

Nice and its climate / by A. Barety ; translated, with additions, by Charles West ; and an appendix on the vegetation of the Riviera, by Professor Allman.

Contributors

Barety, A.
West, Charles, 1816-1898.
Royal College of Physicians of Edinburgh

Publication/Creation

London : E. Stanford, 1882.

Persistent URL

<https://wellcomecollection.org/works/qtvx4k3k>

Provider

Royal College of Physicians Edinburgh

License and attribution

This material has been provided by This material has been provided by the Royal College of Physicians of Edinburgh. The original may be consulted at the Royal College of Physicians of Edinburgh. where the originals may be consulted.

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

NICE
AND ITS CLIMATE

La 3.24

R36698



Digitized by the Internet Archive
in 2015

<https://archive.org/details/b2194278x>

NICE AND ITS CLIMATE.

NICE AND ITS CLIMATE.

By DR. A. BARÉTY,

FORMERLY INTERNE OF THE HOSPITALS OF PARIS, AND LAUREATE OF THE
ACADEMY OF MEDICINE, ETC.

TRANSLATED, WITH ADDITIONS,

By CHARLES WEST, M.D.,

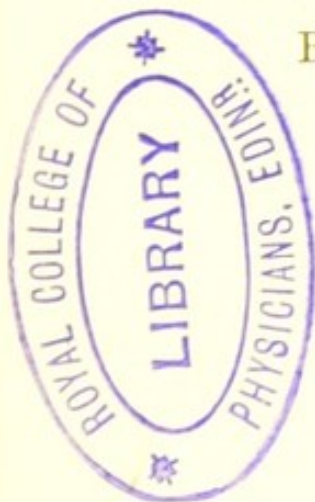
FELLOW, AND LATE SENIOR CENSOR OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON;
FORMERLY PHYSICIAN TO THE MIDDLESEX AND ST. BARTHOLOMEW'S HOSPITALS;
FOUNDER OF THE HOSPITAL FOR SICK CHILDREN;
CORRESPONDING MEMBER OF THE ACADEMIE NATIONALE
DE MÉDECINE DE PARIS, ETC.

AND AN

APPENDIX ON THE VEGETATION OF THE RIVIERA,

By PROFESSOR ALLMAN, F.R.S.,

PRESIDENT OF THE LINNEAN SOCIETY, ETC.

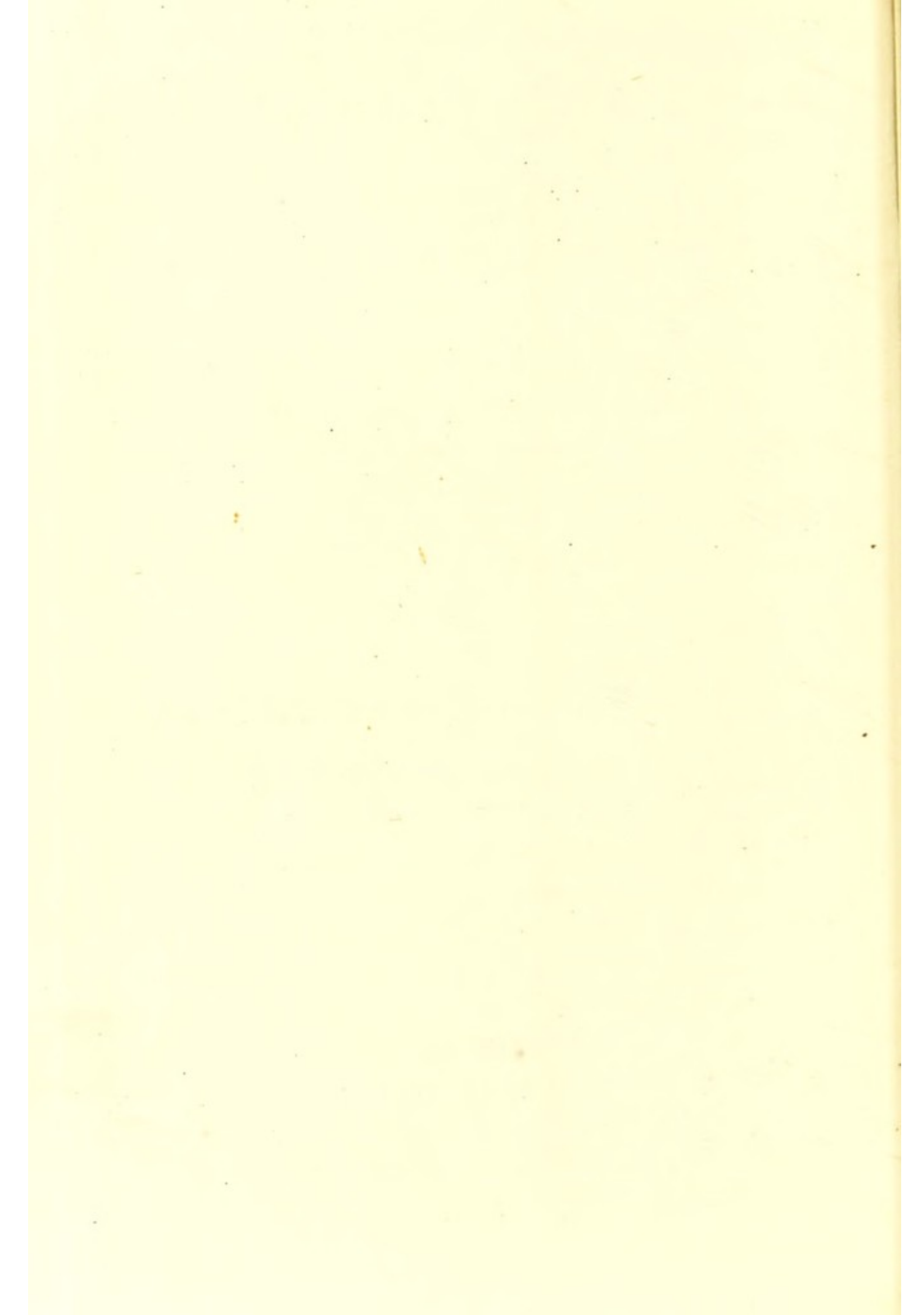


LONDON:

EDWARD STANFORD, 55, CHARING CROSS, S.W.

GALIGNANI LIBRARY, 15, QUAI MASSENA, NICE,
AND 224, RUE DE RIVOLI, PARIS.

1882.



ADVERTISEMENT BY THE TRANSLATOR.

THREE years ago I was driven by bronchitis to seek refuge in a warmer climate than that of England. I went to Nice, and in a week was free from my distressing ailment. Warned by my good friends, Dr. Walshe and Dr. Quain, that I must not venture to expose myself to the risk of London fog and damp, I resolved on making Nice my winter home.

I had not been long there when I found patients coming thither, who had had no other direction than that they were to go south, and who, according to their fancy, had selected Cannes, or Nice, or Mentone, or San Remo. Others I met with who had been specially warned against Nice, as dusty, windy, dangerous; while scarcely any knew aught concerning it except the line of houses on the beach; and, like the lad in Fletcher's comedy, who says: "Is all the world Mile End, mother?" so they fancied all Nice to be the Promenade des Anglais.

Few seemed to be aware that there are different quarters in and around the city, some more bracing than others, some more sheltered, some as

protected as any sunniest nook along the whole Riviera; and that under wise counsel it would not be hard to find there what each patient's condition most requires.

I longed to explain this, but felt that my residence had been far too short to warrant my speaking on the subject with authority. This year, however, my very able friend, Dr. Baréty, published a little book on 'Nice and its Climate,' the result of many years of observation. It seemed to me to meet the want, and with his approval, I have translated it, making to it a few additions, chiefly from the remarkable work on the 'Influence of Climate in Chronic Diseases,' by Dr. Thaon. Though addressed to medical men, Dr. Baréty's essay contains just the information which invalids require for their guidance on coming to the place, and which will enable them wisely to select their residence.

It has the somewhat rare quality, at the same time, of not being devoted to the laudation of Nice and the disparagement of other places on the Riviera, as though along some hundred miles of coast-line there were one spot, and one alone, favoured by Hygeia, and all others were but the ante-chambers of the grave. It is this defect which invalidates so many statements in works, otherwise of great merit, which treat of the Mediterranean health resorts. For my own part,

I believe that as far as essentials are concerned, there is no place from Cannes to Nervi where patients may not find, if they are at the trouble of making intelligent inquiries, all they need.

To the purely medical part of the little book, I have added, with the consent of M. Lenthéric, that part of his most interesting work on Mediterranean Provence which treats of Nice and its neighbourhood. I believe that this specimen of his writings will induce many who are at present unacquainted with them, to procure for themselves, in their perusal, an occupation which they will find has much virtue to charm weariness and soothe pain. If I can but find the leisure it will be to me a labour of love to translate the whole work.

Lastly, my best thanks are due to the distinguished President of the Linnean Society, Professor Allman, for permitting me to reprint his Address on the Vegetation of the Riviera. To my thinking, it completes the book, and most fittingly gives a floral crown to the city, which deserves, far more even than Florence, to be called the CITY OF FLOWERS.

CHARLES WEST.

2, BOLTON ROW, MAYFAIR, LONDON,
June, 1882.



THE AUTHOR'S PREFACE.

THIS little book is not meant to serve either as a guide to tourists or as a manual for invalids. It is addressed to members of my own profession, especially to those who, being themselves unacquainted with the situation, climate, and surroundings of Nice, are called upon, with imperfect knowledge, to advise their patients whither to go in order to obtain renewed health by avoiding the inclemency of a northern winter.

This task is often a delicate one, as well as responsible and difficult. It has seemed to me that I should give most real help towards its fulfilment if I speak only of Nice, and leave to my colleagues elsewhere on the Riviera to describe the special advantages of that health station with which long residence has made each most familiar.

The subject will probably be most conveniently treated in two parts. In the first I will endeavour to point out what may be called the fundamental characteristics of the Nice climate, and to explain the conditions on which they depend. In doing this I have to own my large obligations to the labours of M. Teyssere. In the second part, after

describing more in detail the peculiarities of the Nice climate, I propose to consider its therapeutical effects, its indications and contra-indications, questions in whose decision the particular constitutional tendency or diathesis of each patient exercises an important influence.

It has seemed to me that the only way in which to study the influence of any climate is to proceed as one would do in studying any other remedial agent; as one would, for instance, examine the nature and mode of action of a medicine, be it a simple or a compound one; or as one would investigate the composition and therapeutical value of the waters of some mineral spring. Be it the right way, however, or the wrong, I am not aware that it is a way of inquiry which hitherto has been strictly followed with reference to the climate of any place.

Proceeding thus, I have endeavoured to give the history—I might, perhaps, say the natural history—of the climate of Nice, to study the conditions on which it depends, its physiological and therapeutical action, and its applicability in different diseases, noting especially the cases in which it is, and those in which it is not, suitable.

I leave it to the reader to judge how far I have succeeded in the task, which I have honestly striven to fulfil.

A. BARÉTY.

CONTENTS.



	PAGE
ADVERTISEMENT BY THE TRANSLATOR	v
AUTHOR'S PREFACE	ix

FIRST PART.

ESSENTIAL CONDITIONS GOVERNING THE CLIMATE OF NICE	1
1. Those which are fixed and invariable; as topographical situation and arrangement of the surrounding hills, soil, air, &c.	1
2. Those which are variable	7
a. Statistical details concerning Temperature ..	7
" " Winds	8
" " Rainfall	12
b. Degree of daily variations in climate	15
MONTHLY SUMMARY OF THE METEOROLOGICAL CHARACTERISTICS OF NICE	24

SECOND PART.

CHAPTER I.

ON THE CLIMATE OF NICE, WITH SPECIAL REFERENCE TO ITS SUITABILITY FOR INVALIDS	31
Influence of Light	32
" Warmth	34
" Hygrometric conditions of the Air	36
" different quarters of Nice, as near the Sea, in the Plains, on the Hills	38
HYGIENIC RULES TO BE OBSERVED BY ALL INVALIDS ..	47

CHAPTER II.

	PAGE
SPECIAL INDICATIONS AND CONTRA-INDICATIONS FOR THE CLIMATE OF NICE	53
Derived partly from peculiarities of the Patient	54
" " Disease from which he is suffering	61
NICE, AS A RESIDENCE FOR THE CONSUMPTIVE	64
" ITS INFLUENCE OVER VARIOUS DISEASES	85

THIRD PART.

DESCRIPTION OF NICE AND ITS NEIGHBOURHOOD..	..	..	90
Outline of Coast	..	..	91
The Var	..	..	93
Different Inhabitants	..	..	101
Roman Roads	..	..	104
Cimiez and Roman Remains	..	..	116
Harbour of Nice	..	..	120
Progress and Population of Nice	..	..	125
Walks and Excursions	..	..	127

APPENDIX.

ASPECTS OF VEGETATION OF THE RIVIERA 138

INDEX 161

AND ITS CLIMATE

FIRST PART

NATURAL HISTORY

CLIMATE OF

Unsettled Climate of influence

the Climate

does along the shores of Lake Michigan

it is more more firmly established

first southern exposure, in summer

has stretched out at the foot of hills,

a second—say, even by a third, outside

at still higher hills, and even by a

valleys which protect the city at the

it, and west.

it will, before proceeding further, if

it refers to the colored maps, and

the different ranges of hills and

which the city is surrounded

of river and allusion to individual water

1

NICE AND ITS CLIMATE.



FIRST PART.

ESSENTIAL NATURAL CONDITIONS GOVERNING THE CLIMATE OF NICE.

I. *Fixed and invariable Conditions which influence the Climate.*

OF all the places along the shores of the Mediterranean, there is none more fortunately situated than Nice.

With a direct southern exposure, in constant sunshine, it lies stretched out at the foot of hills, sheltered by a second—nay, even by a third *enceinte* of higher, and still higher hills, and even by a girdle of mountains which protects the city at the north, the east, and west.

[It may be well, before proceeding further, if the reader will refer to the coloured map, and trace on it the different ranges of hills and mountains by which the city is surrounded and sheltered.]*

* The Translator's notes and additions are included within brackets.

The first *enceinte* is formed from west to east by the slopes and hills of Saint-Augustin, La Lanterne, Sainte-Hélène, Magnan, La Madeleine, Les Baumettes, Saint-Philippe. Behind these, still in the direction from west to east, are the higher elevations of Saint-Pierre, Le Ferric, Le Pessicart, the Col de Bast, Château-Renard, and Le Gra; the mean height of which is 200 mètres, or 656 feet. Further, but east of Nice, come the Mont Gros, the Vinaigrier and Mont Alban, and the Montboron, which are more than 300 mètres, or 984 feet in height. Lastly, closing in the city more nearly still, and still counting from west to east, are the slopes and hills of Saint-Étienne, Saint-Barthélemy, Saint-Maurice, Le Raÿ, Brancolar, Cimiez, and Carabacel, the Col and old Villefranche road, Limpinia, the forest road to Montboron, and the new road to Villefranche.

The second *enceinte*, or first mountain chain placed behind and above these hills is formed: 1st, westward, by the chain of Vence and Grasse, the Cheiron, the rock of Saint-Jeannet, &c.; 2nd, northward, by the Mont Cau, or Mont Chauve (848 mètres, or 2782 feet), Mont Costa-Pelada (520 mètres, or 1706 feet); 3rd, eastward, the Mont des Fourches and the Mont Leuze, or Pacagnalia (577 mètres, or 1893 English feet).

Northward there is still a third *enceinte*, or rampart formed by the Alps; the Vial (550 mètres,

or 1804 feet), the Ferrion (1412 mètres, or 4632 feet), the Mille Fourches (2073 mètres, or 6801 feet), &c.

The consequence of this fortunate disposition of the hills around is that Nice occupies, so to speak, the arena of half of a large amphitheatre. The spectators' seats are the hill-sides, whence they look directly out seaward, and towards the sun, overlooking the *Baie des Anges*, as that part of the sea is termed which washes the coast of Nice.

It is in short so situated that nothing intervenes to shut it out from the direct rays of the sun. These fall upon the city itself at less than an acute angle, while they impinge perpendicularly, or almost perpendicularly, on the hill-slopes around. The sea itself, too, plays the part of an immense mirror, and reflects the sun's rays from its surface; and the direct and reflected rays together penetrate into the houses, which they flood with light, and fill with warmth, especially those on the sea-side, and on the adjacent hills.

It is to these exceptional advantages of its topographical relations, more even than to its geographical position, that Nice has been indebted for the popularity which it enjoyed so long ago even as the time of the Romans, when the emperor Gallienus is said to have sent his wife Salonina to Cimiez for the recovery of her health.

A momentary digression may perhaps be ex-

cused, to tell how the accidental visit of the Duke of York in 1764, and of his brother the Duke of Gloucester in 1770, brought the place into vogue among the English. [Probably Smollett's account of his eighteen months' stay at Nice in 1763 and 1764, which he published, together with a daily register of the weather, in his 'Travels through France and Italy,' contributed even more to bring the place into notice.] But be this as it may, Sulzer, who was physician to Prince Frederick of Saxe Gotha, whom he accompanied to Nice, speaks of it in the year 1775 as being then much resorted to by the English; adding, "I really think that it deserves its reputation."* From this time its credit advanced so rapidly in the estimation of the English, that in 1787 there were already ninety-five English families resident at Nice.

To return, however, to the peculiar characteristics of Nice. A word or two must be said about its soil, and also about the air, which is filled, especially near the shore, with elements furnished by the sea.

The soil of Nice is an alluvial soil, formed in the course of ages by the slow superposition of the detritus washed down by the rains from the calcareous rocks around.

* 'Voyage de Berlin à Nice et retour en 1775 et 1776.' Milan, 1819. P. 223.

Its surface is formed for a depth of nine to twelve feet of sand and gravel. Through this layer water percolates very readily, and all the more since the general system of drainage was begun, and which has now been carried on for many years, so that there is absolutely no dampness of the soil.

With reference to the air, it is nothing but what one might expect, and what one finds at other seaside places—that the elements which enter into the composition of the sea should also be found in the atmosphere of the land; though it was first insisted on by Dr. Macario, who has practised so many years at Nice, and whose writings have done so much to render it a popular resort.

The marine smell and the saline taste are easily perceptible, even at a considerable distance from the sea; and distinct traces of salt have been found by Roubaudi at a distance of 100 paces, and by Gilbert d'Hercourt at 400 mètres (1312 feet) inland, and at an elevation of 70 mètres (229 feet). The spectrum analysis in the hands of De Coppet gave evidence of its presence at a much greater distance; in fields 1000 and 1200 mètres, or 3280 and 3936 feet inland. Daremberg's recent researches compel greater reserve with regard to the alleged abundant presence of ozone in the air of the Nice basin.

It has been alleged that iodine, bromine, and particularly chlorine, can be detected in the air of the coast. Opinions on the subject differ; nor is this surprising, if one considers how small is the quantity in which one of these elements, iodine, is said to have been discovered. M. Chatin, as quoted by Dr. Macario, states that he detected $\frac{1}{130}$ of a milligramme in a litre of rain-water which fell at Nice on one day, the 15th of October [in other words, the 10,500th part of a grain in 35 ounces 2 drachms]. That iodine is really present, however, is rendered all the more probable by the observation of Dr. Rilliet, of Geneva, that he has known patients show symptoms of iodism from no other cause than mere residence on the sea-shore; although, as M. Chatin has shown, their total daily absorption of iodine could not have exceeded $\frac{1}{5}$ or $\frac{1}{10}$ of a milligramme [or the 350th or the 700th of a grain].

For his own part, the author has been struck by the rapidity and intensity of the effects generally produced in Nice by preparations of iodine and bromine. So far, indeed, is this the case, that he would always advise that these remedies be given in smaller doses at Nice than in other more northerly districts.

Thus much with reference to the situation of Nice, its exposure to the sun, the character of its soil, the elements which enter into the composition

of its air ; all of which may be termed the invariable conditions which in a large measure govern its climate.

But there are other conditions which are not constant, and which are of no less importance. We accordingly pass now to the examination of

II. *Variable Conditions influencing the Climate of Nice.*

(a.) Mean results deduced from the statistics of the variable climatic conditions.

It results from the preceding data that the *mean temperature* of Nice must of necessity be a high one, being $15\cdot7^{\circ}$ C., or about $60\cdot23^{\circ}$ Fahrenheit for the whole year, as deduced from observations made during 61 years, between 1806 and 1876, by Risso, Roubaudi, and Teyssaire. The winter temperature in the months of December, January, and February is $9\cdot5^{\circ}$ C., or $49\cdot1^{\circ}$ Fahrenheit, or during the six months which constitute the invalids' season, from November to April $10\cdot65^{\circ}$ C., or $51\cdot17^{\circ}$ Fahrenheit.

It may be worth while, even at the risk of seeming tedious, to add the following tables, based on the twenty-eight years of M. Teyssaire's observations, premising only that, as M. Risso truly says, the spring begins at Nice in the middle of the month of February and ends in May.

Mean Temperature of each Season (Teyssaire).

	° C.	° F.
Winter—December, January, February ..	9·5	(49·1)
Spring—March, April, May	14·5	(58·1)
Summer—June, July, August	23·1	(73·5)
Autumn—September, October, November ..	16·6	(61·8)

The general mean temperature through the whole year, at the three different times of day to which M. Teyssaire's observations* apply, is

	° C.	° F.
At sunrise	12·8	(55·1)
At two o'clock in the afternoon	18·4	(65·1)
At sunset	16·1	(61·0)

The mean annual *barometric pressure* is 761·10 mm. (or about 29·96 inches).

The annual mean *hygrometrical condition* of the atmosphere is 60·7 by Saussure's hygrometer, and 61·6 according to August's psychrometer.

The *winds* at Nice are of two kinds:—

1st. The periodical breezes.

2nd. The great atmospheric currents, or *irregular winds*.

During the daytime a breeze blows regularly from the sea to the land, and at night from the land seawards.

The *winds properly so called, irregular winds*,

* First published at Nice in 1872, under the title of 'Vingt Ans d'études météorologiques faites à Nice'; and afterwards supplemented in 1877 by a *résumé* of all his meteorological investigations which appeared in the *Nice-Médical*.

which depend on influences more or less remote, are felt at Nice, as they are felt elsewhere. They are greatly modified, however, both in force and direction, by the protecting mountain rampart which shuts in the basin of Nice on the east, north, and west.

These winds may be distinguished into the strong; and the slight, or moderate.

The predominant *strong winds* all the year round are the east and the south-west. As to the Mistral [the *magister*, or master wind], the scourge of Provence, it is but seldom felt; on the average not above nine times a year.

It is a north wind, and is often accompanied by a violent west wind, which much resembles it. This latter, indeed, is often nothing else than the north wind deflected by the mountains of the Esterel, and the hills which lie to the east of the Nice basin.

