are always comfortable. There are comparatively few nights in summer when one does not need a blanket covering before morning. It is common to have a heavy but short shower in the last of the afternoon or early evening during these months, especially near the mountains, but they are not an interruption to outdoor life and serve to lay the dust of the sun-baked plains.

Autumn—The autumn in Colorado, as in many other regions, is the most delightful part of the year. From September to nearly Christmas there is an almost unbroken period of delicious, sparkling days. All over the state it is not uncommon to have, during these months, a period of six or even ten or twelve weeks with scarcely a cloud in the sky from day to day, a brilliant sun, and high winds only on very rare occasions. The ground is dry, the air—as the nights grow cool—is even more bracing than usual. In all respects this is in Colorado the ideal season for the invalid or the tourist.

The mean temperature of the air along the eastern foothills in Colorado (4,000 to 6,500 feet), taking Denver for example, for September is 63 degrees; for October, 51 degrees, and for November, 39 degrees. At higher elevations in the mountains the nights get quite cool in September, and ice forms at eight or nine thousand feet not infrequently in October; but even in high altitudes storms or periods of extreme cold in these three months are infrequent.

Winter—The fine weather of the autumn months often continues to the middle of November, and occasionally as late as to the last of December. A noticeable thing about the climate of the winter months in Colorado is that if one lives for a few years at a high altitude, even as great as that of Leadville—about 10,000 feet—and then spends a winter or two among the foothills at an elevation of from five to six thousand feet, he does not notice any great difference in the temperature of the winter or in the number and severity of the storms. In every part of the state below 10,000 feet and

above 4,000 feet, there are during each winter several periods of from three to ten days of cold weather, usually preceded by a snow storm, and perhaps accompanied by one or two days of considerable wind. But these periods of cold weather, even when on rare occasions the thermometer goes several degrees below zero, are not felt to anything like the extent that similar temperature is in a damp climate. And it probably is a fact that the physical sensations of a winter at eight or nine thousand feet or at five or six in Colorado are very similar, and that the covering needed, and the precautions naturally taken against cold are of about the same nature in both altitudes. This fact is mentioned to call attention again to the persistent characteristics of the climate—dryness and sunshine—of every part of the state.

The sun is more often clouded in the winter months than in the rest of the year; but it can not be too often stated that the winter's sun is warm and invigorating, and that there are few days in the whole season so disagreeable as to make it impossible for any ordinary invalid to remain out of doors.

There is no accumulation of snow along the eastern belt of country—Denver, Colorado Springs, etc. A few days or a week and all traces of it are gone save on the northern side of banks or sheltered places. And it disappears without melting into slush or icy pools: the dry wind licks it up into quick disappearing vapor. The snow does not house the invalid save while it is falling. There is no piling up of drifts to give a long damp melting time in spring.

Along the eastern foothills the average midday temperature of the air is 45.5 degrees for December, 27.3 degrees for January and 48.0 degrees for February. The total rainfall in Denver for these three months in 1892 was 2.47 inches.

The open street cars are run all winter.

The clothing worn in Colorado, save high in the mountains, is such as is commonly worn in New York and New England and in the western states of about the same latitude; except that in winter the heavy overcoat is less needed, and in summer the thinnest underwear is apt to prove not quite heavy enough.

COLORADO AS A RESORT FOR INVALIDS.

Abundant sunshine, an invigorating, dry, sterile air; elevation above sea-level and unrivaled opportunity for outdoor life, are the great advantages which Colorado offers for the restoration of the consumptive's health. They are the prime factors in all such cures.

Three facts are now well established:

First—That pulmonary tuberculosis is a curable disease.

Second—Other conditions being equal, the completeness of the cure depends on the promptness with which the patient is put in proper surroundings.

Third—That of all aids yet found for the cure of this disease, suitable climatic surroundings are the most efficient.

The consensus of the best medical authorities is unanimous that outdoor life amid sunshine and dry air, at a high elevation, assures the best results.

“The most notable advance in the treatment of consumption achieved during the present century has unquestionably been the rapid progress in public and professional favor of the High Altitude sanatoria.” (J. A. Lindsay, M. D.) As the same writer says, “The High Altitude treatment of consumption is not a mere arbitrary innovation, but rests upon a solid substratum of fact, and its utility is explicable on lines of ascertained knowledge.”