The prevalent *moderate winds* are the east, the south-east, the south, and south-west; or, in other words, winds blowing from the southern quarter of the compass.

These winds, besides being the most frequent, prevail during the day, and hence the mildness of the climate of Nice, Cannes, and Mentone. The strong winds on the other hand are not only comparatively rare, but they also blow almost always during the night.

If one considers the *laws* which govern the *irregular winds*, and compares them with those that control the morning and evening breeze, it will at once be seen how far the days are favoured beyond the nights. These facts receive their best illustration from the observations of M. Teyssaire, and from those which have been made still more recently at the lighthouse at Villefranche by the author's excellent friend, Dr. Niepce, junior, to whose courtesy he is indebted for permission to lay them before the reader. They were carried on for seventeen months with reference to night winds, and for three years with reference to winds blowing in the daytime, and the following are the results which were arrived at:—

1. The winds which blew during the night arranged in order of diminishing frequency are E., N., N.W., N.E., W.; and S., exceptionally. Moreover, the winds from S.E., E., N., and N.W. are vastly more frequent than those of N.E. and W., and especially than those of S. and S.E.

2. The winds which prevail during the daytime mentioned in the same order of lessening frequency are the E. and S. [this latter a hot and damp wind from Africa, the *sirocco*], S.W., S.E., N., and N.E.; this last a wind which blows but very seldom, but which is dry and cold, having swept over the plains of Germany and Russia, and of all the most injurious to health; and still

more rare the N.W. and W. The E., S., and S.W. are much more frequent than the N., and especially than those of N.E., N.W., and W.

To sum all up, it may be stated that there is a general predominance of easterly winds, while those from the N.W. are of rare occurrence; and that, further, there is a marked antagonism between the day winds and those which blow at night.

With reference to the comparative prevalence of winds in different months and seasons of the year, M. Teyssaire's researches show that the windiest months are March, April, May, and October; that the *mistral*, though always *rare*, has its maximum of frequency in March and February, and that the two winter months of January and December are those in which there is the greatest number of perfectly calm days; and in January and December the sea not unfrequently presents the magnificent spectacle of absolute calm. Next to December and January, the least windy months are, in succession, September, July, June, May, and August. M. Teyssaire has further ascertained the fact, which had escaped the notice of previous less indefatigable observers, that there is scarcely any difference at Nice between winter and summer as far as the comparative frequency of strong or moderate winds is concerned, while the winter is superior to all the other seasons in the number of days of perfect calm.

The atmospheric changes produced by the winds must not be passed over unnoticed.

The influence of the different winds on the *rainfall* is very marked. Teyssaire says that, as a general rule, the north, east, and south-westerly winds are those which bring rain. The northerly winds do so chiefly in winter and autumn, the easterly and south-westerly in the spring, and in the autumn also those winds are not infrequently accompanied by rain.

Heavy rainfalls occur mainly in autumn and spring, and chiefly with easterly, south-westerly, and north-easterly winds.

Tropical rains, though rare (twenty-eight times in twenty years), happen most frequently in autumn; exceptionally in the winter, and ten out of twenty times they were associated with south-westerly winds.

Tempests from across the sea, and which reach Europe from the north-west, seldom arrive at Nice, being checked, as M. Teyssaire observes, by the mountain mass of the Alps which shelters the city.

The stormiest winds are in winter the N. and E.; in spring and summer the E. and S.W.; in autumn the S.E. and N.E.

Autumn is by far the stormiest season, but accidents from thunder-storms are very rare at Nice and its neighbourhood.

As to the hygrometrical character of the winds : those from the N., S.E., and S. are comparatively moist ; while those from W., and especially N.W., are very dry.

The pluviometer gave, according to M. Teysseire's observations during eight years, a general annual average of *the rainfall* of 811 mm. (31·930 inches) : for the winter, 223·4 mm. (8·795 inches) ; for the spring, 178·2 mm. (7·018 inches) ; for the summer, 102·2 mm. (4·026 inches), and 312·2 mm. (12·294 inches) for the autumn. If we compare these numbers with those yielded by the hygrometer,* it will be seen that though the rainfall is heavier in winter than in summer, the winter is nevertheless the drier season of the two.

The annual mean of more or less rainy days is 64·6 : namely, winter, 16·9 ; spring, 18·2 ; summer, 9·6 ; autumn, 19·9.

The annual mean of cloudy days is 86·5, of which there were in winter, 22·6 ; spring, 23·7 ; summer, 18·4 ; autumn, 21·8. The number of fine days, or of days in which there are very few clouds, is 209·5, which are divided between winter, 50 ; spring, 48·5 ; summer, 62·6 ; autumn, 48·4.

The sky at Nice is usually remarkably clear,

* Saussure's hygrometer gives an average of 60·7 for the whole year : of 59 for the winter, of 59·6 for the spring, 62 for the summer, and 62·2 for the autumn.

and one can see to a very great distance, so that on some days the mountains of Corsica are visible from the platform of the castle and from other elevations in the neighbourhood. [In the early morning just before sunrise, when the sky is brightening with the dawn, Corsica is often distinctly visible even from the second floor of houses on the shore.]

If instead of calculating winter according to the calendar as comprising the three months of December, January, and February, we take the six months which constitute the strangers' season—namely, November, December, January, February, March, and April; we have according to M. Teyssere 102 fine days, as against 41 cloudy and 36 rainy days.

Lastly, to complete this part of the subject, hail very rarely falls at Nice, and when it does the hailstones are always small. It was observed forty-three times in twenty years. Hail fell most frequently in March, least often in February, July, and December. Sleet is even rarer than hail, for in twenty years it was observed only twenty-four times, namely, November, December, January, February, and March. Snow is almost as uncommon as hail or sleet. It fell twenty-seven times in twenty years. For seven years of this time no snow fell at all. When it falls it is usually in very small quantity, and generally melts as soon

as it touches the ground. During the winter of 1878-9, which was so rigorous through the whole of Europe, no snow fell at Nice; but it was limited in a straight line to the summit of the surrounding hills. Mist now and then rests on the summit of the hills just before daybreak and disappears soon after sunrise. It was seen ninety-nine times in twenty years, April, May, and June. Real fogs are unknown at Nice.

(b.) Degree of uniformity or variability of the climate.

Our attention has hitherto been directed only to the average results obtained by a comparison extending over a long term of years of the atmospheric variations of the climate of Nice.

But it is of no less importance to ascertain the limits within which the atmospheric variations occur, not merely in the course of a year, or of a season, but also in the course of a single day, especially in the winter, for this will furnish the best test of the uniformity, or variability of the climate.

First, then, we will inquire what are the mean *variations of the thermometer*.

The researches of M. Teyssere have shown us: 1st. That the average minimum is observed in January and the maximum in July, and that the monthly oscillations are not violent. During the

period of increase of temperature the most considerable rise takes place between May and June, while, during the period of decrease, the diminution takes place very slowly up to September, and is especially marked between October and November. 2nd. That the oscillations from one day to another (taking the mean between noon of one day and noon of the next day) scarcely exceed 1 degree Centigrade (1.8° Fahrenheit) from January to April, and do not amount to as much as 1 degree Centigrade between May and December. We are bound to add, however, that to this statement, which is made on the authority of Risso, there are occasional exceptions, and that now and then in autumn, and especially in spring, changes of wind bring with them great variations of temperature between one day and another. 3rd. That the greatest daily oscillations of the Centigrade thermometer (that is to say, between sunrise and sunset) occur in April, March, and May, to the extent of 6.66° , 6.35° , 6.31° C. (or about 11.9° , 11.4° , 11.3° of Fahrenheit's scale, and the slightest in November and December 5.1° , 5.0° C. (or 9.2° or 9.0° of Fahrenheit), and that the general mean of these oscillations for the twelve months is 5.66° C. (or about 10.1° Fahrenheit). These figures show that the diurnal temperature of Nice is in general uniform, and not liable to great variations.

With reference to the night temperatures, Risso, on whom we have relied for our previous statements, says in a letter addressed to Dr. Pétrequin in the year 1872, "The observations of twenty consecutive years show that the cooling of the air between sunset and sunrise amounts on the average to $3\cdot3^{\circ}$ ($6\cdot0^{\circ}$ Fahrenheit), the minimum being $\cdot3^{\circ}$ ($\cdot6^{\circ}$ Fahrenheit), the maximum 7° to 8° (12° to $14\cdot4^{\circ}$ Fahrenheit); but these maxima are not common."

The general result is, then, that the oscillations of temperature during the daytime are rather more marked than at night. This difference depends on two important causes of lessened temperature, the rising and the setting of the sun.

It is especially at sunset that the fall of temperature is most remarkable; it then takes place suddenly, amounts even to a sinking of several degrees, and is accompanied by an abundant fall of dew.

The temperature, indeed, begins to decline after two o'clock in the afternoon, and goes on lessening till sunset. Teyssaire estimates the fall of temperature, from the observations of twenty years, to average $2\cdot3^{\circ}$ ($4\cdot2^{\circ}$ Fahrenheit).

Dr. Henry,* in the course of his observations on the night temperature of Nice, was struck by a phenomenon which he had not observed else-

* *Nice-Médical*, Aug. 1, 1880.

where, namely, that "the thermometer, instead of falling regularly from sunset to sunrise, rises very sensibly at a variable hour of the evening, or even of the night." This anomaly is due to a twofold cause, and depends partly on the earth, partly on the sea. The light haze which forms towards evening above the ground prevents the loss of heat, which would otherwise take place by radiation from its surface. On the other hand, the same cause reflects the warmth coming from the sea, whose temperature is always higher than that of the land, and thus in a twofold way the continuous fall of temperature is prevented.

If the day and night temperatures are compared with reference to their deviation from the mean average temperature of the whole twenty-four hours, it appears from M. Teyssere's researches that the difference is but small, a fact which tells largely in favour of the climate of Nice.

With reference to the difference between the temperature in the sun and in the shade, this, it must be owned, is very considerable, being no less than 24° C. ($43\cdot2^{\circ}$ Fahrenheit) all the year round, or $23\cdot5^{\circ}$ C. ($42\cdot3^{\circ}$ Fahrenheit) in winter, and 22° C. ($39\cdot6^{\circ}$ Fahrenheit) in summer. These results, however, are obtained by exposing the blackened bulb of the thermometer to the direct rays of the sun, a mode of comparison which can scarcely lead to a fair conclusion.

The *barometer* rises in December, reaches its maximum height in January, falls in February, reaches its lowest point in March, then oscillates during the summer, to reach its maximum a second time in September, to decline once more until the end of November; as is seen in the table:—

				British Barometer.	
Winter	..	..	761·80 mm., or about	29·99	inches.
Spring	..	..	760·8 " "	29·95	"
Summer	..	..	761·37 " "	29·97	"
Autumn	..	..	761·80 " "	29·99	"

The average annual variation of the barometer is 35·4 mm. (or about 1·39 inch). Its mean oscillation between sunrise and sunset, 1·51 mm. (or 0·059 inch).

Following it month by month, it finds its lowest point of 1·11 mm. (0·042 inch) in May, and thence goes on increasing regularly till December, when it is 1·83 mm. (about 0·070 inch), declining then till February, 1·64 mm. (0·063 inch), rising again suddenly to its maximum of 1·93 mm. in March (0·073 inch), then falling rapidly to its minimum in May.

It seems, then, that the barometric changes are very limited, especially in winter, and that consequently the atmospheric pressure is regular, and for the most part free from grave disturbance.

As to the curve of the oscillations of the barometer in the course of a single day between sunrise and sunset, the following figures may serve as an approximative answer to the inquiry. The average in summer is 761·0 mm. (or 29·96 inches), at two in the afternoon 760·8 mm. (29·95 inches), at sunset 760·7 mm. (about 29·95 inches). Incomplete though they are, for we need, for anything like accuracy, observations repeated every two or three hours, these data serve to show the direction of the atmospheric wave represented by a portion of the descending curve which it describes between the sun's rising and its setting.

The winds, as M. Teyssere observes, are one of the most powerful causes of the variations of barometric pressure, the highest readings being due to S.E. and S. winds, the lowest to those from the mainland, which are N. and N.W.

As to the hygrometrical condition of the atmosphere, its minimum occurs in the month of March, when it is represented by 58·8. It gradually rises till September, when it reaches its maximum, falling again till January. According to Saussure's hygrometer, it rises slightly in February; but August's psychrometer shows a gradual uninterrupted fall till March. It appears, then, as the table shows, that the driest months of the year are those from October till March, the very

season when invalids resort to Nice in search of health.

Average of Saussure's Hygrometer.			Average of August's Psychrometer.		
Winter	..	.. 59·0	Winter	..	.. 62·9
Spring	..	.. 59·6	Spring	..	.. 58·7
Summer	..	.. 62·2	Summer	..	.. 62·5
Autumn	..	.. 62·2	Autumn	..	.. 62·1

The hygrometrical condition of the air varies very little between sunrise and sunset.

The mean rainfall is lowest in June, when it amounts to only 15·4 mm. (0·607 of an inch), from which time it increases gradually to 31·1 mm. (1·224 inch) in September. In October, however, there is a sudden increase to almost five times as much as in the previous month, or 153·3 mm. (6·036 inches), after which it declines slowly to 103·0 mm. (4·055 inches) in December, and to 77·7 mm. (3·059 inches) in January. From that time the rainfall diminishes each month until its minimum in June, with the exception of a slight temporary increase in February or March.

It is then in spring, and still more in autumn, that there is a marked increase in the rainfall; and this fact corresponds with that of the seasons when there occurs the greatest number of cloudy and rainy days.

[The following table, deduced from M. Teysseire's observations during a period of twenty years, shows in a more convenient form than in

Dr. Baréty's text the state of the sky and of the wind for the five winter months :—

	Average of Wind.			State of Sky.		
	Slight.	Strong.	None.	Clear.	Cloudy.	Rainy.
November	21·5	6·0	2·3	14·8	7·9	7·2
December	21·7	4·7	4·2	17·8	6·8	5·7
January	21·3	5·5	3·5	16·5	8·5	6·0
February	19·8	7·4	1·7	15·7	7·3	5·2
March	19·8	9·7	1·2	16·1	8·4	6·4
Average of winter of 152 days .. }	104·1	33·3	12·9	80·9	38·9	30·5

With reference to the rotation of the winds, or the way in which they succeed each other in the course of the same day, Teyssaire observes:—
 “The rotation of the winds takes place very regularly and in a marked degree during spring and summer. From the beginning of April till September, when the weather is fine and the atmospheric pressure a little below the average, a slight easterly sea breeze sets in directly after sunrise, and as soon as the land wind has ceased. This breeze increases, and between ten and eleven blows from the south-east; increasing still, it blows due south about one o'clock; between three and four it has become stronger still, and blows from the south-west; then lessening, it becomes due west, and continues in that quarter till it dies away completely at sunset. The land

breeze then springs up, and blows all night from a point varying from N.N.W. to N.N.E. Sailors are well acquainted with this phenomenon, and their saying is that on this coast the wind follows the sun. In autumn, and especially in winter, this occurrence is much rarer. It is observed only in seasons of fine weather, and with rather high atmospheric pressure."

The periodical alternation of these two breezes is easily explained by the unequal heating of the earth and sea. The temperature of the two is generally in equilibrium about nine o'clock in the morning; but as the sun rises higher in the heavens, and the earth becomes more heated, a breeze sets in from the cooler sea, and goes on increasing till the temperature is at the hottest, about two o'clock in the afternoon. Towards sunset there is once more an interval of calm; but as night comes on, the earth, which cools more rapidly than the sea, gives rise to a land wind, which acquires its greatest force just when the temperature of the night falls to its lowest.

The sea-breeze tempers the sun's heat, and produces a sort of ventilation, a renewal of the air all along the coast, while it is to the land-breeze which sets in at night that are due the cool evenings of the spring and summer, so grateful and refreshing to people tired and worn sometimes by the day's heat.

SUMMARY OF THE METEOROLOGICAL CONDITION
OF NICE, MONTH BY MONTH.

In the *Nice-Médical* for 1876-77, M. Teyssie published a monthly summary of the meteorology of the city and neighbourhood. The communication is of so much interest, giving as it does an account of the changes in vegetation as well as of the atmospheric variations each month, that no apology seems needed for reproducing it here.

“*January*.—January is usually a very fine month; its average temperature is $8\cdot4^{\circ}$ C. ($47\cdot4^{\circ}$ Fahrenheit), and even on the coldest days the thermometer is never lower than $-2\cdot5^{\circ}$ C. ($27\cdot5^{\circ}$ Fahrenheit) at sunrise. The average height of the barometer exceeds that of all the other months of the year, and the number of days of sunshine is within a small fraction the same as in the months of May and June. Rain falls on the average on not more than six days, though quite exceptionally there were fifteen rainy days in January 1850. On the other hand, in some years there are not above two or three rainy days in the month, and in January 1864 no rain at all fell. Lastly, in this, as in all the other winter months, both rain and fog are extremely rare; and fogs, if they do occur, are never as thick as in the centre and north of France.

“*February*.—February is in many respects a less agreeable month than January. It is more liable to sudden changes of temperature, and unpleasant winds are more frequent. It is true that sometimes even in this month the weather is magnificent, and in seven years out of twenty-eight there were from twenty to twenty-four cloudless days. On the other hand, however, in eight years out of the twenty-eight, there was a prevalence of high winds for from ten to sixteen days. Lastly, it is the coldest month of the year, and on February 14, 1854, the thermometer at sunrise stood as low as -3.4° C. (25.88° Fahrenheit).

“*March*.—March is usually dry and windy, and its temperature is variable. The days indeed are for the most part fine and cloudless; but every now and then they are interrupted by sudden returns of wintry weather.

“*April*.—April still shows a little of the changeable character of March. Still this month is usually one of the pleasantest in the year; for nature now reawakens, the trees put forth their leaves, the flowers blossom, and all vegetation is in full activity.

“*May*.—The month of May is usually delightful. Flowers of all sorts; the orange, the Seville orange, the lemon are full of bloom; and so abundant are they in the gardens around the city, that it seems, especially at evening, bathed in an

atmosphere of perfume. It is said even that at night, when the breeze sets from the land, the scent of flowers has been perceived by sailors ten leagues out at sea. Sometimes, however, this month is rainy and windy, and the temperature varies much.

“*June.*—June is generally a very agreeable month, especially during its first half, for then the heat is moderate. The spring flowers, however, have almost completely disappeared, and the summer flowers, of which there are but few, cannot compare with them for beauty. Grain crops ripen now, and the harvest in the adjacent country usually takes place from the 20th to the 30th, about which time the great summer heats for the most part begin.

“*July.*—July is generally hot, dry, and disagreeable. July and August indeed make up what one may call the bad season of Nice, as of the whole coast of Provence and Liguria. It is not indeed that the thermometer rises to any extraordinary height, for it seldom marks more than 31° or 32° C. (88° or 89.6° Fahrenheit), and the highest reading which I have ever noted was 33.7° C. (92.7° Fahrenheit) on the 10th of July, 1865. It is the constantly cloudless sky, the absence of rain, the extreme glare of the sun's rays, combined with an unvarying daily heat of 27° to 29° C. (81° to 84° Fahrenheit), which persons find exhausting

and difficult to endure. Fortunate then are the dwellers on the sea-shore, for the regular daily breeze maintains a comparative coolness of the air which renders a Nice summer perfectly bearable. The landscape, however, it must be owned, has lost its charms ; for the fields, left bare by the reapers, are dry and dusty, and the hills have no verdure, save where the olive or the fig, or other fruit-trees hide the barren soil. Of course in the kitchen gardens, or wherever else irrigation is possible, everything remains fresh, green, and fertile, even during the dog-days.

“ *August.*—August is just like July, except perhaps that the temperature falls slightly, and that the barometric pressure as slightly increases. There is the same number of fine days, of cloudy and of rainy days, and of those which are stormy, and about the same hygrometric condition. As September approaches, the thermometer falls steadily but very slowly. In this month the beautiful fruits which the district yields ripen and are gathered : the magnificent peaches, which are exported to other less favoured regions ; the exquisite figs, which do not bear transport ; the juicy melons and water - melons which come from Antibes close at hand ; and lastly the grapes, which ripen during the second half of the month.

“ *September.*—September is a very beautiful sum-

mer month. The heat, which is still considerable in the first half of the month, lessens notably in the second. It is stormier than August and July, and almost as much so as June. September is especially remarkable at Nice for the beauty and abundance of the fruits, which give to the market every day from 8 to 11 o'clock the appearance of a prize fruit show.

“October.”—In October the temperature is usually about the same as that of May. Once only in twenty-eight years the temperature on October 13, 1870, was $31\cdot2^{\circ}$ C. ($88\cdot2^{\circ}$ Fahrenheit), an accident due to the sirocco; but in the other twenty-seven years the temperature varied from $23\cdot5^{\circ}$ to $27\cdot0^{\circ}$ C. ($74\cdot3^{\circ}$ to $80\cdot6^{\circ}$ Fahrenheit). October and May resemble each other in the number of fine days; but the average rainfall is not only higher than in May, but also than in all the other months of the year. Vegetation is still very active, and most deciduous trees remain as green as in summer. The autumnal rains revive the plants which the summer heats had withered; they grow green and bloom again, so that the autumn of Nice seems often but a second spring.

“November.”—November is usually very mild, and although the number of bright days is smaller than in any other month, still the average of days of sunshine is very nearly 15 ($14\cdot8$). The hygrometric mean is slightly less than in October,

which month it also resembles in being cloudy and rainy. Most deciduous trees still continue green, and it is only after the middle of the month that the leaves begin to fall. But even then many plants, awakened from their summer sleep by the October rains, are still in flower; roses especially are in great beauty; the orange-trees themselves frequently blossom a second time, and thus what may be termed a second spring lasts on even into the next month.

“*December.*—December at Nice is the finest month of the whole winter. Its average temperature is 9° C. (48.2° Fahrenheit), and even during the coldest nights the thermometer in the city never falls lower than 2.7° C. (37° Fahrenheit). Next to August, it is the least windy month, and the average of cloudless days is 18 (not infrequently, indeed, their number is 22, 23, 24, 25, and in 1851 even 26). It is, indeed, almost entirely free from that rough weather which characterises it in most of the countries of Europe. Most of the trees, shrubs and plants at Nice being evergreen, the hillsides and the gardens never assume the sad bare look, either in December, or, indeed, throughout the whole winter, which they present after the fall of the leaf in more northern countries. The olive-trees display their ripe berries, the yellow oranges load the green branches, the lemon-trees show at the same time

their fruit and flowers ; while on the side of the hills, under shelter of the olives, or even unprotected, the lovely anemones open their buds, and tuberoses and violets are to be had in abundance of all the flower sellers."

SECOND PART.

CHAPTER I.

ON THE CLIMATE OF NICE, AND ITS SUITABILITY FOR INVALIDS.

[It appeared to the translator to be more convenient to pass at once from the minute detail of the meteorology and climate of Nice to the consideration of its influence as a remedial agent, rather than to interpose, as the author has done, an account of the city of Nice between the two parts of his essay. The facts, except where indicated by brackets, are still Dr. Baréty's; it is their arrangement only which has been altered.

The two chief conditions on which the fitness of any place as a winter health resort depends, are those of the air and the sun.*

The air should be mild, and its temperature fairly equable, the atmospheric pressure but slightly variable: it should not be stagnant, but, on the other hand, not disturbed by violent winds;

* See with reference to these points, the observations of Dr. L. Thaon in his '*Clinique Climatologique*,' pp. 90-101, 8vo., Paris, 1877, which are embodied in the text.

exceedingly pure, and of only a moderate degree of moisture.

Next in importance to the air is the sun; and it may be laid down as subject to no exception that any place where the sun does not shine brightly at least every other day, or where the hours of sunshine are at any time fewer than from 9 a.m. to 3 p.m., is an undesirable winter station for the invalid.

How far these essential conditions are fulfilled at Nice has been seen in the former part of this book. How important light and heat are both in the prevention of disease and in its cure has next to be shown.]

Influence of light.—The light at Nice is so bright as often at first to weary the eyes of those who are unused to it; and this inconvenience is increased by the glare of the white houses and of the roads, which are dusty in spite of their being well watered.

Apart from these slight discomforts, however, the influence of the light is in all respects beneficial. It imparts, if one may use the expression, vitality to the air, and does good alike to man, to animals, and plants. [“It is indeed not the temperature alone, on which vegetation depends, but still more the degree of light, and light is the chief agent in Nature’s chemistry. The experiments of H. Macagno show that suckers

of the vine covered with black cloth receive a much greater degree of heat from the sun than do others exposed directly to its rays; and yet the former produce only scanty blossoms, and no fruit, while the others are loaded with grapes."]*

One of its most remarkable influences on man is that of favouring the performance of respiration, a fact to which Professor Rostan calls attention. As evidence of this he mentions the well-known fact of the relief which the mere influence of light affords to asthmatic patients, and especially to persons who suffer from periodical attacks of dyspnœa connected with some disease of the chest. He observes that with such patients the difficulty of respiration is greater towards evening, during the night, and especially in the morning, and this in exact proportion to the duration of darkness, and consequently in winter-time. One is familiar, too, with instances of asthmatic patients whose attacks of dyspnœa

* [Thaon, *Op. cit.*, p. 98. The translator cannot again mention the name of Dr. Thaon without expressing the regret which all who know him, and who love their profession, must feel at his having been compelled by the state of his health to abandon the pursuit of medicine. Though comparatively young in years, he was ripe in experience, from which others as well as the translator profited, and hoped to profit long. He loved "his art but not his trade," and so he quitted medicine when the claims of an enormous practice in Nice left him neither time nor health for those higher pursuits which he followed, and follows still, with a young man's ardour and an old man's perseverance.]

cease merely on kindling a light during the night-time.

This action of light on respiration appears to depend, at any rate in part, on the fact that light favours the exhalation of a larger quantity of carbonic acid gas; for during the night-time this gas is expired in smaller quantity than by day; and further, those affections of the circulation which produce dyspnœa do so by a tendency to occasion asphyxia.

Light has also a specially favourable influence on strumous and rachitic patients, and promotes bodily development in every way.

Influence of warmth.—One of the chief objects, sometimes indeed the only one, which medical men aim at when they send their patients south, is to get the benefit of the warmth. There can be no doubt but that the high, and equable temperature of Nice is one of the great advantages which its climate presents.

[A large part of the benefit, however, derived by the invalid depends, not on heat alone, but on the influence of the direct rays of the sun. It is the sun which gives plants their colour, and imparts their bright tints to mountain flowers. It increases the pigment of the skin of animals, deepens the dark hues of their fur, and of the plumage of birds. It bronzes the complexion of the inhabitants of sunny climes, and reddens

the pallor of the consumptive patient. The sun gives colour to the blood; it cures chlorosis, just as it gives back their natural hues to plants which have faded in the dark. One knows that there is a strict relation between the chlorophyll of plants and the hæmoglobine of animals; that both substances lose or gain in colour according to the quantity of oxygen which they absorb; and that they are the direct respiratory agents in plants on the one hand, in man and animals on the other. The sun increases the quantity of chlorophyll in plants, and with it their respiratory power; and just in the same way the quantity of hæmoglobine and the activity of respiration in man stand in direct relation to each other. Without being able to appeal to direct analyses in support of the fact, it yet seems probable that the quantity of hæmoglobine, increased under the direct influence of the sun, is the real cause of the ruddy hue which patients with chest affection acquire at Nice.

To gain the full benefit of this chemical action of the sun's rays, however, it is essential that patients should understand the importance of dwelling in an apartment well exposed to the sun, and of remaining every day for several hours in full sunshine.] *

These sun-baths, as they may with propriety be termed, are often of much service in various

* Condensed from Thaon, *Op. cit.*, pp. 99, 100.

conditions. The patient may sit in his room, lightly clad, but with his head protected either by a sun-shade, or sun-helmet, turning sometimes his back, sometimes his chest to the full sun for half or three-quarters of an hour together.

In some cases of anæmia, and in some chest affections, we have seen real benefit accrue from this proceeding, by which the influences of the heating, illuminating, and chemical rays of the sun are all at the same time brought into action.

Influence of the hygrometric condition of the air.—The air of Nice is, as has been said, a dry air, but still its dryness is not excessive, as the observations of M. Teyssere prove. The same fact is open to the observation of any one, even though wholly without scientific knowledge. It is shown by the evening dews; it is seen in the numerous rivulets which intersect the plain on which the city is built. The rainfall, too, is by no means inconsiderable; the southerly winds are laden with moisture, and, lastly, the plants suffer from drought only during a few of the hottest days of summer.

An excessively dry air is, indeed, undesirable, since it produces a harsh state of skin, readily appreciable by the hand, and disturbs the general health in a way that varies in degree according to the impressionability of the individual. The forms which this disturbance takes are such as

unwonted excitability of the nervous system, irritability, unusual sensitiveness, a vague sense of discomfort, sleeplessness, and sometimes headache.

[“But while air, if excessively dry, may sometimes prove too exciting, this is no more than is true of the very best remedies, which may prove injurious if not judiciously employed.

The advantages of a considerable degree of dryness of the air are not far to seek, if we look at its influence on the different functions of the body.

Dry air favours the excretion of moisture from the lungs; and from the surface of the skin by means of the insensible perspiration. This watery vapour carries with it a number of excrementitious principles, so that dry air plays an important part as a purifier, and helps the respiratory function when suffering in consequence of pulmonary disease.

Dry air stimulates the digestive functions, and by exciting the action of the skin serves as a derivative, relieving thereby the functions of the intestines; for in no other way can one explain the beneficial influence of the dry Mediterranean climates on the diarrhœa of tuberculous patients, and the improvement of their appetite, due to the same cause. On the other hand, when the air is damp, the digestive functions languish, and the diarrhœa, which is one of the commonest and

most formidable complications of phthisis, remains uncontrolled."]*

The climatic differences of different parts of Nice.—A certain sort of similarity may be found between Nice, to which people come for the benefit of the air, and other places, which are resorted to for the sake of the waters. The air of Nice, in addition to its other qualities, is impregnated, especially in the neighbourhood of the sea, with certain marine elements, and according as one comes nearer to, or goes further from it, these elements are found in more or less abundance. So, just as in the same place one spring abounds more in one ingredient, and another in a different, and patients are advised to have recourse to this or that, just in the same way in Nice itself there are different districts, or zones as they may be termed, where the air is more or less impregnated with elements from the sea, or warmer, or fresher, or more still; and, according to the patient's special needs, he may be advised to take up his residence in the one district or the other.

Formerly there were but two districts to which invalids resorted—that near the sea (Promenade des Anglais, Quai du Midi, Ponchettes, Lazaret) and that of Carabacel, which was considered specially the invalids' district, as being far from the sea and well sheltered.

* Thaon, *Op. cit.*, p. 93.

It is now, however, some years since the city began to increase in all directions. Building went on from the castle hill in the old town down towards the plain, while in the new town increase took place in the opposite direction, and houses crept up by degrees to the foot of the hills, especially to the east and west, so that it is no longer easy to say where town ends and country begins.

These changes justify the division of Nice into three zones ; * and experience has shown that the zone of the sea-board is essentially tonic, and sometimes exciting ; that of the plain, simply tonic ; that of the hills, tonic and sedative.†

* The first person who proposed this division of the territory of Nice into different zones was Dr. Prosper de Pietra Santa. He recognised two principal zones ; that of the coast or the marine zone, and that of the hills. See his work ' *Les Climats du midi de la France*, ' Paris, 1874, pp. 33 and 172.

This division was rendered more exact by Dr. Hugues, who suggested the recognition of an intermediate zone, that of the plain. See his memoir on the subject in the *Nice-Médical* for December 1, 1876 ; and the report of a discussion in the Medical Society of Nice on the influence of residence on the sea-shore, as reported in the *Nice-Médical*, April 1, 1879.

† [It will be of service to visitors to know which parts of Nice are comprised within the different zones ; and the enumeration which here follows is that given by Dr. Baréty.]

The *zone of the sea-board* includes, going from west to east—

1. The level ground on the left bank of the Var.
2. The level part of the districts of Ste. Hélène and Magnan
3. The Promenade des Anglais.
4. The Jardin Public.
5. The Quai du Midi and Les Terrasses.
6. Les Ponchettes.

The *zone of the sea-board* is formed by a strip of land which extends along the shore from the north-east to the south-west—from the promontory of Montboron to the hills of the Baumettes, of Fabron, and Ste. Hélène, and occupies a width of about 300 yards, equal to the space between the

7. The Quay of the Port.

8. The level ground of the districts of Lîmpia and Montboron.

9. The Lazaret, or Boulevard de l'Impératrice de Russie.

Then just behind this narrow strip of land, but equally, or almost equally, exposed to the sea, still going from west to east, are—

10. The Rue de France.

11. The Rue Masséna.

12. The Quai Masséna.

13. The Rue St. François de Paul.

14. The Cours (or Corso).

The *zone of the plain* includes the remainder of the town strictly speaking, and, going again from west to east, the level ground of the districts of—

1. St. Philippe.

2. St. Étienne.

3. St. Barthélemy.

4. Le Raÿ.

5. Brancolar.

6. Carabacel.

Further it includes the districts of—

7. The faubourg of the Croix de Marbre.

8. The boulevards of La Buffa and Longchamp.

9. St. Maurice.

10. Notre Dame and St. Michel.

11. St. Jean-Baptiste.

12. The Place d'Armes.

13. St. Roch.

14. Riquier.

sea and the Rue de France. It is directly open, not to the sea-breeze only, but to all the elements wafted by the wind from the sea. One end of this zone, that of Le Lazaret, is exceptionally favoured in its position. It is a sort of hot-house, sheltered from every wind ; protected from the east and

The *zone of the hills* includes, going from west to east, the hills of—

1. St. Augustin.
2. La Lanterne.
3. Ste. Hélène.
4. Magnan.
5. La Madeleine.
6. Les Baumettes.
7. St. Philippe.
8. St. Étienne.
9. St. Barthélemy.
10. St. Maurice.
11. Le Ray.
12. Brancolar.
13. Cimiez.
14. Carabacel.
15. The hill, and old road to Villefranche.
16. Limpia.
17. Forest road to Montalban.
18. Montboron, and new road to Villefranche.

It is worth bearing in mind that, the basin of Nice having the form of an amphitheatre open towards the sea, some districts of the plain and especially parts of the hill district are much nearer to the sea than others ; and these are, of course, the parts at the east and those at the west end of the districts. Hills so situated, as for instance, those of Montboron at the east and of Les Baumettes at the west, have the double advantage of proximity to the sea and at the same time of being from 164 to 262 feet, or more, above its level.

north by the promontory of Montboron ; from the west by the castle hill.

The *zone of the plain* extends from the limits of the former zone to the foot of Gairaut, and includes the whole district between the hills of St. Philippe and St. Barthélemy on the west, and the hills of Montboron and St. Roch on the east. Into this large plain the hill of Cimiez projects like a promontory, beginning at Brancolar, and ending at Carabacel. This promontory of Cimiez, of which the castle hill seems but the continuation, divided from it by the bed of the Paillon, has an eastern and a western slope, the latter preferable to the former, because it looks both south and west, and, moreover, is sheltered from the east winds, which are the most frequent all the year round.

The zone of the sea-board has the form of a bow very slightly bent, extending from the Pointe de Carras and reaching to the Lazaret.

The zone of the plain has the form of a crescent, with its convexity towards the sea, and its horns directed northward. The north-west horn, which divides into two smaller horns at St. Maurice, reaches the foot of the hill of Gairaut ; the north-eastern ends at St. Pons and St. Hubert.

The shape of the *zone of the hills* conforms to that of the zone of the plain which it shuts

in on the north, east, and west, like a vast amphitheatre.

The hills of the first range slope gently down to the plain, especially on the north and west. They are for the most part separated by little watercourses, which run through narrow valleys, and which all converge, like the leaves of a fan, towards the centre of the bay. The exact direction of the hills most immediately surrounding Nice needs, however, to be looked at more closely, as governing the choice of a habitation well exposed to the sun.

There are three separate groups of hills which in this point of view are the most important—the western, St. Philippe, and the Baumettes; the northern, Cimiez, Carabacel; and the eastern, the Montboron. They all have one side full south, and two slopes, one of which looks west and the other east.

The western slope of Cimiez looks towards the plain of Nice; its eastern overlooks the Paillon, and faces Montalban, and Montboron.

The eastern slope of St. Philippe overlooks the plain of Nice, and faces the Château.

Lastly, Montboron looks westward over the whole of the Nice basin, and eastward towards the road of Villefranche, towards Beaulieu, and St. Hospice.

It follows from these topographical consider-

ations, that in general we should give the preference to those positions which are directly exposed to the south and west, because the sun shines on and warms them almost all day long; and further, because it is from the east that shelter is the most needed, since the most prevalent wind blows from that quarter.

The best sheltered and the warmest districts, then, are the southern and western slopes of the three groups of hills which have just been mentioned, and lastly those of Gairaut, and the hill-sides near, which have likewise a full southern exposure.

The most eligible positions for invalids are, in the *zone of the plain*, mentioning them in order of merit: Carabacel, St. Jean-Baptiste, including the Boulevard Dubouchage, which bounds it on the north-west, Longchamp, La Buffa, La Croix de Marbre, Notre Dame, St. Étienne, St. Philippe.

In the *sea-board zone*, all the places situated in it, and already mentioned, except the plain of the Var, and the immediate neighbourhood of the harbour. Enumerated in the order of their importance, they are the Promenade des Anglais, the Quai du Midi, Les Ponchettes, Le Lazaret, Le Jardin Public, Ste. Hélène, Magnan, Limpia.

The greater number of persons who come to Nice for their health, and many medical men, too, who are personally but little acquainted with

it, and who consequently know nothing of its immense increase within the last few years, think of it only as a seaside place. These erroneous notions, however, will at once be modified when it is borne in mind that from the Promenade des Anglais to Gairaut, which is nearly three miles and a half inland, there are positions, some on the plain, some on the lower hills, which yet rise to the height of more than 650 feet, where invalids can find a home such as suits best their fancy or their susceptibility. The patient who passes restless nights on the borders of the sea, may obtain quiet sleep at Gairaut, or at many places between these two extreme points of north and south. There can indeed be no doubt but that the over-exciting influence of the Nice climate of which some have complained, is limited to those persons whose nervous system is very excitable, and who have by mistake taken up their abode on the sea-shore.

People who take up their abode at Nice require, as do strangers on arriving at many other places, to become acclimatized to it; a process which, according to the various peculiarities of their constitution, their health, and even their nationality, sometimes requires a longer, sometimes a shorter time. It happens, not very rarely, especially in the case of those who journey rapidly to Nice from some long distance, that on first arriving

they become sleepless, lose their appetite, grow irritable, complain of a sense of heaviness in the head, while their conjunctivæ become injected, doubtless from the brilliant light, and some persons even complain that their sense of hearing is less acute than usual.

The same class of discomforts, too, is sometimes experienced by others after a prolonged stay of from three to six months at Nice, as though their constitution had become saturated with the peculiar influences of the climate. In such a case it is always desirable to advise the patient to go to some other place in France or Italy, lest he should lose the benefit of his stay at Nice.

[In the majority of cases where such symptoms occur too early in the season to admit of the patient's return to England, and where they have not disappeared on removal to the hills, as Cimiez for instance, or St. Barthélemy, the best course that can be advised is a stay at Montreux, or some other place on the Lake of Geneva. If early in the season it becomes obvious that the marine air of the Riviera is unsuitable, Pau will be in all probability a better winter residence. The length of the journey thither, and the almost absolute necessity of passing one night either at Montpellier or at Toulouse, is the one great difficulty to be encountered.]

On the other hand, when the tonic action of the

climate does not exceed its ordinary physiological limits, all the bodily functions increase in healthy activity, the appetite improves, respiration becomes freer, the skin gains colour, and the mind as well as the body acquire fresh vigour.

To obtain these good results, however, and to escape the discomforts which sometimes attend the early days of a stranger's residence at Nice; there are *certain hygienic rules* which must not be neglected.

These rules have reference to :—

a. The expediency of not changing too suddenly from one climate to another; a precaution constantly lost sight of by persons who come by express trains from long distances. The evil results of this are all the greater in proportion to the sensitiveness of the patient. The skin and the mucous membranes are not prepared for the sudden change, and their functions may undergo serious disturbance, giving rise to congestion of the mucous membranes, catarrhal affections, and general disorders of the nervous system.

b. The necessity of avoiding exposure to the direct rays of the sun, and of taking due precautions against sudden chills from atmospheric changes. Many persons, as soon as they come to Nice rush at once into the full blaze of sunshine. Having come thither as they say in search of the sun, and to benefit by its health-giving rays, they

at once go and seat themselves on a bench on the public walks when it is at its brightest, generally too warmly clad, and carrying no sunshade, nor wearing dark glasses.

At first they find it all very pleasant, but before long they get congestion of the eyes and head, then their digestive system becomes deranged, and they are forced to call in a doctor. Another inconvenience sometimes happens; the skin grows hot and perspires, and then at the time of sunset, when the air becomes cooler, the patient catches cold, sneezes, gets sore throat and stiff neck, and if he has previously suffered from bronchitis, or any other chest affection, he runs much risk of his cough increasing greatly in severity. If he has not been warned beforehand, and so is ignorant of the cause of these discomforts, the patient is apt to look on Nice as having the most abominable climate in the world, and one most prejudicial to his health.

It is most important that the head should never be exposed to the direct rays of the sun. Every one who goes out should carry a sunshade and wear dark glasses. It is well also to have a coat or cloak over the arm, and a handkerchief in case of need for the neck.

It is likewise essential to avoid being out of doors at sunrise, but especially at sunset. The reasons for this precaution have already been

explained. While the sun is above the horizon the temperature varies but slightly. It sinks, however, with great rapidity at sunrise and sunset.

It may be stated as a general rule, that in December and January it is not wise to be out of doors before ten or after three o'clock. Earlier in the season, and later, the time may be extended from nine till four, and in the spring even till five o'clock; but as a general rule all invalids ought to be indoors an hour before sunset.

They should also take care not to pass suddenly from sunshine to shade without throwing a coat or a shawl over their shoulders. It is for the same reason that certain drives should be avoided, especially in an open carriage, during which the transition is sudden from bright sunshine to places where its rays seldom or never penetrate. Such, for instance, is part of the road to the *grotte de St. André*; and again on the new route to Villefranche. Just before reaching that village, a portion of the road lies, during winter time, in deep shadow after three or four o'clock in the afternoon. According to the author's observation, most of the colds caught, either by healthy people or by invalids, within the first few days of their arrival at Nice, have been contracted on one or other of these roads. This caution, though not insisted on by former writers,

is yet not to be forgotten, for the translator is sure that a large part of the blame which has been thrown on the Nice climate is due to persons leaving the carriage windows open, or neglecting to put on a cloak or shawl when passing along these or similar roads late in the afternoon.

c. In matter of dress, it is important to be neither too warmly nor too lightly clad. Flannel is indispensable; but as a rule fur coats and cloaks and very heavy overcoats are undesirable. Invalids who dress themselves as people do in the coldest countries of Europe, can scarcely take a step without getting into a state of excessive perspiration, which really interferes with the healthy action of the skin; while at the same time it exposes them to great risk of catching cold.

d. Just as a person should not clothe himself too warmly, so he ought not to walk too quickly, and that for the same reason, namely, the avoidance of becoming heated, perspiring, and afterwards catching cold.

e. Any one driving in a close carriage should open only one of the side windows; or, if in a landau, the two side windows may be opened, provided the person sits with his back towards the coachman, so as to avoid meeting the direct current of air.

f. In the choice of an apartment it is important to select one looking due south, so as to have the

benefit of the sun from the early morning. The drawback, however, from almost all apartments is that one-half looks north, and that both that half and the intervening corridor are comparatively very cold. The dining-room, too, is usually situated in the cold half of the apartment, an arrangement which, in the interest of the invalid, should be modified, so that he should pass the whole of his time in rooms at one temperature.

The doors and windows of the bedroom should be fitted so as to exclude all draughts, and the bed of course should not be placed between the door and window. The bedroom window should be kept open all day long, until within an hour of sunset, when it should be closed, though later on at night it may be opened without risk. The precaution must always be taken not to bring a light into the bedroom while the window is open, for fear of attracting the mosquitoes, against which a measured protection is furnished by burning certain pastilles which stupefy them, though an absolute defence is afforded only by well-made mosquito nets.

The bedroom should be well and carefully ventilated at night. It is a good plan to leave the windows open in an adjoining room with the bedroom door opening into it; or, if the bedroom is large, one of the windows not opening directly on the bed may be left unclosed.

g. It is well to bear in mind, with reference to matters of diet, that the climate is a warm, not a cold one, and that rich living and strong wines, which may be very well borne in London and St. Petersburg, are out of place here. It is sometimes difficult to persuade invalids of this, and hence the doctor occasionally finds himself obliged to put them on a diet of vegetables and milk in order to relieve the heaviness of the head, the sleeplessness, and the almost constant pain in the loins, which, associated with a muddy state of the urine, are the results and the evidence of the injudicious mode of living in which they have indulged.

h. One word, in conclusion, with reference to the amusements of Nice—the opera, the theatre, the concerts, the balls. They who come to Nice for their health must not forget the risk to which a participation in these pleasures exposes them, and, if they are wise, will consult their medical attendant as to the degree in which they may indulge in them, as much as concerning the remedies they should employ, or the regimen they should observe.