“I am as sure as I can be that recoveries from phthisis, judiciously treated at high altitudes, are much more numerous and much more lasting than those treated by any other method at any other place.” (Sir Andrew Clark.)

“In selecting a climate for a consumptive, the first question which occurs to us is the inquiry as regards the proportion of pleasant, sunny days, in which outdoor exercise can be safely enjoyed.”

“The first desideratum is a large proportion of fine, sunny weather.”

“In all such cases (consumption) there is one essential and predominating condition to be fulfilled, as we have already said, and that is the selection of a climate in which an outdoor life in fresh, pure air, can be largely followed.” (Burney Yeo, M. D.)

Dr. Herman Weber, in his classic lectures on pulmonary phthisis, says: “Pure air is the most important means of cure—food and an outdoor life.” Speaking of the advantages of high altitude in the cure of consumption, he says: “The main features of a mountain resort important to us are:

“I. The purity or aseptic nature of the air.

“II. Dryness of the air and soil.

“III. Coldness or coolness of the air and great warmth of the sun temperature.

“IV. Rarefaction and low pressure of the air.

“V. Intensity of light.

“VI. Stillness of the air in winter.

“VII. A large amount of ozone.”

All of the factors are ideally present in Colorado's climate—elevation, from 4,000 feet to any desirable height; as dry and sterile an air as can be found; prolonged hours of intense, warm sunlight beneath an unclouded expanse of blue sky, and less annual wind movement than any of the large cities of the country.

Dr. Weber himself says, after speaking of European stations: "More important to us in the treatment of phthisis are the mountain resorts of North America. In the Rocky Mountains of the United States we possess indeed an endless variety of mountain climates."

"The effects on the invalid suited to such climates are increase of appetite, improvement of sanguification and general nutrition, strengthening of the heart and circulation, raising of muscular and nervous energy. Under the influence of such constitutional progress, which is assisted by the local action of aseptic, dry, cold air, by increased ventilation of the lungs, we observe a gradual improvement in the state of the lungs, leading not infrequently to arrest of the disease and actual cure." (Herman Weber, M. D.)

Dr. F. I. Knight, of Boston, says: "There seems little doubt that in suitable cases the improvement in nutritive activity is much more marked in mountainous regions than on the plains."

"The region which I have found the best for this kind of treatment is the eastern slope of the Rocky Mountains in the states of Colorado and New Mexico, where the altitude ranges from four thousand to eight thousand feet."

"I do not hesitate to say that the eastern slope of the American 'backbone' offers as good climatic conditions as the European resorts, or even better.

"Colorado ought to be the sanatorium of the United States. I fully believe it has the stuff in it to merit this name." (Carl Ruedi, M. D.)

Dr. S. E. Solly, of Colorado Springs, by a careful analysis of 2,598 cases of pulmonary phthisis treated at various altitudes, shows that in high altitudes 76 per cent. of all cases improve as against 59 per cent. treated at sea level, while of cases in the early first stage 89 per cent. improve at high altitudes.

"This inquiry," he says, "has clearly demonstrated two things, viz.: that the majority of consumptives do better, other things being equal, the farther they are removed from the sea, and that they do better in high than in low altitudes."

"The final conclusion is that a consumptive treated in an open resort in an elevated climate has three times as good a chance of recovery as has one treated in an open resort in a low climate and twice as good a chance as one treated in a sanatorium in a low climate."

The figures and conclusions agree with those of Dr. S. A. Fisk, of Denver, who reports improvement in 67 per cent. of cases coming to Colorado, and marked improvement in 50 per cent., adding: "I think these figures might be somewhat increased in favor of the good influence of our climate if only all patients would act cautiously and with discretion, which, unfortunately, they will not."

"Taking cases as they come to us, we can expect improvement in two out of three; men do better than women, as they do anywhere; persons over twenty do better than those under, and those over thirty do still better."

Dr. S. G. Bonney, in a report of 200 cases, states "that of 40 cases with slight invasion, in the incipient stage, 90 per cent. received material benefit; of 54 cases of more marked involvement, consolidation, beginning cavity or infection of both lungs, 79 per cent. improved; of advanced cases 55 per cent. improved, a large proportion in view of the character of the cases.