CHAPTER II.

INDICATIONS FOR AND CONTRA-INDICATIONS
AGAINST THE CLIMATE OF NICE.

It may be observed, first of all, that persons who visit Nice for purposes of health do so for one of two reasons: either to counteract supposed tendencies to disease, or to obtain the cure of disease already existing. With either object the persons who should be advised to sojourn there are such as are suffering from some morbid predisposition to debilitating ailments, or from their actual existence, or from the consequences which they leave behind.

With any of these objects it is important that a patient's residence at Nice should not be for too short a time. A tendency to disease, or its actual progress, may be checked by a stay for a single winter; but the eradication of such morbid tendency, or the complete cure of already existing disease, may often require residence in a southern climate for two or three winters. This truth is often not borne in mind by people who, after the experience of a single winter, express dissatisfac-

tion with the results of their stay in one or other of the health resorts of the Mediterranean.

Another fact not to be lost sight of is that for different conditions the indications differ as to the quarter of Nice to which a patient should be advised to go, and that the contrast is great between the climate of the sea-shore and that of the distant hills, and even that of the intervening plain. It is therefore impossible to speak of indications for or against the climate of Nice as though it were everywhere one and the same. As a matter of fact, those whom the neighbourhood of the sea does not suit will do well on the plain, or better still upon the hills; and the cases are few indeed for whom none of these positions is suitable.

In determining what persons shall be advised to go to Nice, and in what part they shall take up their abode, several points concerning the patients themselves have to be taken into consideration.

And first with reference to the patient's age. Children and aged persons generally do best close to the sea, while, as a general rule, though it may not disagree with adults, they do not derive from it the same marked benefit. Children whose growth has been very slow, their development tardy, or their constitution feeble, in consequence either of imperfect nutrition in early infancy, or

of the effects of some one or other of the weakening disorders of early life, and whose general condition awakens fear lest consumptive disease should come on, generally derive great benefit from a residence at Nice.

It is not desirable, however, that they should remain there after the onset of hot weather; for, during the summer, children are especially liable to attacks of diarrhœa, dysentery, and inflammation of the bowels. The risk of these ailments is undoubtedly much increased by the absurd fashion, far too frequently followed, of dressing children in such a manner as to leave their abdomen unprotected. The use of a flannel belt or bandage, as is common in Algeria, where abdominal attacks are very frequent, furnishes a great preservative from this risk.

Adults in full health, on the other hand, who come to Nice either for their own pleasure, or to accompany invalid members of their family, sometimes find a residence on the sea-shore too exciting. In that case they may move with great advantage to some situation more inland, or even take up their abode on one of the adjacent hills.

The aged, however, generally derive great benefit and a marked increase of vigour from a residence by the sea. It is indeed by no means unusual to see aged people of eighty or even ninety

years of age who have gained a sort of second youth under the influence of the sunshine and sea air.

The climate of Nice is in general very useful in the case of young girls whose menstruation is tardy, and their health feeble, and who present those chlorotic symptoms which give rise to the apprehension that they may possibly become the subjects of consumptive disease.

Sometimes, indeed, the climate induces a return of menstruation in persons in whom that function had ceased for a year or more. It is not always, however, that this influence is beneficial on those who have recently ceased to menstruate; for it sometimes seems to induce flushing of the face and all that train of symptoms which distress persons at what is termed the change of life. For the most part, however, it is only in women with a markedly gouty diathesis that these discomforts are at all severe.

Complaints have been made that Nice does not at all agree with persons of a nervous temperament. A distinction must, however, be made between those who have always been of a nervous habit, in whom, so to speak, it is hereditary, and those whose nervousness has been the consequence of some ailment which has broken down the general health. In the former case, Nice, especially those parts of it near the sea, will be decidedly inju-

rious ; in the latter nothing but good will be derived from it. The distinction between these two kinds of nervous temperament must never be lost sight of.

Besides differences of temperament, there are also differences of constitution or of diathesis which have to be borne in mind. The three grand classes of the scrofulous, the arthritic, and the herpetic are generally recognised, if indeed the last is not rather to be regarded as a modification of the arthritic.

Concerning the scrofulous, little need be said, for it is agreed on all hands that at every age patients of a scrofulous constitution benefit by a residence at Nice.

The question is less simple in the case of patients in whom the arthritic or rheumatic diathesis prevails. It must not be forgotten that the arthritic diathesis exists in two distinct classes of patients. In the one the gouty tendency is accompanied by a remarkably impressionable nervous system ; while in the other that condition is altogether absent. The latter, who may be spoken of as the calm, non-excitables patients, are they in whom the gouty diathesis is, if we may be allowed the term, almost worn out, or in whom its different manifestations have much weakened the general constitutional powers.

On the other hand, the excitable patients, who,

by the bye, are more often, though by no means exclusively, women, differ entirely, both as regards the character of their ailments and of the treatment which they require.

They are persons whose nervous system presents an exaggerated sensitiveness. The slightest change of temperature, the least chill, sets them sneezing and coughing, disturbs their digestion and their sleep, and makes them complain of pain in all their limbs.

They are the patients who often find the tonic climate too exciting; who suffer, at any rate when they first come south, from dwelling too near the sea.

The process of acclimatisation is with them attended by much discomfort. They are apt to get sore throats, irritation of their air-tubes, and all sorts of cutaneous eruptions.

It becomes then very important to decide to which of these two classes a patient belongs. Patients of both classes may benefit at Nice; but those who belong to the excitable class should, at any rate on their first arrival, not come near the sea, but should take up their abode at some distant point on the plain, or even at the foot of the hills, and come seawards only by slow degrees.

On the other hand, patients belonging to the former class may come at once to the sea-shore, if they are very anæmic; but if they are neither

very weak nor of marked lymphatic habit, they will do wisely to take up some intermediate position on the plain or on the hills, and be guided by their experience of one locality before they move to another.

This subject deserves more attention than it has hitherto generally received, for there can be no doubt of its important bearing on the choice of a residence by those who come to Nice on account of their health.

Reference has already been made to patients who form what some would consider a third class, the herpetic, though, as has been said, it is doubtful whether or no they should not rather be looked on as forming a sort of sub-order of the arthritic.

Such persons are specially marked by their disposition to various cutaneous affections, while in other respects they closely resemble patients belonging to the class of the excitable arthritic. They are especially sensitive to all emotions, by which their condition is often much aggravated, while the cutaneous affections which distress them are attended by an annoying itching and irritation, entirely out of proportion to the ailment itself. To such patients as these the sea-shore is specially unsuitable, while they require to observe hygienic and dietetic rules most strictly; but, provided they are careful in these respects, they

often derive great benefit, not merely from the climate, but also from the cheerfulness of life at Nice, and from all the resources, both intellectual and social, which as a large city it commands.

There are still one or two other questions which must not be omitted from our consideration when we have to decide what persons should be especially advised to take up their residence at Nice for the sake of their health. Among these are the nationality of the patients, and the character of the place from which they come.

It may be stated, as a general rule, that patients coming from low and damp countries traversed by large rivers, from narrow valleys visited but rarely or only for a short time daily by the sun, or who dwell in large manufacturing towns, benefit remarkably by a change to Nice.

Again, with reference to the nationality of patients. The Russians and the English are the people to whom Nice is most health-bringing. The former, in whom the disposition to scrofulous ailments is particularly marked, improve in all respects, and usually very much in proportion as they live near the sea. The English, again, in whom the arthritic habit is the more marked, although they are by no means free from scrofulous predisposition, benefit much from the climate; but the seaside does not invariably suit them, and they not infrequently gain more if

they take up their abode on one or other of the adjacent hills. It is indeed not to be forgotten that in spite of their apparently phlegmatic constitution, the English are much more sensitive than the Russians to the stimulating influences of the air, and this, too, in cases where scrofulous or tuberculous disease is present; for with patients of the latter nationality such affections are usually very tardy in their progress, and cause but very slight constitutional reaction.

To speak lastly of the individual peculiarities which previous occupations or previous modes of life bring with them, it may be stated generally that they whose vigour has been exhausted, either by excessive sedentary intellectual occupation, or, on the other hand, by the demands on the nervous system of a life of so-called pleasure, benefit without exception by a sojourn at Nice.

All that has been said hitherto does but lead up, as it were, to the decision of the last and most important inquiry, *What are the diseases from which improvement may be expected by a residence at Nice?*

To speak generally, it may be said that Nice is suitable for all sorts of catarrhal affections, but is far less to be recommended in ailments characterised by a deficiency of secretion; and this limitation holds good especially with reference to residence near the sea.

It is admirably suited for all disorders characterised by asthenia; but is generally contra-indicated in diseases marked by an ataxic condition, by excitability, or what is termed erethism.

In all forms of anæmia it is most beneficial; in all acute congestive ailments it is contra-indicated; and the contra-indication holds good especially with reference to the neighbourhood of the sea.

If this inquiry is carried into detail, the same peculiarities of climatic influence will be found as regards the skin, the mucous membrane of the throat, or that of the respiratory organs, or the eyes.

The air of Nice is, as has already been stated, a stimulant to the cutaneous circulation, as shown in the rosy cheeks of young people there. For the same reason, however, the slight eruptions to which some persons are liable at the return of spring are very apt to occur there, particularly among those who live near the sea, and cases of urticaria, erythema papulatum, herpes, and roseola, &c., are far from uncommon.

Skin affections of scrofulous origin are always decidedly benefited by residence near the sea. This is not invariably the case, however, with patients in whom the arthritic or herpetic diathesis predominates, except where the constitutional powers are enfeebled and the active manifestations of disease have ceased.

Some chronic cutaneous affections, such, for instance, as those forms of acne which occur in gouty subjects, benefit decidedly by residence at Nice, and even by residence near the sea. Probably in such cases it is in a measure the directly stimulating influence of the air upon the skin which is the cause of the improvement in the patient's condition, while it is just that exciting influence which constantly acts unfavourably on pruriginous affections.

There is one discomfort which people sometimes complain of as produced by a stay at Nice, and that is, not only the photophobia from excess of light, against which coloured glasses are the best protection, but also a state of congestion of the conjunctiva, which is especially troublesome to persons living on the sea-shore. For the most part, however, the persons who thus suffer are persons of a gouty habit. Against this discomfort may be set the great benefit which all gouty patients, those excepted who are of an excitable habit, derive from residence near the sea.

With reference to strumous affections of the eyes, they, like strumous ailments in general, improve much near the sea.

It is also to be borne in mind that the neighbourhood of the sea tends to produce a state of congestion of the mucous membrane of the mouth and gums; and this influence is especially

remarkable in cases of granular pharyngitis. That condition is invariably aggravated in proportion as persons suffering from it come near the sea, and as certainly gets better as they move further away from it. Every now and then, indeed, one meets with persons who cannot go for a walk on the Promenade des Anglais without catching a sore throat.

In just the same way patients suffering from acute congestions of the larynx or bronchi should always avoid the neighbourhood of the sea, while persons with chronic catarrhal ailments attended with abundant secretion improve greatly by a residence in that locality.

[The great question, however, to which, in the judgment of the public and of the medical profession, all others are subordinate, and which, therefore, must be considered at some length, is

THE INFLUENCE OF THE CLIMATE OF NICE ON PULMONARY CONSUMPTION.]

For a long series of years the climate of Nice was much vaunted for its influence on *pulmonary consumption*. Recently, however, criticism has been largely mingled with praise, and we cannot but feel that while the latter has sometimes been exaggerated, the former has almost always been excessive, frequently, indeed, unjust.

Here, as in so many other instances, truth lies between the two extremes ; while, further, it must be borne in mind that the wide divergence of opinions on the subject would have been impossible if phthisis were always the same identity from a clinical as it is from an anatomical point of view. But the disease is really multiform ; its characters vary in accordance with the various ways in which, during its development, it reacts on the general constitution, or is reacted on by it ; and it is in these respects that the influence of climate, and especially of a climate such as that of Nice, becomes of so great importance.

Formerly, in speaking of phthisis, no further distinction was attempted than that between the first, second, and third stage of the disease, or between cases in which the lung had passed into a state of softening or ulceration, and those in which the malady was less advanced.

Of late years the labours of numerous observers and more minute investigations have shown that, from a clinical point of view, one must admit different varieties of phthisis.

These varieties, however, may be reduced to two.

1st. *Ordinary phthisis*, occurring independently of any marked constitutional diathesis.

2nd. *Phthisis* associated with marked *constitutional diathesis*, which imparts a special character to the disease, such as is observed in the

scrofulous on the one hand, in the arthritic on the other.*

First, and briefly, of *ordinary* or *simple phthisis*. It is the outcome of a state of general constitutional debility or ill-health, either inherited from the patient's ancestors, or acquired by himself. Its symptoms may vary in different cases, but the variations are not the expression of a special type of disease, but are dependent on the patient's age and temperament, or on the influence of various extrinsic conditions.

* Other subdivisions have been proposed recently; such as the *herpetic*, the *syphilitic*, and the *diabetic*. It is, however, best not to attempt a too elaborate classification. On the one hand the herpetic has no specially characteristic peculiarities, and the pathological condition of *herpetis* with which it is assumed to be connected is, to say the least, problematical; while the syphilitic is but an accident occurring in the course of syphilis. Diabetic phthisis has perhaps a stronger claim to be regarded as a special variety. The lung affection usually begins with the symptoms of pneumonia, it advances rapidly, the lung tissue softens and breaks down into a cavity—sometimes even by a real process of gangrene; but, besides, it has seemed always to have the same localisation, and one in which it differs from other forms of phthisis. The middle lobe of the right lung or the upper part of the lower lobe of the left is its seat so invariably, that it needs but to find a cavity in either of these situations to warrant one in at once suspecting the existence of diabetes. *Acute phthisis*, the granular phthisis of Dr. Empis, presents no such peculiarities as justify its being ranged in a separate category. Whether the disease has this character from the very first, or whether from chronic it suddenly becomes acute, it is in its rapidity only that it differs from other forms of phthisis.

This is the form of phthisis which closes the life of persons whose vitality has always been feeble and their development backward, constituting what has been termed infantilism.* It is this which is brought on by long-continued excesses, or by protracted suffering, moral or physical, of which one saw many sad instances during and after the war of 1870.

Second, *diathetic phthisis*, or phthisis associated with marked constitutional diathesis, either scrofulous or arthritic.

It must be admitted that the existence of either of these diatheses in the family of the patient, or even in the patient himself, does not invariably stamp its peculiar characters on the form of consumption by which he is attacked. At the same time such cases are purely exceptional, and in the great majority of instances the diathesis impresses both on the disease itself, and on the symptoms of constitutional disturbance to which it gives rise, features which it is not hard to recognise.

Scrofulous phthisis frequently presents at its outset and during its course a condition of engorgement of the tracheo-bronchial glands, which is often associated with glandular enlargements in other organs.

* See a paper by the author on the subject of infantilism in the *Nice-Médical* for 1876, Nos. 9 and 10.

Arthritic phthisis often begins with dry pleurisy at the apex or base of the lung, and pleuritic complications are frequent in its course.

In scrofulous phthisis the lesion tends to caseous transformation. In arthritic phthisis its tendency is to fibrous inflammation and to consequent shrinking of the lung substance.

In scrofulous phthisis the constitutional reaction in the early stages is comparatively slight, even though the extent of mischief should be considerable. In arthritic phthisis, on the other hand, the tolerance is much less, constitutional reaction takes place early, and is out of proportion to the extent of the local mischief. Disorders of the nervous system are very often met with both at the outset and during the whole course of the disease. The feverish disturbance is excessive, the pain very severe, and the patient suffers from intercostal neuralgia, spasmodic cough, and paroxysms of dyspnœa.

Pulmonary congestion, and congestion of the pharynx, larynx, and bronchi, are frequent, and so is hæmoptysis, which is often abundant; and the ordinary expectoration of phthisis is mingled in many instances with a large quantity of frothy mucus.

The patient is extremely susceptible to atmospheric changes, perspires profusely, suffers often from congestion of the liver, and likewise from

frequent and profuse diarrhœa, so that it is by no means surprising that the general health should fail sooner, and to a greater degree, in arthritic phthisis than in the scrofulous form of the disease.

Of course, as has already been observed, it is not invariably that the arthritic form of phthisis is attended by symptoms of such severity; for now and then it assumes a comparatively calm physiognomy, while in other instances the two forms of disease appear to be blended, and to put on something of the characters of each. In this mixed form we may find the child of a gouty father and a scrofulous mother presenting caseous infiltration of the upper part of one or other lung, suffering at the same time from acute neuralgic symptoms referred to one or other plexus of nerves, and yet, notwithstanding, in a moderately good state of general health. Such and such-like combinations of different diathetic tendencies are to be borne in mind, but it is only at the bedside of the patient that they can be discriminated.

It is scarcely necessary to recall to the reader's recollection one special form of phthisis closely allied to the scrofulous type, the so-called bronchial phthisis.* In cases of this kind the condition of

* Described also as scrofulous, or scrofulo-tuberculous tracheo-bronchial adenopathy. See on this subject Dr. Baréty's work, '*De l'Adénopathie trachéo-bronchique*,' etc., Paris, 1874, 8vo.; and *Nice-Médical*, 1878, Nos. 6 and 7.

the upper part of the lungs appears to be entirely secondary in importance to that of the bronchial glands, although in reality the disease has begun with congestion of the lung, of which the glandular engorgement has been the consequence. Like other forms of scrofulous phthisis, this variety often goes on for a long time unsuspected, and this even though the bronchial glands may have attained an enormous size.

It is evident that, in order to form a correct judgment concerning the suitability of the climate of Nice to different patients, their diathesis must be taken largely into account. But there are other questions besides, such as the patient's age, sex, temperament, and constitution, the existence or non-existence of hereditary tendency to consumption, his profession and previous mode of life, the nature of former illnesses, the degree and extent of his present disease, as well as the part of the lung attacked, the peculiar character of his symptoms, the nature and gravity of the complications, all of which have to be taken into consideration, and which render the problem that the physician has to solve very complex and often very difficult.

Laying these, however, aside for the moment, and attending only to the indications derived from the patient's diathesis, it may be laid down as a general rule that the neighbourhood of the

sea is essentially suited to scrofulous phthisis; the more distant parts and the surrounding hills are the fittest for arthritic cases; while the intermediate district will be found to agree with the mixed cases, and the comparatively calm variety of arthritic cases; and the same rule holds good with reference to the intermediate districts, at any rate during the early part of the patient's stay at Nice, and till he has become, so to say, acclimatised.

No such marked distinctions exist between different cases of ordinary phthisis. It is to it, therefore, in particular that our further observations on the conditions which modify the disease apply.

In youth, the resolution of tubercular affections of the lung takes place more rapidly and more completely than in adult age, and especially than at that period of life at which the constitution has been tried by twenty or thirty years of hard work, or hard living. [This observation is confirmed by universal experience, and it is many years since the translator* remarked that "hopes are brighter in the case of the child than in that of persons more advanced in life, and the appearance even of decided physical signs of tubercular deposit, and the evidence of tubercle being in some

* 'Lectures on the Diseases of Infancy and Childhood.' 6th ed., p. 523.

parts actually softened, do not warrant an absolutely hopeless prognosis.”]

It is chiefly at the period of puberty, and in girls more than in boys, that the influence of sex becomes apparent. The time of sexual development, corresponding as it does with that of active growth, seems not seldom to favour the occurrence of consumptive disease, and this especially in the female subject, in whom all the constitutional disturbance which accompanies the establishment of menstruation aggravates any predisposition to pulmonary disease. The time of cessation of the menstrual function, too, attended as it frequently is by much disorder of the general health, exercises a similar unfavourable influence on disease already present, and in many instances imparts to its progress a far greater rapidity than it had shown before.

The influence of the patient's constitution, temperament, &c., calls for no further observations than those which have been already made incidentally; but it may be well to add that the favourable influence of the climate of Nice is displayed more strikingly in cases of acquired phthisis than in those in which it is hereditary. This, indeed, is no more than might be anticipated; for it would be unreasonable to expect of any climate that it should substitute a strong for a weakly constitution, and still more for a con-

stitution in the very germs of which the seeds of weakness are present.

The previous diseases which a patient has undergone are not to be lost sight of in calculating the patient's chance of recovery. A casual illness, however severe, is in this respect of less importance than some constitutional disorder, such as whooping-cough, measles, or typhoid fever, which are all known to exert a strong influence in predisposing to tuberculous affections. Bygone chest ailments, too, are to be taken special note of; and particularly when, though simple at first, they have been protracted and have become chronic. In conditions such as these, tuberculous disease is apt to be set up in those who would otherwise be little liable to it.

The patient's prospects depend also in a very great degree on the precautions he takes, on the kind of life he leads at Nice, or at any other health resort. Nice is not, as some persons seem to fancy, a sort of earthly paradise, in which it suffices to dwell in order to get rid of a disease as grave as pulmonary consumption. A wise choice of residence, a prudent mode of life, an observation of all the precautions which have been already dwelt on, are essential to the patient's recovery.

Some people, on the other hand, impatient to get well speedily, and forgetting how large a part a wise regimen bears in bringing about their

cure, overdose themselves with medicines of various kinds. They either take medicines in excessive doses, or they continue their use too long, or in addition to the remedies prescribed by their own doctor, they take some nostrum, or make use at the same time of the prescriptions of some other physician, till at length they disturb their digestive organs, disorder their liver, and indirectly aggravate the disease which they are in too great a hurry to cure. The physician, likewise, must bear in mind that in these southern climates there is often a remarkable intolerance even of small doses of ordinary remedies, and that this is especially the case with women.

The course of phthisis varies, as is well known, very much in its rapidity. At one time it advances slowly, at another very quickly, constituting what is called acute phthisis, galloping consumption. The anatomical characteristic of acute phthisis is the development in the pulmonary tissue of an immense number of minute tubercular granulations. Clinically it differs from the ordinary course of consumption.

This acute phthisis occurs in two conditions, either presenting the acute character from the very first, or assuming it in the course of a previously chronic form of the disease. The question has been raised whether the climate of Nice favours this change of type and the supervention of acute upon chronic phthisis. We do not think

it does; nor, indeed, except in the case of excitable arthritics, has the neighbourhood of the sea appeared to have any special influence in accelerating the progress of phthisis. Residence in the other districts seems to have absolutely no influence one way or the other in this respect. So far from this, indeed, it sometimes happens that patients come to Nice with all the symptoms of rapidly advancing consumption, and that, in spite of all apprehensions to the contrary, the acute stage slackens its pace, a condition of comparative calm succeeds, and the disease resumes a tardy course.

The chronic form gives more time for the patient to regain strength, for the physician to exercise his skill, and for the climate to exert its influence; and consequently it is in this form that we meet with the greatest number of cures, or at any rate of improvements in the patient's condition.

[In connection with this subject, the following statistics, furnished by Dr. Thaon,* are of great interest. Of 154 cases of phthisis at Nice, of which he kept a careful record, there were

26	cases of acute phthisis		or 16·2 per cent.
20	„ sub-acute		12·9 „
30	„ chronic, with supervention		
	of acute		19·4 „
42	„ „ complications	..	27·2 „
34	„ simple chronic		22·0 „
2	„ coming on at Nice		1·2 „
154			98·9

* *Op. cit.*, p. 111-12.

It seems from these figures that the majority of cases are of a grave kind, since a notable degree of fever existed in about half the number, while not above a fifth were instances of simple chronic phthisis.

The total result of these cases speaks much for the influence of climate, since, as will be seen in detail in the subjoined table, in 83 instances the patient was either cured or sensibly improved; in 52 death took place or the condition grew worse.

	Death.	Aggravations.	Condition stationary.	Improvement.	Cure.	Total.
Acute	14	6	0	6	0	26
Sub-acute	3	5	1	10	1	20
Chronic, with acute } supervening }	8	5	2	11	4	30
Chronic, with compli- } cations }	6	1	12	13	10	42
Simple chronic	2	0	4	7	21	34
Coming on at Nice ..	2	0	0	0	0	2
TOTALS	35	17	19	47	36	154

It is by no means a matter of indifference, with reference to the patient's prospects, whether the disease affects both lungs, or is limited and continues to be limited to one side. In the latter case the disease is probably accidental, in the former it implies a more profound disorder of the

whole constitution. It is, in short, just the same as in a case of cataract. When one eye only is affected, the malady is probably due to some accidental injury, or inflammation of the internal structures of the eye; when both are involved, the condition is most likely the consequence of some essential defect of nutrition, induced by advancing age, by diabetes, or other constitutional cause.

A second point of no less importance concerns the stage which the disease, whether affecting one side only or both, has reached. It may be only in the first stage, or that of catarrhal congestion; in the second, of engorgement, or alveolar or lobular obstruction; in the third, of softening; or in the fourth, in which there is an actual cavity.

The time which the disease has occupied before it reached any of these stages is another element to be taken into consideration, as is also the extent of pulmonary tissue involved. A slowly advancing degeneration of the lung may produce comparatively small disturbance, just as a slowly developing cerebral tumour may attain a large size without interfering seriously with the functions of the brain. The abundant network of lymphatics with which the lung is provided* will probably account for the rapidity with which, in

* See the interesting researches of the author's friend, M. Grancher, "Sur les Lymphatiques du poumon," in *Gazette Médicale de Paris*, vol. vi. p. 103, Mars, 1877.

some cases, a large part of the lung-substance becomes involved ; and the rapidity of advance of the disease, and the extent of lung affected, usually bear a distinct relation to each other. A third element in forming a judgment is afforded by the state of the lung-tissue in the immediate neighbourhood of the disease, and the presence or absence of congestion around it points to the more or less risk of rapid extension of the mischief.

Last of all, the different complications of the disease require to be closely watched ; for it is especially on them that the influence of climate, whether for good or ill, is most marked.

In the majority of cases in which phthisis is associated with symptoms of laryngeal affection, residence close to the sea is unfavourable. Most cases of this kind belong to the class of what we have termed excitable arthritics ; but when the disease does not affect the lungs, but is strictly limited to the windpipe, constituting what is called *laryngeal phthisis*, the neighbourhood of the sea does not appear to be injurious, and some patients have actually improved in that locality.

[Dr. Thaon* speaks decidedly favourably of the influence of the climate of Nice on the laryngeal complications or varieties of phthisis. He

* *Op. cit.*, p. 128.

adds, however, the caution, in which the translator would be disposed to join, that in all these cases, without exception, the patients should select their dwelling far from the sea, and away from the dusty roads; in the midst of a garden, where they may have much sun, but perfect shelter from wind and freedom from damp.]

Hæmoptysis appears as a rule to be of less frequent occurrence than might have been supposed beforehand. From this statement, however, must be excepted the excitable arthritics, and also hysterical patients, in both of whom residence near the sea is apt to induce congestion of the air-passages. All cases of hæmoptysis, however, are not dependent on pulmonary congestion, but the accident may result from the giving way of an aneurism of one of the vessels of the lung, or from its ulceration in the course of the progress of the disease, or as a sort of vicarious hæmorrhage at the time of the cessation of menstruation. Over these the patient's residence has no influence one way or the other. It is only in the case of those varieties of hæmoptysis which are dependent on pulmonary congestion, and occur in the early stages of phthisis, that the locality of the patient's residence is of importance, and that it is expedient to avoid the neighbourhood of the sea. Sometimes, indeed, one meets with patients who, having had one or two attacks of hæmoptysis at

the commencement of their illness, continue free from it subsequently, whatever may be the situation where they live. Such, however, are exceptional cases.

[“We feel ourselves justified,” says Dr. Thaon,* “in the statement that the climate of Nice and of the Riviera by no means predisposes to hæmoptysis. The following figures prove this beyond doubt.

We have exact details with reference to hæmoptysis from 131 patients whom we questioned strictly on this point, and 91 of the number had experienced it in a marked degree before coming to Nice.

After one or several winters passed here, only 27 of the whole 131 had spat blood. Proof sufficient that the air of this place in no way predisposes to hæmoptysis.”]

With reference to the fever which is a more or less constant attendant upon phthisis, the advice to be given to the patient as to his residence depends almost entirely on the diathesis with which it is associated. In scrofulous phthisis, even though the fever be high and continuous, the neighbourhood of the sea does not exert upon it any unfavourable influence. On the other hand, in the case of those whom we have termed arthritic subjects, they will do well to seek a more

* *Op. cit.*, p. 125.

sheltered quarter, and one further removed from the sea.

Dyspeptic patients almost always benefit by a residence at Nice, the climate of which seems to exert a peculiarly favourable influence on tuberculous dyspepsia. Many patients, indeed, who when at home were victims to indigestion which no remedy relieved, have regained here their appetite, and renewed their strength.

Diarrhœa is another complication in which the climate of Nice proves particularly beneficial. The same may be said of other forms of excessive secretion, as, for instance, excessive bronchial catarrh.

[“Of 32 cases of intercurrent diarrhœa which came under observation at Nice, there were 12 recoveries, and 10 cases of decided improvement.”

“The part played by the physician,” to quote once more the able writer from whom the translator has already borrowed so frequently, “would be a very humble one if it were limited to the treatment of phthisis when fully manifested. His aim is a much higher one, that, namely, of prevention, of averting the scourge from families who are threatened by it, or who have already suffered from it.”]*

One of the most powerful means to this end is

* Thaon, *op. cit.*, pp. 131 and 137.

furnished by the influence of climate, for, indeed, it is not merely a curative agent or powerful aid in the treatment of phthisis, but also a most valuable preventive.

Hence it comes to pass that relapses, so frequent elsewhere, are of rare occurrence at Nice, and that patients who would appear to be the doomed victims of phthisis escape by repeated sojourning at Nice.

Mr. D., an English gentleman, sixty years of age, had lived at Nice for twenty years, and all the year round. In the winter of 1876-77 the author was called to see him, on account of an attack of bronchitis, and then learned from him that having lost all his brothers and sisters in England from one or other form of tuberculous disease, he had resolved to come to the south. For the first few years he had tried to leave Nice during the summer, but on each occasion the experiment had failed. The bronchitis for which he consulted the author was severe, but uncomplicated. During its course some dry crepitation was heard at the upper part of both lungs, which awakened apprehension; but these indications of mischief soon passed away.

We have purposely avoided in all our previous observations making any mention of what may be called the special medical treatment of phthisis. We have done so all the more, since in many

instances the influence of climate alone suffices to relieve the patient, often even to effect his cure. This is frequently rendered all the more apparent by the fact that the treatment previously pursued had done no good, sometimes had seemed to be positively injurious, and that in either case it had been entirely discontinued on the arrival of the patient at Nice.

It is not, indeed, that the climate of Nice has any pretension to be considered a specific; it is only an auxiliary in the treatment of phthisis, and often a most powerful one.

The air acts in a two-fold way; partly by its composition, partly by its warmth. Its purity, which renders it possible to breathe it freely, is one of its chief advantages; and great is the astonishment of patients who find that even though compelled by illness to keep their bed, they can lie there with windows wide open even in December and January. Another advantage is its warmth, which allows the patient, with no risk of catching cold, to avail himself of frequent sponging of the surface. If one compares this vivifying air, which freely permeates the patient's apartment, with the rarefied, overheated, sickening atmosphere of the sick room in the north of Europe, one will no longer wonder at the rarity of various complications, at the more decided and more rapid improvement, at the small derange-

ment of the digestive functions, the slighter degree of moral depression of the patient, and the shorter duration of convalescence in the south.

The mode of action of the climate is identical with that of remedies which tend to invigorate depressed vital power. As a rule, when it acts beneficially, its influence is first shown in the amendment of the general health, before any favourable change takes place in the local condition, a fact which after all is strictly analogous to what is seen in the case of many other therapeutical agents.

Its primary action is undoubtedly on the blood itself, and a modification in its condition is the first in the series of changes which tend to restore the patient's health. In a former essay* we demonstrated the grave changes which the blood undergoes in tuberculous patients, and we dwelt on the observations of Dr. Malassez, which show the various degrees in which the number of red particles in the blood is lessened. It is against this hypoglobuline, as it has been termed, or diminution of red particles in the blood, that the air of Nice seems to have a special influence.

There remain but a few additional remarks to make on the climate of Nice, but one cannot pass unnoticed the influence which it exerts on the

* "De la Mort chez les Phthisiques par thrombose et embolie de l'artère pulmonaire." *Nice-Médical*, 1877, No. 9.

sequelæ, or, more properly speaking, on the residues of past diseases, especially of those of an inflammatory type, such as inflammation of the lungs, of the glandular, and of the osseous systems. It is true that these consequences of past maladies do not always produce marked functional disorder, but none the less they interfere with the perfect performance of the vital processes, and give ready occasion to relapses, and to grave complications. In such states of chronic unsoundness, the air of Nice is often most beneficial.

It is not easy to repeat in a few sentences the enumeration of the different diseases, general or local, for which, according to their kind, one or the other part of Nice or of its neighbourhood will be found the most suitable. The decision of this question must rather be deduced in each case from the remarks made in different parts of this essay.

The reader may, however, be reminded that of the three zones into which we have divided Nice and its neighbourhood, it is the zone of the sea-coast in which the peculiar tonic, and, if we may be allowed the phrase, solvent properties of the air are most remarkable. It is this, too, against which the contra-indications in the case of some ailments are most definite. It is this, too, which is a sort of bugbear to some of our colleagues who live at a distance, and who, by the climate of

Nice, understand nothing else than the climate of the sea-shore.

We will, then, again recapitulate the conditions in which it is suitable, and those in which it is to be avoided. It is *beneficial* in cases of anæmia, of exhausted brain power, of simple chronic affections of the spinal cord, and in chorea; also in chronic rheumatic ailments, and in specific constitutional disorders, as well as in all ailments due to simple debility; in tabes mesenterica in all its stages, in chronic peritonitis and enteritis, and in intestinal catarrh. It is also found to suit patients with scrofulous disease in all its forms, whether pulmonary consumption in the first or second stage, or those forms of laryngeal phthisis which are associated with strumous ulceration of the larynx; as also those who suffer from scrofulous disease of the joints, or scrofulous affections of the nose or ear, or from any strumous glandular swellings. Benefit is also derived from it by persons afflicted with chronic heart-disease, whether dependent or not on rheumatism, and consequently hæmoptysis from heart-disease does not contraindicate it. Cases of chronic coryza, or of chronic bronchial catarrh, or of chronic asthma, or the more chronic form of inflammatory disease of the kidney or bladder, or diabetic patients, may likewise with safety and advantage be sent to this part of Nice.

On the other hand, this *locality should be avoided* by persons suffering from any acute form of cerebral congestion, or of chronic cerebral ailment with occasional acute attacks, as also by those who have any form of paralysis with spinal congestion, or any acute ailment of the spinal cord, and, as a rule, by all hysterical patients. [It may likewise be added that many persons who, though not hysterical, have a very sensitive nervous system, often find themselves unable to sleep near the sea, and are thereby compelled to remove some distance inland; and this, even though the sea be so calm that sleeplessness can be in no measure attributed to the sound of the waves.] The neighbourhood of the sea disagrees with persons who are affected with granular pharyngitis; and also with all in whom there is either a disposition to dysentery or biliary catarrh, or congestion of the liver, with gastro-intestinal disorder. It also aggravates habitual constipation. It further increases any acute form of inflammation of the bladder or prostate gland. Women troubled with nervous disorder of the heart, occurring at the time of the cessation of the menses, are made worse by residence near the sea, as also are persons suffering from acute aneurism, and from exophthalmic goitre. It should also be avoided in all ailments associated with the excitable forms of the arthritic diathesis, especially laryngitis, pul-

monary phthisis, and hæmoptysis, occurring in such patients; as also in nervous asthma, and in that associated with hysteria; and lastly in all inflammations of the internal structures of the eye.

On the other hand, patients suffering from any of these ailments will not be injured, but will often derive great benefit from a residence in the more distant part of the plain, or on the hills still more remote from the sea.

The *nature of the soil* is not a matter of indifference to many of the persons who seek for a winter home. It is, therefore, worth mentioning that the observations of Dr. Henry,* conducted partly in Champagne, where the soil is calcareous, partly in the Beauce, where the surface of the soil is in great part formed of siliceous sand, show that the former kind is far less irritating to the respiratory organs, owing to its solubility in the secretions, than the latter, which is insoluble.

To whatever extent this is the case, Nice is favourably placed, for the ground on which the town is built, and the soil of the adjacent plain and hills, are almost exclusively calcareous; and siliceous and micaceous sand are found no nearer than the Var, which is about five miles distant.

It is said that the *down which covers the under surface of the leaves of the plane-tree* is very irritating to the air tubes, inasmuch as it is formed

* *Nice-Médical*, September, 1880.

of stiff hooklets, which readily attach themselves to the mucous membrane, and become a source of irritation.

It may be so; but though in Nice there are plane-trees in abundance, they come into leaf only during the summer, when invalids have already left the city.

One final caution may be given with reference to the *employment of certain remedies*. It must be borne in mind that preparations of iodine and bromine are far less well supported at Nice than farther north, as at Paris, for instance. So remarkably, indeed, is this the case, that we have even seen poisonous effects produced in a patient by doses of iodine which he had taken elsewhere with no discomfort.

The vin de quinquina also often disagrees; sometimes apparently by the excitement which the wine that enters into its composition produces, sometimes by the constipation occasioned by the tannin which it contains.

THIRD PART.

DESCRIPTION OF NICE AND ITS NEIGHBOURHOOD.

[HITHERTO the attention of the reader has been directed to questions entirely medical. Nice, however, may be looked at from another point of view, as a city of much interest, presenting in all respects both in itself and its neighbourhood great attractions to the visitor who seeks for rest of body or refreshment of mind, in change of scene and the daily enjoyment of natural beauties new in kind as well as exquisite in degree.

The translator feels that his comparatively short residence at Nice would enable him to do but scanty justice to the subject; while Dr. Baréty's aim has been too purely medical to supply all the information on many points which a traveller might desire.

He has, therefore, with the kind permission of the distinguished scholar and eloquent author of '*La Provence Maritime*,' prefixed to the descriptive part of M. Baréty's book so much of the work of M. Lenthéric as is devoted to an account of Nice and its vicinity.]*

* '*La Provence Maritime*.' 12mo. Paris, 1880, ch. ix.

I.

A rocky peninsula, jutting out at right angles to the coast, in shape like an ear of corn, forms the eastern boundary of the Golfe Jouan. This is the promontory of La Garoupe. The calcareous skeleton of the continent is concealed beneath a lovely vegetation. All around one sees the Aleppo pine, the parasol pine, the aloe, and the orange, in the open air; while higher than any towers the majestic olive, which with its wealth of greenery contrasts with the dwarf shrubs that represent it in the valley of the Rhone. Everywhere the same Eastern landscape, the same flora—half Italian, half African—which blooms in every sheltered nook of coast betwixt Toulon and Italy.

The coast line of the peninsula is much indented, and presents a very varied outline of sharp projections and deep recesses. The Cape of Antibes, or of La Garoupe, forms its extreme point and extends farthest into the sea. Then come in succession, Cape Gros, Point Bacon, the rock of Antibes, the graceful hill of Fort Carré, which shape out the shore into a succession of little semicircular bays, open seaward, but perfectly sheltered from the blasts of the mistral.

The little town of Antibes is built on the east side of the hill of La Garoupe, just at the point where the promontory joins on to the mainland.

Eighteen kilomètres (a little more than eleven miles) farther, on the other side of the Var, the same topographical characters recur, and the Maritime Alps throw out again two buttresses, the Montboron and the Mont Ferrat; and deep embosomed in the space between is the roadstead of Villefranche. West of this rampart the beach of Nice lies spread out, covered with gardens and hotels. The two towns of Nice and Antibes are thus directly opposite each other; and the arm of sea which separates them might really be looked on as a widely open gulf, if it were not that just in the midst the shore projects, bulging out as it were from an accumulation of constantly encroaching land. This accumulation is comparatively recent in its origin; it is the mouth of the Var.

II.

If one looks with the eyes of a geologist at the two rocky bastions of La Garoupe and Mont Ferrat, and the immense accumulations of ancient and modern alluvial deposits which extend for several miles on both sides of the Var, one recognises the constituent elements of a primitive gulf which the diluvium of this river has filled up at the very beginning of our quaternary period. By degrees the land has encroached on the sea; the alluvial deposits have filled up the gorge, and their continued increase has changed the hollow in the

shore into a projecting point of land. It is probable, however, that this projection, which is of recent origin, did not exist in the Greek and Roman period, but that the shore at that time described a single uniform curve, forming a real gulf, the gulf of the Var.

It is difficult, not to say impossible, to determine, after the lapse of many ages, the rate of forward movement of the mouth of a river. The phenomenon, however, is invariable in a tideless sea like the Mediterranean. The materials brought down by the floods are first deposited close to the shore, and then, being driven hither and thither by the waves and currents, go to form a beach which grows wider every year.

We have absolutely no data resting on trustworthy observations by which to determine the rules that govern the course of the great majority of rivers, or by which we can measure the quantity of water that the stream brings down; and in the case especially of the Var it is only within the past few years that any attempt at all has been made to study the subject.

People for whom plausible etymologies have a great attraction think that the Var, *Varus*, *Varius*, owes its name to the suddenness of its floods; and forget that the Greek name of the river is *Ouaros* (*Ούαρος*), a word which clearly betrays in *ar*, *ouar*, its Celtic root. It is certain that few rivers are

more capricious in their course or more uncertain in their flow. The Var comes down from the abrupt summits of the Maritime Alps, and along a course of 100 kilomètres (about 62 miles) it occupies the *thalweg* of a basin of more than 3000 square kilomètres (1864 square miles) of which five-sixths have a completely impermeable bottom.* Its gradient, which is extremely steep in its upper part, still exceeds 5 millimètres to a mètre (or about one-fifth of an inch to 39 inches) at the point where it receives its affluent the Esteron, only 4 kilomètres (or $2\frac{1}{2}$ miles nearly) from its mouth. In such conditions its floods are sudden and violent, and carry with them to the sea an enormous mass of materials torn from the sides of the principal valley and the secondary gorges. Its course is too short, and its current too rapid, to give time for all these *débris* to be reduced to sand or converted into clay, as is the case with the materials brought down by the Rhone and the Durance. At times of flood indeed the waters roll down noisily a mixture of mud and shingle, which fills up the deep gullies near its banks. Other less important streams, as the Brague, the Loup, the Paillon, like the Var are terrible in time of floods, and like it are torrents rather than rivers. The alluvial deposits which they form have produced a low and marshy plain

* Délesse, 'Lithologie du fond des mers,' ch. v.

famous in the history of the Roman empire as the meeting place (A.D. 69) of the opposing armies of Otho and Vitellius.* This littoral zone, bounded by a beach of mingled sand and shingle, which is constantly increasing by means of fresh materials constantly brought down, has been shaped by the waves and currents into two great curves, regular in their outline, one of which reaches from the port of Antibes to the promontory of the Var, the other extends thence to the rocky hill which overlooks the town of Nice.

III.

The Var and the Durance take their rise in the same mountain district, and though the latter, the great affluent of the Rhone, has a course of more than 300 kilomètres (186 miles), three times the length of that of the Var, the two rivers present a striking resemblance. Strictly speaking, indeed, they are not rivers, but rather mountain torrents. In the upper part of their course their steep banks are rugged and torn, like open wounds which have lacerated the mountain sides. Secondary gorges combine to form ravines leading down to the water-courses; and these gorges are in their turn made up of smaller clefts, which at last lessen to crevices running in various directions deep into

* Tacitus, '*Historiarum*,' lib. ii. c. 14, 15. Ed. Ritter, Cantabrigiæ, 1838.

the rocky masses of the Alps. "But the characteristic peculiarity of these rivers is that in the lower part of their course they meander on a wide, level bed, of which they occupy but a very small part. It is not merely that with changes in the water brought down the *thalweg* itself is modified from time to time, but the whole body of water for some unexplained reason quits its bed, leaves it entirely dry, and transports itself to a new bed, a long distance from that which it had occupied before." * It is thus that those immense stony beaches are formed which are called in the language of the country by their true name *craus* (*κραναόν πεδίον*, a hard and stony plain), and which are nothing else than the *débris* left by the river after the passage of a great flood. Moreover, M. Vigon, the distinguished engineer, who has studied very minutely every question connected with this river, observes that the Var appears to have undergone changes at no distant period, doubtless due to the cutting down of the forests in the upper part of its course. Plans drawn in the last century represent it as running during the lower part of its course between two well-marked banks, formed by alluvial deposits, and not very widely apart from each other; while, if one refers to more recent authorities as to its condition, one finds the banks further apart, the bed wider, the

* A. Sorell, 'Torrents des Hautes Alpes,' ch. ii.

river itself more uncertain in its course, and the occasion of greater mischief. The dwellers on the banks have themselves contributed to increase the evil, felling the woods in the lower part of the river's course, while the inhabitants of the hills cut them down above, disturbing thereby the once solid earth where forests had stood for ages, and facilitating its transport to the sea.* Thus man has deranged the orderly condition of things which seemed to have been fixed by a long succession of centuries. In the ceaseless strife between the laws of gravitation and atmospheric agents on the one hand, which are at work unweariedly to level the ground, and the protecting aid of vegetation on the other, which shelters it and helps it to resist their attacks, man has intervened, and by destroying the old forests has sided with the powers of destruction, and now has to pay the penalty of the disorder which he himself has helped to bring about. †

IV.