"Of all cases 69 per cent. improved; 45 per cent. had marked improvement, and 16½ per cent. complete arrest."

While in general Colorado benefits most cases of consumption, its chief efficiency is in the early stages of slight invasion, before there is marked involvement of lung tissue or serious impairment of the general health. These are the cases which should be sent promptly to Colorado.

Colorado's beneficent climate should be the *first* and not a last resort.

Dr. F. I. Knight classes the cases most likely to do well here as follows:

"I. Early apical affection.

"II. Patients with more advanced disease, some consolidation but no cavity or serious disturbance.

"III. Hemorrhagic cases; early cases with haemoptics and without much fever are benefited.

"IV. A small, quiet cavity is not a contra-indication.

"V. Cases of consolidation remaining after pneumonia or pleurisy, do well.

"VI. Laryngeal cases do no worse than anywhere else."

Unfortunately, as Dr. C. J. B. Williams says, "there are a certain number of cases where the best of climates avail nothing, namely, acute tuberculosis, laryngeal phthisis, advanced excavation, and cases with intestinal ulceration and albuminuria."

Cases of advanced and destructive lesions; those complicated with *serious* disease of the heart, or with marked emphysema; those who have a marked erethic constitution and who do not sleep or nourish well in high altitudes, and those with marked sepsis, do not do well and should not be sent here.

OTHER CONDITIONS OF INVALIDISM.

Cases of bronchial irritation, catarrhal states of the throat and air passages, are generally improved.

Many cases of asthma are permanently relieved.

Dr. J. N. Hall says, in the *Colorado Climatologist*: "There seems no reason for thinking that any functional derangement of the heart is unfavorably influenced by residence at this altitude."

And Dr. H. B. Whitney, in the same journal, says: "A moderately high altitude is not contraindicated by any case of valvular disease where compensation has been constant and there are no present signs of threatened cardiac weakness."

And Dr. W. P. Munn, again in the same journal, says: "Only the functional cardiac trouble dependent upon extensive pulmonary involvement is aggravated at this altitude. Other persons having cardiac disease live as comfortably and as long in Colorado as in any other region. The percentage of deaths in Denver due to diseases of the heart and to that closely allied condition, Bright's disease, is shown by the records of the health department of that city to be very much smaller than the percentage due to those causes in any other city in the United States having a population exceeding 100,000. The same statement is true in regard to pneumonia and bronchitis. Irresponsible writers have imagined that these diseases ought to be more prevalent and fatal here than elsewhere; from belief to assertion has been but a short step, and their erroneous statements have been disseminated and have been largely accepted as correct, simply because they have not been contradicted."

Dr. J. T. Eskridge, in the *Colorado Climatologist*, says: "High altitudes, and more especially the altitudes of Colorado which are sought by invalids, afford no form of nervous or mental disease that is not common at sea level. Doctors have failed to detect any difference, attributable to altitude alone, in the causes, course, frequency and prognosis of organic disease of the nervous system between those observed in Colorado and affections of like nature treated at sea level."

The dry, clear air, without a trace of dampness, and the intense, warm sunshine, give a climate of great relief to many rheumatic cases.

MEDICAL SUPERVISION OF THE INVALID.

Too many invalids coming to Colorado depend upon their own ideas or the suggestions of their friends as to their conduct of life, often to their great detriment. Even physicians who have not lived here should not attempt to direct the patient in so new and different a climate.

"It would be better for the patient if he would exercise more wisdom and acknowledge his ignorance, and withhold advice altogether." (Anderson.)

"The benefit derived is dependent not upon climate alone, but as well upon conscientious attention to mode of life and management." (Bonney.)

"It is the duty of our profession," says Dr. Herman Weber, "to teach the public that it is a great mistake to think that the invalid and his friends are able to manage the dietetic and hygienic treatment of consumption, or that it is

enough to go for a season to a certain climatic health resort, and that the climate itself is able to cure phthisis, without the assistance of local doctors. Many valuable lives are lost through this error, even under the most favorable climatic circumstances, lives which might be saved under strict medical guidance."

Such is the unanimous and unmistakable verdict upon the advantages of elevated climate. Colorado fulfils all the conditions to a remarkable degree.