It is easy to imagine the disastrous consequences of these barbarous proceedings. The Var has worn away its banks more and more, and while

* B. Vigan, "Mémoire historique et technique sur les travaux d'endiguement et de colmatage du Var." 'Annales des ponts et chaussées.' Mai, 1872.

† Surell, 'Torrents des Hautes Alpes,' ch. xxvii.

the twelve million square yards of earth which it carried along with it to the sea were lost for all agricultural uses, it destroyed the alluvial deposits accumulated by ages along the lower part of its course ; and so, instead of building up and fertilising, it contributed day by day to ruin the magnificent delta at its mouth.

The engineers of the past two centuries looked upon the evil as beyond the reach of remedy. The Var, justly regarded as the most formidable of all the Alpine torrents, was left with no attempt to control its wayward violence. "It is so strong, and so ill-conditioned," said Vauban,* "that one could never hope to get back a hundredth part of the cost which any attempt to improve it would occasion." In spite of all his genius, Vauban was mistaken, and it is one of the glories of our modern engineers to have answered a problem which their predecessors had declared insoluble. At the present day the lower part of the Var, for an extent of 32 kilomètres (nearly 20 miles), flows between two parallel dykes more than 300 yards apart, and reaching above the level of any flood. The wanderings of the river are thus put a stop to, while the turbid waters which come down with the floods are diverted with much ingenuity behind the dykes, and distributed equally over the stony ground left by former inundations.

* Vauban, 'Oisivetés,' tome 1er.

The marshes of the Var have thus by degrees disappeared, the country has been rendered healthy, the torrent has been kept within bounds, and the once shifting land at the river's mouth has been protected. A carriage-road which runs along the bank has established constant communication not only between Nice and the valley of the Var itself, but between it and the secondary valleys of the Esterel, of La Tinée, and La Vésubie. More than 500 hectares (or 1235 acres), once devastated by the floods, have been changed from mere sand and scrub and gravel into fertile fields, and more than 1000 hectares (2471 acres) in addition have been saved from impending ruin. Those who were familiar with the district formerly may now watch the barren ground clothe itself with greenness as the stagnant waters dry up, and may see the once fever-stricken plain burst forth into new life. Fields and meadows have already covered the upper part of the valley, and *malaria* has become unknown in the villages around. In a few years this happy change will have reached the very mouth of the river.*

V.

In ancient times the Var, left completely to itself, wandered, like the Durance, over an im-

* B. Vigan's 'Mémoire,' already referred to.

mense stony bed, in most capricious windings. Almost dry during the greater part of the year, it became enormously swollen during the time of the melting of the snows. Strabo says that its width at flood was 7 stadia (1260 mètres, or 1508 yards)! * Ptolemy † speaks of its numerous mouths; and, without calling for the evidence of the geographers of classical antiquity, one can see the river as represented in the maps of the sixteenth and seventeenth centuries branching into numerous arms, choked by rows of long and narrow islets, looking less like a real river than like a large wide gully worn by many torrents.

There can be no doubt but that at the beginning of our era the present promontory of the Var was not in existence, and comparatively recent maps show the bight in the shore. The neighbouring torrents, which carry their waters to the sea between Antibes and Nice, give token of having undergone precisely the same change. The Loup, the Brague, the Paillon, like the Var, have all encroached upon the sea, and the various matters which they have brought down have gone to increase the width of the shore. It is true that the land is not piled up at their mouths, as it is at the mouth of all the water-courses which empty themselves into the Gulf of Lyons; but the reason of this is that the deposit in the latter case is

* Geog. I. iv., c. i. 3.

† Geog. I. ii., c. ix. 8.

spread out on a gradually shelving shore, while in the former it is carried at once into deep water.

But though the filling up of the gulf by the encroachment of the shore takes place more slowly than at the mouths of the Rhone, the Aude, and the Hérault, those processes are none the less constantly going on. The struggle is an unequal one between the sea which devours and the rivers which feed the coast. The shore will always gain upon the sea, and we may feel sure that ages ago the arm of sea between Cape La Garoupe and Cape Ferrat formed a much deeper gulf than now, and afforded ships a far better anchorage.

VI.

It is a well-known fact that long before the Grecian immigration to the Mediterranean coast this part of it was the chief seat of the Ligurian people. It might indeed seem rash to speak positively about events which happened seven or eight centuries before our era, but yet one runs no great risk of being wrong in the conjecture that the coast of the Maritime Alps must always have been one of the richest and most densely populated parts of Liguria. Nowhere else, indeed, do nature and climate so minister to all the wants of man. On the one hand the sheltered valleys gently sloping towards the sea present the conditions most favour-

able to a tranquil and easy life; while on the other, the hills which rise in higher and higher ranges behind each other as they form the magnificent semicircle which shuts in the valley of the Var, seem as though disposed on purpose to offer a convenient station for those intrenched camps which played so important a part in the military organization of a primitive tribe. Archæological researches still in progress have brought to light the existence of a series of *oppida* in perfect preservation, known in the country by the name of *Castallaras*, built of blocks of stone laid upon each other without mortar or cement, as the manner was with the Ligurians, in the shape either of an elongated quadrilateral, or more frequently of an ellipse whose boundary line corresponded with that of the mountain platform on which the fort was built.* Almost all the mountain tops from Grasse to Monaco were occupied by these fortified *castra*, which served as a refuge for the Ligurian people when hunted down by the Roman legions; and their massive walls have stood almost untouched by the hand of time for now more than two thousand years.

* Chambrun de Rosemont, 'Étude sur les antiquités antérieures aux Romains dans les Alpes Maritimes.' Nice, 1874.

Ed. Blanc, "Fouilles de la Touraque, près Vence (Alpes Maritimes)," 'Bull. mon.,' 1876.

Senéquier, 'Les Anciens Camps retranchés des environs de Grasse.' Nice, 1877.

About the same time the coast was first visited by Phœnician navigators, and there is every reason to believe that a people with so much commercial enterprise did not confine themselves to planting mere settlements on the coast, but that they penetrated in earnest into the heart of the country. Indeed, not long since traces were found of an old route connecting the table-land of Cimiez at the north of Nice with the town of Vence on the right bank of the Var. This route had been mended by the Romans, and the remains of it present all the characters of the Roman time; that is to say, a road of several layers of masonry with lines of tombs, and ancient remains on either side. The two towns of Vence and Cimiez between which it formed the communication were of great importance at the beginning of our era, and are mentioned in the *Notitiæ Provinciæ* among the eight *civitates* of the Maritime Alps.* Vence, *Ventia*, delightfully situated on the side of a fertile hill, six miles from the sea, sheltered from the north

* *Provincia Viennensis quarta Alpium Maritimarum habet civitatis numero viii.*

<i>Metropolis civitas :</i>	<i>Eberdunum</i>	..	..	Embrun.
<i>Civitates :</i>	<i>Diniensium</i>	..	..	Digne.
	<i>Rigomagensium</i>	..		Chorges.
	<i>Solinivensium</i>	..	..	Castellane.
	<i>Saniensium</i>	..	..	Senez.
	<i>Glannatina</i>	..	..	Glanderez.
	<i>Cemelensium</i>	..	..	Cimiez.
	<i>Venciensium</i>	..	..	Vence.

winds by the high rampart of rocks which overhang it, soon saw colonists flock within its walls and people the surrounding country. The great modern fortified town or *burgh* was originally the capital of a Ligurian tribe, the *Nerusii*.^{*} Conquered by the Romans, it became a central commissariat dépôt for victualling the armies, and took the name of *Ventium Horreum Cæsaris*.[†] It must, says Papon,[‡] have been a town of very great importance, and have included many persons of rank among its inhabitants, as may be gathered from the remarkable *corpus* of the inscriptions of Vence lately published by M. Ed. Blanc,[§] which show it to have had a forum, aqueducts, temples, palaces, and consequently a whole official body of decurions, priests, and magistrates.

Cimiez, too, though now but a heap of ruins, enjoyed for a certain time, according to M. Mommsen || a real pre-eminence above all the Ligurian cities of the Maritime Alps. It was, until its place was taken by Embrun, the metropolis of the whole district. We cannot then be surprised to

* Ptolemy, iii. 1. 14.

† Millin, t. iii. c. lxx.

‡ Papon, 'Histoire de Provence: Chorographie.'

§ 'Mémoires de la Société de Cannes,' année 1877. Carlone, 'Epigraphie gréco-massaliote et romaine dans les Alpes Maritimes, 1868.'

|| Mommsen, 'Corpus,' t. v., No. 7907 and 7917. Rev. des Soc. Sav., 6^e série, t. vi. Novembre et Décembre, 1877.

find a special route connecting these two important towns, winding through a delightful country along the hills which overlook the sea; then dividing at Vence into two roads of which one goes direct to the sea at Antibes, the other towards Auribeau on the heights, and thence to the great military port of Frejus, where it ended. In the opposite direction, when it reached the Italian frontier, the route ascended the valley of Laghet, crossed the Alps at the *col* of Turbia above Monaco, where it entered Cisalpine Gaul, and at last joined the other Italian routes at Vado. (*Vada Sabatia*, 6 kilomètres or about $3\frac{3}{4}$ miles from Savona.) This route from Cimiez to Vence was indeed only a branch of the old *Via Julia Augusta*, which was soon abandoned when the increase of Nice, and especially of Antibes, rendered the route along the shore the more convenient, and led to the construction of the *Via Aurelia*, which became the great military road for the Roman armies.

The interest attached to this bit of road does not turn only on its discovery enabling us to map out completely the network of Roman roads in the Maritime Alps, but also on its furnishing us with conclusive evidence that that part of the *Via Julia Augusta*, which starting from Vence crossed the summit of La Turbia, was the old route from Gaul to Italy.

This doubtless is the old route called by

Aristotle* the Heracleean way, and of which Diodorus Siculus, Silius Italicus, and Ammianus Marcellinus tell us in language, fanciful perhaps, but yet prosaic enough to give us a safe clue to its import, that the demi-god Hercules when he came from the country of the Ligurians into Italy scaled the Alps, and made a road skirting the sea, which clave alike the clouds and the rocks.

We have elsewhere mentioned the voyage of exploration which the Tyrian Melkarth made along the coasts of the Mediterranean from the rock of Gibraltar, the ancient Phœnician Calpé, the famous pillars of Hercules, to Monaco, which still preserves the name of the temple dedicated to the sole worship of the conquering demi-god. The legendary hero is, as is now well known, none other than the Phœnician nation itself personified and deified; and all those designations into which the term *Heracleean* enters are so many proofs that the Tyrian people† had passed by and sojourned in those spots in the midst of the Celto-Ligurian settlers on the shores of ancient Provence.

The fragments of the Heracleean Way, *Via Herculeæ*, which are found at various places inland between the two Ligurian *oppida* of Vence and

* Aristotle, 'De mirab. auscultat.' éd. Did., t. iv., 1st part, p. 88, c. lxxxv. Diodorus Siculus, lib. v. Amm. Marc. xv.

† Abbé T. J. L. Bargès, 'Recherches archéologiques sur les colonies phéniciennes établies sur le littoral de la Celto-Ligurie.' Paris, 1879.

Cimiez, furnish indisputable evidence that the Phœnician occupation was not confined to a mere coasting trade from port to port, but that it had struck its roots deep into the very heart of the country, and by works of public utility had brought thither the first elements of civilisation and progress.

VII.

This Liguro-Phœnician land soon received fresh new-comers from the East. The Greek emigration from Phokis, at the beginning of the sixth century before our era, spread itself rapidly along the western shores of the Mediterranean, and Marseilles was one of the first cities permanently occupied by the Ionian Greeks, if, indeed, they were not its original founders.

There is less certainty with reference to the date of the foundation of Nice and Antibes. Some authors fix the date of the foundation of Nice at 350 years before Christ, while others contend that it was founded at the same time as Marseilles, that is to say, six centuries before the present era; and the same difference of opinion exists with reference to Antibes. According to what may be called the classical opinion, which rests on the text of Strabo, and which is commonly looked on as beyond all controversy, all the Greek cities were mere colonies of Marseilles. The

name of Nice—Nicæa, Νίκη, victory—is, as they will have it who adopt this view, a memento of some glorious victory gained by the Phocians over the Ligurians; and the Greek colony planted at the mouth of the Paillon was a mere extension of the Massilian rule.*

Writers of a different school refer the creation of the two cities of Nice and Antibes to a direct emigration of Greeks from Phokis, who are assumed to have landed at different points along the shore, and to have fixed themselves permanently wherever the conditions seemed most favourable to their establishment.

At the distance at which we are placed from the events, it is difficult to make sure of the incidents which accompanied the establishment of colonies from Greece along our shores, for most of our knowledge of the subject is derived from accounts in which legend is largely mingled. It is, however, most reasonable to assume that the grand migration of the Greeks from Asia Minor westward spread almost simultaneously over the whole Mediterranean coast of Gaul. The text of Herodotus, the most precise of the ancient historians, and he whose testimony is all the more valuable from his having lived nearer than any other to the time at which the events which he describes happened, tells us that when the fugitive

* Strabo, Geog. I. iv. 1, 9. Pliny, iii. 7.

Phocians took ship together in search of a new country, they first shaped their course to Scio, then settled for five years in the island of Cynos, or Corsica, where they built a city, and called it Alalia. Some antiquarians have thought that they could identify Alalia with the little town of Algajola, situated at the northern part of the island, near Calvi, and consequently directly opposite the coast of Liguria.*

From this extremity of the coast of Corsica the high peaks of the Maritime Alps are easily distinguishable; and at some hours of the day the diadem of eternal snow which crowns them shows most distinctly against the pale azure of the sky.

It would indeed be difficult to imagine that the emigrants from Phokis, with their known passion for discovery, should have remained for five years on a poor and almost desert island, and it is more than probable that from time to time they must have sent out expeditions to the opposite continent of Gaul. The great battle which they waged about this time with the united Carthaginian and Etruscan fleet was probably only an episode in their naval history; and it was most likely after this engagement, which took place between Corsica and the Ligurian coast, that the Grecian fleet, driven

* Herodotus, Hist. i. 164, 165, 166, *passim*. Diodorus Siculus, lib. vi. c. 4. F. Brun, 'Nice et Cimiez,' Nice, 1877.

northward and unable to keep the sea, gained the nearest shore.*

There can be no doubt that the calcareous rock which overlooks the city of Nice was long known to the Greek navigators, and the same topographical characters which led to the selection of Marseilles as a settlement, unquestionably decided the Ionians to establish themselves on the left bank of the Paillon. The little cove of the Ponchettes, which was deeper then than now, afforded a natural shelter, protected at the west by the mouth of the river, defended eastward by the castle hill. It thus realised the two essential conditions of ancient harbours—a slightly shelving beach, up which boats could be drawn, as the fishermen of Nice do nowadays at the same spot; a platform on the hill to serve as citadel, as refuge, as holy city; recalling thus in all its arrangements the acropolis of Athens and of the chief maritime towns of the mother country.

VIII.

The Phocian towns all had a temple in the neighbourhood of the port, and this temple was invariably dedicated to Diana of Ephesus, the

* See with reference to the origins of Nice, the memoir of M. F. Brun, 'Congrès scientif. de France,' 23rd session, held at Nice in December, 1866.

goddess to whose worship special privileges were attached. It is not possible to determine at the present day the exact spot in Nice where the ancient *ephesium* was situated. The old substructures, however, of the centre chapel of the *Sainte-Suaire*, the orientation of which corresponds with that of the ancient temples, like which, too, it is rectangular, warrant the belief that here, as almost everywhere else, the modern church has been built on the ruins of the pagan temple.

Be this as it may, it is certain that the primitive Greek city stood on the shore of the cove of the Ponchettes, under the shelter of the great bulwark formed by the castle hill. The country was not uninhabited, and the hill of Nice in particular had been occupied before the arrival of the Phocians by a Ligurian settlement, of which undoubted traces have been discovered. The ruins of a *hypogeum*, covered by massive vaulting, of tombs, of remains of buildings of prehistoric times, and of instruments of the stone age, reveal to us the existence on the spot of a Liguro-Pelasgic encampment at the earliest time of which we have any record.* The spot was deserted by the inhabitants most probably at the time of the arrival of the Greeks; and these latter, faithful to their traditions, retained it as a post of

* P. Géný, 'Recherches archéologiques sur le château de Nice.' Nice, 1875.

observation; if need were, as a refuge in case of surprise for the inhabitants of the trading town upon the beach. It is on this height that the acropolis of the Phocian city and the fortress of the middle ages were successively built.

There is no sufficient ground for the assumption that all the Greek colonies owed their foundation to a progressive extension of the Massilian power. It is at least as probable that the Phocian emigration was directed at the same time to different parts of the coast. The fact that Nice was led eventually to place herself under the protection of Marseilles, and even in acknowledgment of it to pay tribute, affords no positive proof that it owed its original foundation to Greeks from Marseilles. The contrary opinion has been too readily adopted by many authors both ancient and modern without due critical examination of the subject, and with no more conclusive evidence in its favour than is furnished by the community of origin, similarity of language, manners, and religion of the inhabitants of the coast, facts the import of which was intensified by the *amour propre* of the powerful Massilian republic.

IX.

It was not long before another Greek colony began to flourish on the other side of the Var, in

a natural indentation of the coast formed by the projection of the peninsula of La Garoupe. Its name *Antipolis*, ἀντί-πόλις, indicates that it was facing Nice, and that it was founded after it. The *Antipolis* of the Greeks has become the Provençal *Antiboul*, the modern Antibes. We have no data from which to determine whether or no to look on it as a daughter colony of Nice or of Marseilles. All that can be asserted positively is that the Greek town of Antibes dates back at least to the fourth or fifth century before our era; a fact of which absolute proof has been recently given by an archæological discovery of so much interest that we feel it unnecessary to apologise for relating it here somewhat in detail.

[The discovery, which was that of a stone inscribed in archaic Greek characters, as well as other particulars specially relating to Antibes, are omitted, not because they lack interest, but because they do not bear on the subject of Nice and its immediate neighbourhood.]

X.

Neither at Antibes nor at Nice are there any important remains of the Phocian city, and a few inscriptions of ancient date are the only remaining traces of the Greek occupation, and these are of far less interest than the sacred stone to which

reference has already been made.* We are much richer, however, in Roman inscriptions, and the indefatigable zeal of some enthusiastic antiquaries adds every day to the already considerable number of texts discovered along the whole coast. Recent scientific investigations have enlarged the field of research, and there is scarcely an important locality in the department of the Maritime Alps which does not already possess a very good *corpus* of inscriptions. There is no room here to do more than speak generally, and any persons who wish to gain a complete acquaintance with the subject must have recourse to some of those periodicals which devote themselves specially to the collection and critical study of the different Roman inscriptions as they are successively brought to light. He will there find abundant evidence that not only the sea-coast but even the secondary valleys of the Var were at that time inhabited.

One text recently discovered in the gorge of the Estéron mentions even the existence there of sacred springs, which were deemed by the Roman inhabitants of Gaul to be possessed of special curative powers;† while another speaks of a local genius of the name of *Fagus*, who probably was

* Carlone, 'Epigraphie gréco-massaliote dans les Alpes Maritimes.' Ed. Blanc, 'Corpus des Inscriptions de l'arrondissement de Grasse.'

† "Bibe, multos annos bibas."

none other than the beech-tree deified, for one finds traces of the worship of this tree in other parts of France.* Everywhere inscriptions are to be met with bearing the names of patrician families, of magistrates, of persons of consular dignity, who during the time of the imperial rule found in the country around Nice, just as people do at the present day, charming sites for villas, and sheltered spots to winter in.

Nice has left us no other memorials of these past ages than these inscriptions and a few coins. The settlement formed by the Phocians on the sea-shore always remained, even after the Ionian conquest, the abode of sailors and of people engaged in trade, and consisted of mean houses, more Greek than Roman in character. The real Roman town was 2 kilomètres (about a mile and a half) distant, and to the north, on the table land of Cimiez.

*

Fago Deo
C. Secundus
CF. Paternus
Ex pag. Star.
Vic. Vel.
Grav. Inf. Lib.
V. S. L. B.

which may be read, Fago Deo C(aius) Secundus C(aii) F(ilius) Paternus ex pag(o) Star(oni) vic(o) Vel(acio) *or* Vel(ostino) grav(i) inf(irmitate) lib(eratus) v(otum) s(olvit) l(ibens) m(erito). ("Inscriptions trouvées sur des falaises situées sur le versant nord du Cheiron, près Nice." 'Rev. Arch.,' Mars, 1878.)

Cimiez was originally an *oppidum*, inhabited by an Alpine tribe, the Védiantii.* Its very name, *Cemenelium*, indicates its Ligurian origin,† which is shown still more conclusively by the wall, built of large blocks of stone, which surrounds the site of the city; after the manner of Celtic fortifications generally. From the elevated terrace on which Cimiez stood, the Ligurians could overlook the whole country, and could especially keep watch on all that went on in the trading town which the Phocians had founded on the shore at the foot of the promontory, hard by the bank of the Paillon.

It is probable, that even from the very first, the wealthy mercantile Greek colony was often called on to repel the aggressions of its poor and well-armed Ligurian neighbours. It was, indeed, under the pretext of succouring the towns on the sea-coast, which were harassed by the barbarous tribes, that the Romans first set foot in Gaul, of which they eventually became the masters.

The Roman conquest did not modify the condition of the colony at Nice in any important respect. It still remained a Greek trading town, enjoying a sort of half independence, while its neighbour, Antibes, accepted the Roman *municipium* and the imperial rule, became a Latin town,

* “Oppidum Védiantiorum civitatis Cemelion.” Pliny, iii. 7.