Resorts of every desirable elevation from 4,000 to 10,000 feet are within easy reach of large centres of population.

The soil and air are remarkably dry—there are but 14 inches of rainfall in the year, and at some stations even less—no periods of prolonged cloudiness or rain.

Its average mean relative humidity is only 52 per cent., and its absolute moisture averages but 1.8 grains of vapor to the cubic foot.

Its temperature is cool and bracing, restoring the wasted energy and stimulating the nutrition, lending new zest and hopefulness.

Its sunshine is brilliant, penetrating and continued, with a higher average number of cloudless, sparkling days than any other climate.

Attractions to an outdoor life are present on every hand, and the invalid is irresistibly drawn out into the pure, fresh air and dancing sunlight. The wide horizon, with its beauty of soft, level plain or grandeur of mountain peaks, is a constant joy, and the enforced quiet of recovery loses all its irksomeness.

"It is not contended that our climate is the be-all and cure-all, but we know that the absence of endemic phthisis and a dry soil are strong arguments in favor of this being a curative climate. We know, further, that an outdoor life is possible during more hours of the day and during more days in the year than in almost any other climate on the face of the earth; but the most conclusive testimony to be found as regards the curative influence of a life in Colorado, is in the thousands upon thousands of people who have found recovery here and pitched their tents, and who can in their own persons bear testimony to the fact."

COLORADO IS A HOME, NOT MERELY A SANATORIUM.

The most fortunate and valuable feature of Colorado as a climatic station is that all its benefits and health-giving conditions are at hand and offered to the invalid without his going into exile to obtain them. He has not to seek a wilderness or a small sanatorium on some isolated Alp. More than any other factor should this fact appeal to the invalid. To recover his health in Colorado he does not need to exile himself from the comforts of his daily life or human intercourse. For the clear, pure air, which is so abundant, even the ad-

vantages of city life need not be foregone. To one with a family especially is it a rare privilege to find so easily a healthful outdoor life in sunny fields, a mile above sea level, and yet give his children the advantages of schooling and civil education, libraries, opportunities for music and intellectual enjoyment. Denver can rightfully boast of one of the very best public school systems in this land. Indeed, throughout the state the schools are all of the highest grade. With all the multiplied helps that a large city offers, there is always at hand the more varied attractions to a vigorous outdoor life.

Colorado climate invites to outdoor life. There is no season of the year, and in fact there are few days in the year, in which one can not be out of doors with comparative comfort. This, added to the facts that the air is bracing and the sunshine inspiring, leads to a great deal of walking and driving and riding and bicycling and outdoor sports. The result of this on health is perhaps shown more clearly in the children of Colorado than in the adults. When one considers that a very large proportion of Colorado parents are people who came to the state as invalids, the healthy appearance of the children one meets on the streets and sees collected in schoolrooms or at play on the athletic grounds is something remarkable. They are full-chested, strong-limbed and bronzed.

Under the sanitary arrangements that have been put in force in our cities in recent years, it has rapidly stepped to the front as one of the healthiest cities on the whole continent, and this in spite of the fact that its population is constantly added to by invalids from the extreme East.

The health of Denver, aside from the imported illness, is remarkably good, and even including the large proportion of deaths from tuberculosis in patients who come too late for a recovery, the mortality rate is lower than in most large cities, being but 10.48 per thousand.

Twenty-three per cent., or nearly one-quarter of the whole, were due to tuberculosis.

Surrounding such a city of rare freedom from foul, contaminated air, lies the open, generous beauty of the country, appealing ever to the invalid as his strength returns and offering him new attractions to an outdoor life; wide areas of country still little more than a wilderness in which to hunt, fish and explore; most admirable opportunities for geological study; a varied flora of great interest to the botanical student; an insect life unusually rich, attractive to the entomologist; and unsurpassed opportunities for the study of bird-life, there being a larger number of varieties of birds found within this state than in any other of the Union save one.

Within easy reach are wild, untracked areas, abounding in game of every sort, to tempt the rugged and the strong;

for the zest of the chase, the wild hunt of the bear, are not for the invalid's early days of the new Colorado life, but are a reward of patient, healthful waiting.