† Mommsen, ‘Corpus,’ t. i. p. 22; and t. v. p. 888. F. Brun, ‘Etymologie du nom de Cemenelium.’ Nice, 1878.

a military arsenal, and was, indeed, the official port of Cimiez. Cimiez, on the other hand, was the imperial city or metropolis of the district; and inscriptions tell us of its ediles, decemviri, and other officers, as well as of several colleges and a numerous garrison.*

One cannot, then, be surprised at the absence of Roman remains at Nice, since in the very nature of things it would possess but few monuments. Cimiez and Antibes, on the other hand, were the two towns which were the seat of administration and the military head-quarters, and the former was, as has already been mentioned, the metropolis of this part of the province of the Maritime Alps. The Roman town extended over the whole upper part of the table-land, and occupied almost exactly the site of the old Ligurian *oppidum*, the outline of which is still distinguishable; and all around even very superficial excavations come at once on the original foundations. These investigations, which were begun only a few years ago, reflect great credit on the intelligence of the antiquaries of the neighbourhood. Recently the very winding course of the two aqueducts, which were constructed at different levels, and supplied the town with water, was exactly ascertained. It will, indeed,

* Carlone, 'Epigraphie gréco-massaliote,' *passim*. F. Brun, 'Nice et Cimiez,' *op. cit.*

soon be possible to compose a complete monograph of the Roman city, so carefully have all the sepulchral stones, inscriptions, urns, lamps, mosaics, statues, medals, tools, and instruments been collected and preserved.*

There are two monuments at Cimiez which serve more than anything else to keep alive the aspect of the old city. The excitement of brutal shows and the sensual pleasures of the bath were, so to speak, the two poles on which the life of the Romans turned during the empire, and every town in Provence, even of second-rate importance, had, like Rome itself, buildings specially set apart for the enjoyment of the common people, the citizens, and the legionaries. Recent excavations at Cimiez have brought to light the different parts of the baths. The *frigidarium*, the *caldarium*, and the *sudatorium* retain their pavement and casing of coloured tiles, which still present traces of inscriptions, *graffiti*, fragments of sculpture, and bas-reliefs. On the floor may still be seen the fragments of *stylobates* of green marble, and of *cymatia* in red marble, with finely sculptured mouldings.† All around, and at pretty

* René Guébhard, 'Les Aqueducs romains de Cemenelum.' Nice, 1878.

† [*Stylobate*: the base of a wall under a series of columns or pilasters. *Cymatia*: the group of mouldings which serve to cap each part or subdivision of the *entablature* or superstructure on a column. See Glossary of Architecture.]

considerable intervals from one another, are found the bases and broken shafts of columns, whose proportions seem to indicate that they were about 8 mètres or 26 feet high. These mark out the position of the chambers adjoining the baths, which served the bathers or loungers as places for rest or exercise. Lastly, the *hypocaust*, where the stoves were placed, and whence the hot-water and steam pipes were distributed, is entirely uncovered, and recalls in all its details the arrangements commonly adopted in all the chief towns of Italy.*

The amphitheatre, which is much less rich in detail, is in a far better state of preservation, and appears to have been built during the early years of the Roman occupation. Its material is rough, and there is no attempt at decoration of its exterior. It is, indeed, in all its coarseness, a characteristic monument of imperial butchery; a large elliptical space, surrounded by seats raised one above another, on which the magistrates, the legionaries, and the common people took their places in their order. It was large enough to accommodate three or four thousand spectators at their ease, who from time to time came thither, under the shelter of the large awning which was stretched over the whole building, to see some

* F. Brun, 'Description des Bains de Cemenelum, d'après les decouvertes faites en 1875.' Nice, 1877.

hundreds of slaves and captives fight and die for their amusement.* If we allow, in accordance with the opinions of many antiquarians, that the amphitheatre in any city was calculated to accommodate a third of its inhabitants, the population of Cimiez could not have exceeded ten to twelve thousand. This number would seem small for a modern town, but it was much more considerable for a Roman town, as will strike any one who bears in mind that Arles, Nîmes, and Narbonne, the three most important colonies of Southern Gaul, did not contain a population of more than forty to fifty thousand souls, even at the time of their greatest splendour.

[A special description of Antibes, which occupies the two succeeding sections, is omitted as having no special reference to Nice itself.]

XIII.

The harbour of Nice, in spite of the numerous vicissitudes through which it has passed since the times when its history began, is at the present day far more important than that of Antibes. It has never, like the latter, had the least pretension to be considered a military port, but has always

* The elliptical arena of the amphitheatre measured 46 mètres (about 150 feet) in its long axis, and 34 mètres 80 centimètres (about 114 feet) in its short axis.

remained, as it was twenty centuries ago, an exclusively commercial harbour. Its position, however, has been changed. Under the Greek rule it was, as we have said, along the shore of the *Ponchettes* which bounds the old town, in front of the modern Corso. Recently this part of the shore has been planted with palm-trees, and turned into a promenade by the sea, a continuation of that exquisitely beautiful Promenade des Anglais, which one may fitly call the Mediterranean Boulevard des Italiens. The port was then only a simple anchorage, a mere strand, up which the vessels were hauled ashore, either by men, or with ropes and a capstan, as one may see now-a-days along the whole coast from Genoa to Monaco.

Down to the middle of the last century, there were two distinct ports at Nice, or properly speaking, two distinct anchorages in the two bends of the coast, situated the one to the left, the other to the right of the promontory on which the castle stands. That to the east between the cape of Montboron and the point of the *Ponchettes* was the anchorage of *Limpia*, so called from the numerous springs which are found there near the surface of the ground. That to the west between the point of the *Ponchettes* and the mouth of the *Paillon*, called the port of St. Lambert, was the older, the better sheltered from the wind and

waves by the rock on which were built successively the Ligurian *oppidum* of the primitive town, the Greek *acropolis*, the Roman *castrum*, and the fortress of the middle ages. It is this latter anchorage which seems to have been the original harbour of the Phocian city; but for the last two centuries it has been completely abandoned.

The present harbour of Nice is entirely artificial. The idea was entertained at one time of digging a harbour in the stony bed of the Paillon, which is indeed a perfectly typical Alpine torrent. Once in ten years or so, cata-racts of water pour down it at a time of flood, but otherwise it serves no other purpose than that of a drying ground for the washerwomen of the town. In order to get rid of this inconvenient, unsightly, and turbulent stream, it was proposed to divert it eastward towards the site of the present harbour, but the novelty of the enterprise, and its probable expense caused the project to be laid aside.* Instead of this it was resolved to dig out

* [This project was once more brought forward, unfortunately to be once more abandoned, a few years since. Since its abandonment, however, the gigantic enterprise has been undertaken, and within a few months will be completed, of covering over the whole of the Paillon for the last half mile of its course, and forming a pleasure ground thereon. When finished, it will entirely hide the unsightly dry bed of the river, and will add a fresh attraction to the already beautiful city.]

a basin in the plain of Lîmpia itself, and in 1750 the king, Charles Emanuel III., laid the first stone of the new modern harbour. At the present day, now that the works have been going on for more than a century, and after all the improvements [still in progress], executed by French engineers since the annexation of the county of Nice, the harbour, which is surrounded by quays protected by jetties in masonry, has an extent of 10 hectares (more than 24 acres), and its depth of water, which at first was only 4 mètres (or 13 feet), is now 6 mètres ($19\frac{3}{4}$ feet) in the interior of the basin, and 7 mètres (or nearly 23 feet) at its entrance.

Although directly exposed to the open sea, like the harbour of Antibes, the skilful arrangement of the jetties has yet secured perfectly calm water inside the basin; and its only drawback consists in the difficulty of entering it when there is a high sea. Thus of more than 1200 trading vessels which come thither every year, scarcely 60 put in when there is stress of weather outside. But nature has managed better than man, and the road of Villefranche, formed by a deep hollow in the shore to the east of Montboron, only a mile and a half from Nice, offers one of the best shelters for vessels in a storm that is to be found along the whole coast of the Mediterranean, and supplies the one defect of the harbour of Lîmpia.

In commercial importance, Nice occupies the third place among the ports of the Mediterranean. It ranks next after Marseilles and Cette, and carries on a considerable coasting trade with the neighbouring ports of Italy and of the Genoese Riviera. The tonnage of shipping annually entering the port exceeds 80,000 tons. It is the first of our ports of the second class, and fully justifies the considerable sums which have been expended on it, especially within the past ten years. Nice then, the city of sunshine and of flowers, is not only a charming health resort in winter, an abode of luxurious ease and of calm repose, but also an important mercantile dépôt and commercial centre, and a port which contributes largely to our naval power.

[From M. Lenthéric's most interesting account of Nice and its neighbourhood we may now pass to the no less useful, though more prosaic, details of M. Bariéty's book, which here and there the translator has ventured to condense.]

The old town of Nice was situated, as has already been mentioned, entirely on the left bank of the Paillon, which bounded it on one side, while on the other the houses crept halfway up the Castle Hill. The whole town, hemmed in by walls, presented few, if any, spots fit for the residence of invalids. Matters were changed, however, when, about the middle of the last century,

buildings were erected on the other side of the river ; and it was thither, and more particularly to the neighbourhood of the Croix de Marbre, that people resorted. The short stay of the Duke of York there, in the winter of 1764, attracted others, and the district before long became known as the English quarter.

It was not, however, only on the right bank of the river in the district of the Croix de Marbre and of St. Jean Baptiste, that improvements went on, but new houses began to be built in those parts of the old town, such as the Place St. Dominique, and the Rue St. François de Paul, which either faced the sea or at least had a southern aspect. At the same time, too, the terraces were commenced, which, commanding a beautiful view of the sea, were ever a fashionable walk, though now deserted for the greater attractions of the Promenade des Anglais. This latter was formed in the winters of 1822 to 1824, as its name implies, chiefly at the expense of the English residents, with the charitable object of giving employment to the poor during a time of general distress.

These improvements, and the construction of a second bridge, gave a powerful impulse to the development of the city ; so that, while in 1822 it contained only 24,000 inhabitants, and from 35,000 to 40,000 at the time of its annexation to

France, it now reckons 70,000 at the least.* Moreover, at the time of the annexation the number of foreigners sojourning at Nice, for we leave out of our calculation mere passers-by, was scarcely 5,000. At the present day some 25,000 come annually to spend the winter, and if to this number we add from 8000 to 10,000 more who come to pass a few weeks only, we arrive at a total of 33,000 to 35,000 visitors who come to Nice for a longer or shorter time during the winter. There are certain seasons, too, when there takes place an enormous influx of people, as at the time of the carnival, of the races, and of the regatta, and the number of these casual visitors has been estimated at from 50,000 to 60,000, which would raise the total number of strangers coming to Nice every year to 85,000 or 95,000.

Enormous as these numbers seem, they are yet borne out by the returns made to the railway company, from which it appears that last year 850,000 persons arrived at or departed from the Nice station, and if only a tenth of them remained

* [The last census, which was taken on October 18th, 1881, gave 66,279 as the number of residents, and 11,847 as that of visitors. In some parts of the town, especially in the poorer districts, there were many difficulties in the way of a correct enumeration of the population; and they who are the best qualified to judge consider that the estimate in the text is quite within the mark.]

a few days in the town the number of visitors named in the preceding paragraph would be exactly arrived at.

As it is by no means proposed to make this little book a guide to Nice, it may suffice to say that it offers all the resources of a large town, that its water supply, which comes from the mountains, is abundant, its streets well swept, and its drainage better than elsewhere on the Riviera. The shops rival those of Paris, there are several clubs in all respects equal to those of the capital, and theatres and concerts offer to the visitor amusements from which the only drawback is that the facility of access too often tempts the invalid to expose himself imprudently at evening or night-time.

The different walks and excursions about Nice are too little known by visitors. A few details concerning them in conclusion may, therefore, not be out of place.

The walks and drives in the neighbourhood of Nice are very numerous, and the roads and foot-paths everywhere are perfectly well kept, while the tramways which intersect the town in all directions take the pedestrian in a few minutes beyond the streets, and enable him, leaving the town behind, to start at once on his excursion into the country.

The Promenade des Anglais and the Corniche

road, or road to Genoa, are known by those who know nothing else of Nice; but the Castle Hill, Cimiez, the two routes to Villefranche, Saint-Jean, and Beaulieu, the route to Saint-André, Saint-Pons, the route to the Var, Baumettes, Saint-Philippe, Aspremont, Falicon, Fabron, &c., are only some among the many excursions all easily accomplished in a carriage, and most of them within the powers of the average pedestrian.

The *Promenade des Anglais* extends from the mouth of the Paillon to that of the Magnan, and is in course of being continued as far as the valley of the Barla, and possibly even to the racecourse near the mouth of the Var.

Its present length is 1800 mètres, or more than a mile, and when its projected extension is completed it will be 3300 mètres, or rather more than 2 miles long. A continuation of it, which soon will almost equal it in beauty, extends along the Quai du Midi as far as the Ponchettes for a length of between a third and half a mile.

The roadway is twelve yards wide, and the path for foot-passengers of equal width. It is fifteen feet above the sea, and is supported by a sloping wall of solid masonry, and is planted along its whole length on either side with palms, and shrubs, and flowering plants, and forms altogether a public walk the like of which exists nowhere else in the whole world.

The end of the Promenade near the Paillon forms the *Jardin Public*, a large plot of ground planted with trees and shrubs, where the band plays every afternoon, and which forms a centre of attraction for all the visitors.

Of the *Corniche Road* little need be said; for though there now runs a direct road by the side of the sea to Mentone, the grandeur and beauty of the longer route over the top of the hills are such that no one who comes to Nice ever fails once at least to traverse it.

The *New Road*, and the *Forest Road to Villefranche* are two beautiful drives which, indeed, are not too long for any moderately good pedestrian. The New Road begins at the port, at the Place Cassini, climbs the hill of Montboron till just beyond the Château Smith it descends towards Villefranche, Beaulieu, St. Jean, and the Bay of Eze, whence it is now continued, skirting the sea-shore, to Monaco.

One caution already given to invalids must be repeated here, with reference to a part of this route. Just before reaching Villefranche, and almost opposite to it, there is a bend in the road, where, for a few hundred yards, the sun shines only in the morning, and the deep shadow might strike a chill on any one unprovided with a warm cloak or overcoat.

The *Forest Road* turns off from the New Road

at the top of the Montboron, just beyond the Château Smith; it winds along the top of the hill through the wood, and then, descending its western side, falls in with the old Villefranche road, which in spite of its steep declivity is well worth following, commanding as it does a beautiful view of Nice and the surrounding mountains. It enters the town a little to the north of the port, just by the tobacco manufactory in the Rue du Paillon.

The villages of *Beaulieu* and *St. Jean* are well worth a visit. [The position of the former is so sheltered that the neighbourhood has received the name of *petite Afrique* from its almost tropical vegetation, while the picturesque beauty of *St. Jean* has a charm which cannot fail to attract every visitor.

It is well worth while, after visiting *St. Jean*, to drive to the adjoining hill, on which is one of the large reservoirs whence Nice receives its water-supply. Thence, or still better from the look-out station quite at the top, to which an easy path leads, the view is most splendid, extending on the one side to Bordighera, on the other overlooking the Bay of Villefranche, and thence reaching beyond Nice to the distant Esterelles on the other side of Cannes, which shut in the view.

Another charming excursion on a fine day is to

take a boat at Villefranche, and row across its land-locked bay to the lighthouse on the point of the Cape Ferrat.]

The Château.—The hill on which the castle stood is within an easy walk of little more than a mile, while a good carriage road, which leads to the top, places it within reach of even the most delicate invalid. There are still some remains of Roman buildings, and of a small Roman temple, on its summit, which is 94 mètres, or 308 feet, above the sea; but its great attractions are the charming shady walks, laid out with great taste, that lead to it, and the extensive panorama which is displayed at the traveller's feet. Immediately under him lies the picturesque old town on one side, and the harbour, crowded with vessels, on the other, and close at hand the hills of Mont Alban and Montboron covered with villas. On the other side of the Paillon is the new town of Nice, and beyond it the encircling hills, with the pyramid of the Mont Chauve towering above the rest. In the far distance, northward, may be seen the snow-clad tops of the chain of the Tenda, while on a clear morning those who climb the hill before the sun is high enough to render the distance hazy, may descry the rugged outlines of Corsica in the far distance across the blue sea.

Cimiez.—Two different routes lead to Cimiez,

the one from the Boulevard de Carabacel, the other from Brancolar; and the visitor will do well to take the one in going and the other in returning. The distance by either way is about two miles and a half from Nice to Cimiez.

[M. Lenthéric's account of the old Roman town, which was given a few pages back, will help the reader to understand the interest that it presents to the antiquarian.] It is to be regretted that so many of the chief relics of the past, which from time to time have been brought to light, have either been destroyed or have been scattered in all directions. For much of what has been preserved we are indebted to the devoted labours of a learned antiquary, M. Guilloteau, who busied himself for more than forty years in collecting every relic of the past to be found, not at Cimiez only, but in the whole neighbourhood of Nice. On his death, in 1878, this extremely valuable collection was purchased by the city.

It is not, however, only to the antiquarian that the walk to Cimiez and the site of the old Roman town are of interest. The scenery all around is among the most exquisite in the vicinity of Nice.

Gairaut is one of the districts close to Nice which specially claim the attention of the physician. It is the slope which lies to the north-west of Nice, and sheltered by still higher hills which defend it from the wind; while the

distance of 4 kilomètres or about $2\frac{1}{2}$ miles from the sea renders it particularly suitable for invalids whose nervous system is very susceptible.

The road to it turns off at the end of the Avenue de la Gare Prolongée, from that leading to Raï, and leads up towards the village church. The traveller, as he ascends, leaves behind the whole rich plain of Nice spreading out to the sea; and if he turns when half-way up the hill to gaze upon it, he will see a prospect different from, but not less charming than, many with which this beautiful neighbourhood abounds.

Climbing the hill still higher, and leaving the road to Aspromonte on the left, one reaches the picturesque village of *Falicon*, perched on a headland which overhangs the plain, and whence the eye takes in a perfectly new landscape. On the one side are barren stony mountains, green hills on the other, the plain below, and, as everywhere, the sea beyond.

From Falicon the steep road descends into the valley, and joins the route which leads to the summer stations of St. Martin Lantosque, and Berthemont;* and in the opposite direction con-

* St. Martin Lantosque, and Berthemont, are both much resorted to in the summer months by persons who are anxious to escape the summer heats of Nice, without undertaking the long journey to Switzerland. Berthemont has some reputation for its sulphur springs; and both places are situated in the

ducts the traveller by the Grotte de St. André, hung all the year round with maiden-hair fern, by the Monastery of St. Pons, back to Nice.

[This excursion has, perhaps, a greater charm if made in the opposite direction to that just described. In either case there is a part of the road near the Grotte St. André where the invalid, passing through a gorge into which the sun scarcely penetrates, needs to bear in mind the caution already given with reference to a portion of the Villefranche road.]

Route of the Var is the prolongation of the Rue de France, and runs to the border of the Var, whence it is continued in one direction as the high road to Cannes and Marseilles, and in the other turns up the valley of the Var, and passing by Le Chaudan, Le Villars, Touët, and Puget Théniers, falls in with the main road from Digne to Entrevaux.

[The author does not continue further description of excursions in the neighbourhood of Nice, mentioning merely the names of Les Baumettes, Fabron, Brancolar, the Vallon Obscur, St. Barthélemy, &c. To these may be added the mediæval town of Cagnes, the Roman city of Vence, the villages along the valley of the Var, and for those

midst of charming mountain scenery, about 3000 feet above the sea. The accommodation at both places, though simple, is good, and improves every year with the increased resort of visitors.

who are anything of mountaineers, the Mont Chauve, with the glorious panorama from its summit. But the translator must not let his enthusiasm for the beauty of the neighbourhood get the better of his prudence, and make him swell this little book to too large a size.

He resists this temptation all the more, since the great kindness of Professor Allman, the President of the Linnean Society, enables him to enhance greatly the interest and the value of the book, with a delightful sketch of the vegetation of the Riviera.]

ASPECTS OF VEGETATION

OF THE

RIVIERA.

BY

PROFESSOR ALLMAN, F.R.S.,

PRESIDENT OF THE LINNEAN SOCIETY.

THE ANNIVERSARY ADDRESS
OF THE
PRESIDENT OF THE LINNEAN SOCIETY,
PROFESSOR ALLMAN, M.D., LL.D., F.R.S.,

On May 24th, 1880.

ASPECTS OF VEGETATION IN THE LITTORAL DISTRICTS OF
PROVENCE, THE MARITIME ALPS, AND THE WESTERN EXTREMITY
OF THE LIGURIAN RIVIERA: A CHAPTER IN THE PHYSIOGNOMY
AND DISTRIBUTION OF PLANTS.

SOME recent visits made during the spring months to Provence and the Ligurian coast afforded an opportunity of studying the vegetation of these parts of the Mediterranean shores; and it has occurred to me that some of the notes then made might form an appropriate subject for one of the annual addresses which it is customary to deliver from this chair.

Separated by the western Alps from Central and Northern Europe, and traversed by the subordinate chains and outlying groups of hills which, belonging to the system of the Maritime

Alps, give to its surface the charm of a configuration singularly varied by elevated hills, deep valleys, and low-spreading plains, there lies in the south of France a belt of country which, embracing a great part of Provence, has its western limits near Marseilles, and thence stretching along the shores of the Mediterranean includes the districts of Hyères, Cannes, Nice, and Mentone, and becomes continuous in the east with the Ligurian shores of Italy.

Nowhere in Europe is there a region which in winter and spring basks under the rays of a more genial sun, where its mountain barriers more thoroughly defend it from the icy winds which sweep over the unprotected plains of the north; and when the season of rains is at an end, there spreads over all this sunny land an atmosphere of absolute transparency; while away upon its extreme southern boundary lie the waters of the Mediterranean, flowing round wooded crags and picturesque headlands, and gleaming with an intensity of blue approached by that only of the cloudless sky which stretches over all.

The narrow littoral region thus physically characterised gives origin to a rich and remarkable flora, whose eminently southern features are scarcely again met with before arriving at the latitude of Naples, about four degrees further south; for throughout Lombardy, Tuscany, and

the districts formerly included in the Pontifical States, the plants mainly belong to the forms of Central Europe. It is to some of the characters of the flora of Provence and Liguria that I now wish to call your attention.

It is no part of my purpose to occupy you with the details of Mediterranean botany. However limited may be the district under review, such details would be unsuited to an occasion like the present, even did the time at our disposal allow of our entering into them. I shall therefore confine myself to those general aspects of the flora which exert an influence on the natural scenery—to that special physiognomy of the vegetation by which the traveller from the north becomes instantly impressed with the conviction that he has entered on a distinct and unfamiliar phase of organic nature.

When we seek for the conditions which give to the flora of the Western Riviera a character so essentially its own, we find a climate remarkable for the mildness of its winters and the high temperature and dryness of its summers. It is thus neither a purely insular nor a purely continental climate; for the cool summers of the former and the rigorous winters of the latter are here equally absent.

No less peculiar is the distribution of rain throughout the year. The season of rains is

confined to the winter and spring months, while the summer is, as a rule, absolutely rainless.

With the most important elements of climate thus distributed, a well-marked influence must be exerted in determining the periods of active vegetation. After the winter rains have supplied the humidity essential to the perfect development of vegetation, there bursts upon the whole country with the coming spring a richness of foliage and of blossom as beautiful in its forms and in its colours as it is marvellous in its suddenness. And then when spring is succeeded by the hot rainless summer, vegetation becomes arrested, and the freshness of the spring landscape is gone; for even the evergreens become dull and lustreless under the increasing heat and aridity of summer.

If there be one feature more than another which characterises the vegetation of the Mediterranean shores, it is the abundance of evergreen trees, belonging to forms different from that of the acicular-leaved Coniferæ; and in no part of these shores is the evergreen vegetation more highly developed, in none does it hold a more important place in the landscape, than in the region now before us.