Not only does Colorado provide pleasant and helpful surroundings for the invalid during his convalescence, but it offers a greater advantage still in the opportunity for employment and business enterprise after recovery of health. In many of the famed health resorts there is nothing but the dwelling houses and the sanitarium on some isolated mountain side. When the patient is again able to resume his work in life, he is forced to return from his health-giving resort to the old conditions, exposing himself again to the treacherous climate from which he fled.

Colorado does not cure and then drive out, but rather welcomes the restored invalid, and holds out every inducement for him to remain.

The vast resources of the state are only beginning to be appreciated. On every side agriculture, fruit raising, mining, all offer a wide field for development and a rich reward for enterprise.

Cripple Creek was for long years only known as excellent grazing country for cattle—till in 1891 it was found to be a gold district of now famous values. To show its wonderful development, the figures of its annual output are given: 1891, \$125,000; 1892, \$400,000; 1893, \$2,500,000; 1894, \$4,000,000; 1895, \$8,000,000; 1896, 16 tons of gold; 1897, 25 tons of gold. There are other camps, old and new, and many districts yet unexplored, which offer similar opportunities for investment of energy and capital.

The resources of the state in coal and iron are equally great. The coal deposits are of great value, and the area of coal lands surpasses that of Pennsylvania by 8,000 square miles. Pennsylvania has 10,000, and Colorado 18,000 miles.

Agriculture in every branch flourishes and is to-day the foremost industry, offering thus particular inducements to persons of moderate means who ought to follow an outdoor life. In 1895 66,000,000 acres were under cultivation, producing a wheat crop valued at over \$4,000,000; alfalfa, \$3,500,000; corn, oats and barley, \$4,000,000; with other garden produce at \$4,200,000. The production increases yearly.

Under irrigation, with a constant sun, there is no failure of crops, but large and abundant harvests are the rule.

Fruit raising is rapidly becoming an important industry, and the rare quality of Colorado melons and peaches is opening a large market for them in Chicago and St. Louis.

As all of these resources are developed, there comes in consequence more demand in all other lines of business, and new openings are created.

Here, amid civilization and all the advantages of city life and intellectual surroundings, is open country and outdoor life—diversion and fields for occupation. With the restora-

tion of health comes no need for expulsion from this Eden to the old threatening conditions, but a welcome and open opportunities for industry and livelihood.

From start to finish the invalid is at home. There is no exile to foreign lands or strange customs. He is among his own people—in his own land.

"Are not Abana and Pharpar better than all the waters of Israel?"

COLORADO AS A VACATION RESORT.

There is still one other claim which Colorado can boast—its unrivaled advantages as a vacation retreat. With its varied extent of mountain and valley scenery, its continued sunshine and weather which can be trusted for outdoor life, it is the ideal resort for the overworked business man or brain-fagged scholar.

"There are many," says Dr. Burney Yeo, "who, with vigorous frames and much actual or latent power of muscular activity, become mentally exhausted by the strain of mental labor, anxious cares or absorbing occupations. Mental irritability usually accompanies this exhaustion, great depression of spirits, with unrest of mind and body. These are *the typical cases for the mountains*. The stimulus and object which they afford to muscular exertion; the bracing atmosphere, rousing the physical energies and reawakening the sense of powers unimpaired and unexhausted; the soothing effect of the quiet and stillness of high mountain regions, and the absence of the human crowd, all these influences bring rest and renovation to the overworn mind."

Nowhere in this country can such conditions be better found than in Colorado. Its summer is cool, and in the higher parks and passes the nights are even cold. Its autumn, an unbroken stretch of glorious, cool, sparkling days. Game of all kinds is abundant, and the opportunity for camping, hunting and fishing ample and readily found. The railroads—there are 4,700 miles in the state—will carry one to within a short ride, by horse or wagon, of yet unbroken wilderness. By pack train a few days' journey will lead to the wilds, where each spot visited is an undiscovered place. Wild game, large and small, are present on all sides, and without a care one can drop back to a life of pristine simplicity, free from all trammel of convention.

Ranches, farm settlements, mining camps and summer resorts are scattered throughout the mountains in most unexpected places, and are connected with one another by railroads or by wagon roads. Camping outfits may be bought or rented in Denver or in any of the larger towns of the state. And at many of the small resorts special attention is paid to fitting out the camper.

Nearer Denver, without crossing the main Continental Divide, are almost innumerable valleys, cañons and parks,

where one can camp with pleasure or find accommodation in boarding houses or on ranches.

Bear Creek and Turkey Creek cañons (7,000 feet) are but twenty miles from Denver. Boulder, one of the most attractive towns, the seat of the State University, has an elevation of 5,409 feet, and is at the entrance to the romantic Boulder cañon. Longmont, Fort Collins, Greeley, lie in the midst of the fertile farming country to the north of Denver.

Clear Creek cañon, with its wonderful, wild beauty, and famed for the great railroad loop, at Georgetown, has many excellent opportunities for camping out as well as one excellent resort, Idaho Springs, upon its sheltered plateau, with saline and ferruginous springs.

The Gulf Road will take one into the mountains, to the resorts just mentioned, and to many other excellent places for outdoor or ranch life in a short ride from Denver.

"There are plenty of places in Colorado where one may camp near the deer and the trout, and still be within easy reach of medical assistance if it should be needed.

"One should not start before June 1, ordinarily, nor remain out longer than September 15.

"After the middle of June, the parks in our mountains, ranging from 7,000 to 9,000 feet in elevation, offer excellent places for campers. It is easy to find good fishing and a moderate amount of game within easy reach of civilization." (J. N. Hall, M. D.)

A WORD ABOUT MINERAL SPRINGS.

In the foothills and mountains of Colorado are many mineral springs of almost every kind, both hot and cold. Notable ones, but by no means the most important and probably not the most valuable, are at Manitou (6,300 feet)—soda and iron. One of the most important and perhaps the largest group is that at Glenwood (5,200 feet). They are hot for the most part, and contain, notably, chloride of sodium, and give off great quantities of carbonic acid gas and sulphuretted hydrogen. In the few years, eight or ten, during which they have been made use of by white men, their great value has been demonstrated. As at Manitou, accommodations for invalid or tourist are here most excellent. The springs at Idaho Springs (7,500 feet)—hot and cold—have been long used, and with most excellent results. Those at Boulder (6,000 feet)—seltzer—are in high favor in that town, and water from them is bottled and shipped to other points, though not to so great an extent as is that from the soda springs of Manitou. Careful analyses have been made of many of the springs throughout the mountains; but the limited number of people as yet in the state, and consequent small market for mineral water, has made it impossible to develop many of them or to test them to any great extent. Mention should be made of the spring at Deansbury, per-

haps the only strontia spring in the country; of the Fisher Springs, near Morrison; of the Cottonwood Springs, near Buena Vista; of the Wauneta Springs, near Pitkin; and of the Mount Princeton and Heywood Springs, nine in all, in Chalk Creek cañon, at the foot of Mount Princeton. A good hotel at these latter hot springs will be opened the coming season.

RAILROADS.

The Union Pacific, Denver & Gulf railway, known familiarly as the "Gulf Road," together with the Denver, Leadville & Gunnison railway, commonly called the "South Park Line," cross the state from north to south along the eastern foothills, touching all cities and all the smaller towns of importance. They pass through the heart of the great agricultural country lying north of Denver—the oldest, the most thickly settled and most productive thus far of all the farming regions of the state. They cross the Arkansas valley agricultural region, which extends from Pueblo, both east and west, up and down the river; and they enter the coal fields and the coke regions near the state's southern boundary.

By the "South Park Line" they go from Denver westward into the very heart of the mountains; they cross South Park; then, passing through one of the greatest gold regions of the state, about Breckenridge, they reach Leadville (220 millions of silver since 1879). By another branch of the same line they pass across the famous "Alpine Tunnel Route" into the rich and rapidly developing Gunnison county.

The famous "Loop Line" runs from Denver sixty miles west into the marvelous gold producing regions of Little Gilpin (83 millions gold since 1879), and Clear Creek, taking one into the very heart of the mountains in fifty minutes.

The invalid or the tourist or the seeker of a new home who wishes to look into the different sections of the state, test its different altitudes and climates, and consider in turn, as a possible home, ranch, village, mining camp, town or city, will find every variety of scenery and every climatic change and every kind of community that the state affords on the "South Park" and the "Gulf" lines.