It is not, however, only the evergreens strictly indigenous to the country which by their effect in the landscape convey an impression of something essentially different from the vegetation of the

north. Many have from very remote periods become objects of cultivation; and the olive, the orange, and the lemon are scarcely less important in their influence on the scenery than the trees which spring spontaneously from the soil.

The weight of evidence is in favour of the conclusion that the native country of the olive is in the south-eastern parts of the Mediterranean area, from which it was carried westward into the districts where it is now cultivated. It is true that there occurs here a wild form of the olive; but it is probable that this has only escaped from cultivation. Certain it is that the orange and the lemon are of oriental origin, and owe their present existence in Provence, Spain, and other western stations to the agency of man.

In the region now under review, the olive forms in the landscape one of its most striking and characteristic elements; and whether clothing the hill-side or stretching along a line of coast with glimpses here and there of the deep blue of the Mediterranean caught through its greyish-green foliage, it gives rise to a combination of picturesque effects from which the scenery of the Riviera derives one of its greatest charms. The form of the olive is much modified by cultivation, and the usual rounded contour of the trees is in great measure the result of the lopping to which they are subjected with the view of rendering the

fruit more abundant. Where, however, this excessive pruning is not adopted, and the tree is left more to its natural growth, it attains a much more considerable height; and the pendulous branches, with their rich masses of foliage, give to it then an aspect singularly graceful and striking.

With the sombre vegetation of the olive, the bright green lustrous foliage of the orange and the lemon forms a well-marked contrast. The lemon has a more limited range than the orange, and it is only in the hottest and most sheltered spots of the coast that it can be cultivated with advantage; while the area even of the orange is an exceedingly narrow one in comparison with that of the olive. In their altitudinal range the orange and the lemon are limited to the plain and to the lowest region in the hills, while the cultivation of the olive attains in this part of the Riviera an altitude of 2400 feet.

The vine is also extensively cultivated in the plains, and in the hills ascends above the limit of the olive. During March and April, however, it is destitute of leaves, and forms as yet no feature of importance in the vegetation.

But the olive and the *Aurantiaceæ* constitute only single elements among the evergreen trees. At Hyères the Cork-Oak (*Quercus suber*) and the Evergreen-Oak (*Quercus Ilex*) cover the lower hills with an indigenous growth, and contribute, with

the Bay (*Laurus nobilis*) and the Arbutus (*Arbutus Unedo*), to form the beautiful evergreen woods which clothe the rocky soil; while the Carrub (*Ceratonia Siliqua*) chiefly occurs along a narrow littoral zone between Nice and Mentone, where, with its large glossy, deep green, pinnate leaves and tropical aspect, it constitutes one of the most beautiful features in the coast-line.

Besides these evergreen trees with comparatively broad leaves, the narrow acicular-leaved Conifers play an important part in the physiognomy of the vegetation.

The Stone-Pine (*Pinus Pinea*), though here and there met with, is much less frequent and characteristic than in Central and Southern Italy, where, with its dark green spreading umbrella-like crown, it is inseparably associated with our conception of the Italian landscape.

Far more abundant is the Pinaster (*Pinus Pinaster*). The form of this pine met with in the hills of Provence is much finer than that of the variety usually grown in England. When it has room to develop itself, and escapes the almost universal practice of having all the branches within reach lopped away for firewood, it forms a large and handsome tree, with its crown more or less pyramidal and with its stem well furnished with branches nearly to the ground. It affords a well-marked and pleasing contrast with the more

rounded crown, paler and less rigid leaves, and greyer bark of the Aleppo Pine (*Pinus halepensis*), with which it is here usually associated. This last is eminently the pine of the Provence hills; it never grows to the height of the Pinaster, and, indeed, in some places retains almost a frutescent habit. Covering by itself alone, to the exclusion of other trees, wide tracts of country, or else accompanied by the Pinaster, the Cork-Oak, the Ilex, the Arbutus, or the Bay, it is the form of arborescent vegetation which contributes most to the wooding of the hills and to the character of the landscape.

Among the coniferous trees which form a prominent feature in the landscape of Provence, the Italian Cypress (*Cupressus sempervirens*) must be especially mentioned. Its very distinct porte, springing, as it does, from the ground in a lofty tapering spire of intensely dark green foliage, places it in striking contrast with every other tree form. It is usually planted on the plain in picturesque groups, by which the eye is led to the far-off wooded hills by a succession of distances which no other object in the landscape could so efficiently supply. Occasionally it is planted singly among the olive-woods on the hill-side; and then the tall spires of the cypress, with the green of the foliage almost black in its intensity, offer a contrast with the low, rolling, greyish-

green masses of the olive-wood above which they tower, greater than perhaps can be found between any other two forms of exogenous arborescent vegetation.

With the evergreen trees of the hills are associated some whose leaves fall on the approach of winter. Among these, one of the most frequent and striking is a variety of our northern Oak (*Quercus robur*), whose young leaves, clothed with a reddish-brown pubescence, form a well-marked contrast with the darker tints of the surrounding evergreens, and become an additional element of beauty in the woods. In other trees, again, of deciduous habit it is the flowers rather than the foliage which exert the chief influence on the landscape; and in early spring the Judas tree (*Cercis Siliquastrum*), introduced from Western Asia, covers its leafless branches with masses of rosy-purple flowers; while the cultivated lands are made bright by the delicate pink of the Almond-blossom, and a little later the Peach-tree flushes the country with its deeper rose.

But besides the proper arborescent vegetation there are hosts of evergreen shrubs which, no less than the true trees, enter into the composition of the landscape. Even where the hills are well wooded, the ground beneath the trees gives origin to an abundant underwood. In many places, especially about Hyères, this is mainly composed

of the prickly evergreen bushes of the Kermes Oak (*Quercus coccifera*), which, though assuming in more eastern countries an arborescent habit, remains in this part of the Riviera in the condition of a shrub some three or four feet in height.

In other places the underwood is largely composed of the rigid shrubs of the wild olive, associated with the deeper green and more glossy-leaved Phillyreas (*Phillyrea angustifolia* and *P. latifolia*), the Lentiscus (*Pistacia Lentiscus*), the *Rhamnus Alaternus*, the *Juniperus Oxycedrus* (which replaces the *J. communis* of our own woods), the great Heath of the Mediterranean (*Erica arborea*), and the Myrtle (*Myrtus communis*), the only European representative of its order, while multitudes of leguminous shrubs (*Spartium*, *Genista*, *Cytisus*, and *Coronilla*) mingle their golden flowers with the greenery of the rest of the underwood. Indeed, one of the most remarkable features of the woods is the luxuriance of the undergrowth. Seldom is a spot of ground left uncovered, for even the thickest woods exert no injurious action on the plants which thus grow so freely beneath their shadow.

Rich, however, as is the undergrowth of the wooded hills, it is where the trees are absent or so thinly scattered as to allow unimpeded access to the rays of the sun, that the shrubby and subfru-

tescent vegetation becomes developed with all that multiplicity of form and freedom of growth which throw so indescribable a charm over the rugged hill-side, clothing rock and crag, and ridge, and arid cliff, and wild ravine with a plant-life such as a southern sun can alone call into existence. For here we may wander amid groves of heath, no longer limited to the humble forms of our northern moors, but attaining the height of some of the largest of our shrubs, and covered in the early spring with masses of white or pale rose-coloured flowers, which fill the air with the fragrance of a meadow of freshly-mown hay; aromatic Labiatae, Thyme (*Thymus vulgaris*), and Rosemary (*Rosmarinus officinalis*), take possession of the driest and hottest spots, while the broad leafy translucent bracts which crown the spikes of the angular-headed Lavender (*Lavandula Stoechas*) become lighted up with the intensest of violets under the obliquely-falling rays of the late afternoon sun. The Spiny Smilax (*Smilax aspera*), with its heart-shaped rigid leaves and its clusters of scarlet berries, scrambles wildly over the rough stony ground; the yellow Jasmine (*Jasminum fruticans*), the elegant shrubby Globularia (*Globularia Alypum*), covered with its spherical clusters of bright blue flowers, and the *Daphne Gnidium*, with its fresh green foliage, root themselves in the crevices of the rocks; the singular little woody

Euphorbia (*Euphorbia spinosa*), whose dry ligneous stems of the preceding year are concealed among the young pale green leaves of the present, adorns the most exposed rocks with its dense hemispherical tufts; while the Spiny Broom (*Calycotoma spinosa*) covers the driest and most sterile tracts, where it replaces the furze of the north, and makes gay the stony slopes of the hills with its bright yellow blossoms.

Among the negative features of special interest presented by the flora of this part of the Mediterranean area is the absence of our northern Furze (*Ulex europæus*). This plant shows itself for the first time much further west; and it is not until we approach the Pyrenees that it becomes abundant.

To the north-west of Hyères the beautiful Syrian shrub *Styrax officinalis* has made for itself a home; and with its white flowers, recalling those of the orange, but hanging in drooping clusters from the branches, adorns in May the ravines and stream-banks of Mount Coudon.

In the more eastern parts the Oleander (*Nerium Oleander*) may be found occupying the narrow valleys which confine the streams of water in their course from the hills above, while the *Euphorbia dendroides* takes possession of the rocky cliffs between Nice and Ventimiglia. It is a truly ligneous species, this great Euphorbia; the stem

attains at its base a diameter of two or three inches, and then with a regular trichotomous ramification rises to the height of a man. It is the nearest European representative of the gigantic Euphorbias of the Canary Islands and Western Africa. Within the limits just mentioned it is very abundant, and constitutes the most characteristic vegetation of the sea-cliffs; it is conspicuous no less by the fresh tender green of its foliage than by the singularity and beauty of its form.

Widely distributed over the whole region are numerous species of *Helianthemum*. Small Cistus-like shrubby or occasionally herbaceous plants, of more or less prostrate growth, lovers of intensest sunlight, they spread themselves over the hottest and most stony ground, making it bright with their soft yellow flowers.

But of all the plants which combine to throw over the rocky hills of the Riviera that richness of vegetable life which so eminently belongs to them, there is perhaps not one by which we are so forcibly impressed as by the true Cistuses (*Cistus albidus*, *C. salvifolius*, and *C. monspeliensis*). There is no spot too dry or shadeless for these beautiful shrubs. Their season of flowering is in the later spring and early summer, when they display day after day in unlimited profusion their large rose-like, white, or purple flowers, and

mingle the balsamic odour of their leaves with the aromatic exhalations of the Labiatae. But the life of the Cistus-blossom is a short one. In a few hours the corolla has fulfilled its function. Opening to the morning and to the noon, the petals soon fall to the ground, and long before the setting of the sun there is nowhere to be seen over all that hill-side a vestige of the great blossoms of white and purple which had but an hour before spread such a glory over the landscape. And day after day does the young corolla open its petals to the morning, and cast them to the ground before the evening in uninterrupted sequence until the advancing summer brings the period of flowering to an end.

But it is not alone the trees and shrubs of the Mediterranean which give character to its vegetation; multitudes of herbaceous plants burst into flower with the coming spring, and contribute to the landscape an element scarcely less important than that presented by the plants of arborescent and shrubby growth.

Where the soil has some depth, no matter how dry and sandy it may be, on the low lands near the sea-shore, or in open glades in the wooded hills, more especially in the district of Hyères, the small-fruited and large-fruited Asphodels (*Asphodelus microcarpus* and *A. cerasiferus*) send up to a height of more than three feet, from the

midst of long pointed leaves, their great flower-stalks, dividing into many branches in the one, but a stately undivided column in the other, and in both covered with large white star-like flowers; while in the same district the sunny borders of the woods are ornamented by the nearly allied but far more delicate *Simethis bicolor*, with its flowers of a pure white within and rose-colour without; multitudes of tender Euphorbias, with leaves of the softest green, spring up over the rough stony soil; the long trailing stems of the Periwinkle (*Vinca media*) cover themselves, as they creep over the ground, with bright blue flowers, and may be seen on shady banks and in the hedges and along the margins of the water-courses; while on drier and less shady banks, and along the sunny borders of the olive-woods, the beautiful *Convolvulus altheoides* throws out its slender leafy stems, ready to twine round the first support they may meet, and laden with their large campanulate flowers of delicate rose, which expand to the hottest rays of the southern sun.

The fine cruciferous plant, *Moricandia arvensis*, affords a remarkable example of limited distribution, being on the northern shores of the Mediterranean nearly confined to a narrow area between Mortola and Ventimiglia, where it occurs abundantly and ornaments the dry cliffs with its

handsome purple flowers. Narcissuses, yellow and white, are in profusion in the plains ; and with the very first breath of spring Anemones (*Anemone coronaria* and *A. hortensis*, with their many varieties) abound in the olive-woods, and fill the lower meadows and shady valleys with the marvellous beauty of their scarlet, or blue, or violet-coloured flowers ; while a little later we find, associating themselves with the Anemones, brilliantly-coloured Tulips — the large-flowered crimson *Tulipa præcox*, and the beautiful little *T. Clusiana*, with its elegantly pyramidal flower-buds, and its flowers of purest white banded with crimson on the outer side, and deep within the cup dashed with softest violet. Wild Flaxes of many species (*Linum narbonense*, *L. maritimum*, and *L. viscosum*, &c.) abound in the hills, where they make the valleys bright with their blue, or pale yellow, or rose-coloured flowers. Orchids referable to many genera (*Orchis*, *Ophrys*, *Serapias*, *Epipactis*, *Spiranthes*, &c.) and of strange mimetic forms are in multitudes. White and rose-coloured Alliums (*A. neapolitanum*, *A. roseum*, &c.) are in blossom in the cultivated lands, and Gladioluses (*Gladiolus segetum*) send up their tall spikes of purple flowers under the shadow of the olive-woods. In dry and stony places the beautiful little primulaceous plant, *Coris monspeliensis*, spreads over the rocks its tufts of rosy flowers ;

and shady banks among the hills are covered with blue hepaticas.

Along the margins of the watercourses the leafy stems of the great Reed (*Arundo Donax*) grow to a height of twelve feet or more in picturesque groups of tropical aspect; while everywhere around their base, and vigorously pushing themselves through the soil, are the strong light green conical shoots which are to become the young stems of the new year.

Abundant on dry banks throughout the whole littoral region is the curious liliaceous plant, *Aphyllanthus monspeliensis*: you would take it for a tuft of rushes, were it not that every stem is crowned with one or two blue lily-like flowers. It is destitute of true leaves, which are represented only by brown membranous sheaths which surround the stems just above the root.

Close upon the sea-shore the *Mathiola incana* has taken possession of the most inaccessible spots upon the cliffs, which it lights up with its bright violet flowers; the handsome yellow-flowered leguminous shrub, *Coronilla valentina*, roots itself in the clefts of the rocks, where it is associated with the singular *Cneorum ricoccum*, a European representative of the tropical family of the *Simarubæ*; while the white-leaved *Cineraria maritima*, and the beautiful *Lavatera maritima*, with its large flowers of pale rose, form other

striking elements in the flora of the sea-cliffs. Lower down, over the dry sandy beach the Squirting Cucumber (*Ecballium Elaterium*) sends out its prostrate stems and covers the ground with its fine dark green foliage; while here and there the curious Thymelaceous plant, *Passerina hirsuta*, presents us with a form of vegetation unknown in the flora of the north.

Such are some of the most important features in the physiognomy of vegetation in the littoral districts of Provence and in Western Liguria, as seen during the months of March, April, and May. Certain plants not strictly indigenous to this part of the Mediterranean shores, but which have become acclimatised, and by their cultivation enter largely into the industry of the country, have been already noticed; but our picture of the vegetation would be still imperfect without reference to some others which have been introduced from more southern countries, and which here, finding themselves in a congenial climate, have become important elements in the landscape.

Foremost among these is the Date-Palm (*Phoenix dactylifera*), which flourishes with but little care in most parts of the district which we have been making the subject of our study. The form of the palm is so intimately associated with the warmer regions of the globe, and its tall,

straight, unbranched stem and plume-like crown of great pinnate or palmate leaves are in such strong contrast with every tree form of the temperate and colder regions, that the traveller from the north, when he witnesses for the first time the date-trees of Hyères and the Riviera, becomes more forcibly impressed by this beautiful form of vegetation, than by any other feature of the country, with the fact that he has changed his latitude.

It is remarkable, and not easily explained, among the phenomena of distribution, that while the southern Date-Palm grows here so freely, and even ascends to some height upon the hills above the coast-line, the *Chamærops humilis* (the truly indigenous palm of the European shores of the Mediterranean, and still abundant in the south of Spain and in Sicily) is nowhere to be met with.

That the Date-Palm, however, has not thoroughly acclimatised itself is shown by the fact that it is only during very exceptional seasons and in a few specially protected spots that it is known to ripen its fruit.

Other plants which forcibly recall more tropical climates are the so-called Aloes (*Agave americana*) and the Prickly Pears (*Opuntia Ficus-indica*), which may be seen everywhere in the neighbourhood of the villages rooted in the crevices of the

driest and most exposed rocks, or forming impenetrable hedges for the gardens. Though there is abundant evidence to show that these plants had been introduced from Central America, they have here completely acclimatised themselves, flowering and ripening their fruit as if they had been truly natives.

Among the most important introductions from more southern latitudes are the Australian Eucalyptuses. The *Eucalyptus globulus* is planted round almost all the towns on the Riviera, and, as it is of amazingly rapid growth, has already attained in many places a great size. Though destitute of the graceful form of many of our European trees, it is still a tree of striking and often picturesque aspect. The foliage is of a glaucous tint, especially in the broad amplexicaul leaves of the younger trees; while the long pointed or sickle-shaped leaves of the older trees, suspended on slender petioles, and presenting their surfaces vertically to the wind, tremble like the leaf of the aspen in the gentlest breeze, and, though casting but little shade, impress us, like the murmuring of running water, with a pleasant sense of coolness in the sultry southern air.

Notwithstanding, however, the vigorous growth of the *Eucalyptus globulus*, and its apparently complete adaptation to the climate of the Riviera, there is still enough to keep us in mind of the

fact that it is an exotic; for though the trees freely expand in the spring their beautiful white tassel-like flowers, the seeds do not ripen, and the cultivators find it necessary to import such as may be capable of germination.

Associated with the *Eucalyptus* is the beautiful Australian *Casuarina*. The tree is destitute of leaves, but the branches emit innumerable dark-green pendulous shoots, jointed and striated like the stems of an *Equisetum*. These give to it the general aspect of a Conifer, and the whole tree impresses us by the graceful symmetry of its form and the elegant plumose habit of its singular pendulous ramification. Like the *Eucalyptus* it is of very rapid growth. It has already attained in Provence a height of some thirty or forty feet; and when the wind rushes through its branches, the long melancholy sigh with which the tree responds is unlike the sound called forth by the same cause in any other with which I am acquainted. The climate of the littoral parts of Provence and of Liguria is, indeed, eminently suited to the requirements of Australian trees and shrubs; and the gardens abound in Australian *Myrtaceæ*, *Proteaceæ*, and *Mimoseæ*.

The number of exotic plants met with in many of the gardens gives these a special interest; and when to his general appreciation of horticulture the proprietor adds a scientific knowledge the

result possesses a value which may in vain be sought for in countries where the defects of climate have to be compensated for by artificial protection.

The garden at Antibes, which had belonged to our late distinguished and lamented Foreign Member, M. Thuret, affords an example of what might be done by a scientific botanist in a climate like that of the Riviera; for there the plants of more southern latitudes find conditions suited to their perfect development, and offer admirable subjects for scientific study. In his garden near Mentone, Dr. Henry Bennett has brought together many species from more southern countries, and has covered the parched and rugged cliffs with a flourishing exotic vegetation. But it is at Mortola, between Mentone and Ventimiglia, in the gardens of the Palazzo Orengo, belonging to our Fellow, Mr. Thomas Hanbury, that may be found realised the most perfect combination of the native flora and natural beauty of this wonderful coast with an exotic vegetation which only scientific knowledge and appreciative skill could have succeeded in bringing together.

The gardens of the Palazzo Orengo are spread over the southern slope of a hill and extend to the very shores of the sea; and the visitor meets at every step some unfamiliar form of vegetation, as he sees mingled with the beautiful flora of the

Riviera the plants of Australia, of Southern and Central America, of Northern, Western, and Southern Africa, and of China and Japan, all growing with a freedom and a vigour which could scarcely be surpassed in their native lands.

I have thus attempted to sketch for you by a few broad outlines some of the most striking features of the vegetation of a portion of the Mediterranean shores, limited in its extent, but replete with interest—a land where some of the most significant phenomena of geographical distribution present themselves to the botanist; for though belonging to the European area, it exhibits in its climate and in the southern character of its vegetation an obvious link between the temperate and the tropical zones. My sketch has been necessarily imperfect; but there is yet enough in it to show that on the northern shores of the Mediterranean, and within easy access of our own, there is a region in whose singularly interesting flora the botanist may still find ample material for study, and from which, amid scenes of unrivalled beauty, the painter may derive some of his noblest inspirations.

I N D E X.

When no place is indicated, it is to be understood that all references apply to Nice.

- | | |
|---|--|
| <p>Acute phthisis, 66 (note).
 Air, influence of its warmth and purity, 4, 83, 86, 88.
 — and soil, 83.
 Allmann, Professor, aspects of vegetation of Riviera, 138.
 Antibes, 91, 112.
 Arthritic diathesis, 57.

 Barometer, indications furnished by, 8
 — — variations of, 19.

 Cimiez, 116.
 Climate, daily variations of, 15.
 — differences of, in different parts, 38.
 — indications and contra-indications for, different, 53.

 Diabetic phthisis, 66 (note).
 Diarrhœa, influence of climate on, 81.
 Diathesis, importance of considering, 57.
 Diseases that specially benefit, 61, 85.
 — — do not, 87.
 Dyspepsia, influence of climate on, 81.

 Fog, 15

 Garoupe, cape of, 91.
 Grecian settlements, 107.</p> | <p>Hæmoptysis, 79.
 Hail, 14.
 Health resort, essential conditions for winter, 31.
 Herpetic diathesis, 59.
 Hills and mountains around, 2.
 Hygrometrical condition, 8, 13.
 — — variations of, 21.
 — — influence of, 36.

 Invalids who benefit specially at Nice, 54, 61.
 — — do not, 56, 58, 62.
 — their nationality and previous residence important, 60.
 Iodine and bromine, intensity of their effects, 6, 89.

 Laryngeal phthisis, 78.
 Light, influence of, 32.
 Ligurians, primitive inhabitants, 101, 111.

 Meteorological conditions, monthly summary of, 24.

 Nice, position of, 1-3, 91.
 — hills and mountains around, 2.
 — reputation in time of Romans, 3.
 — — modern times, 4.
 — soil and air, 4.
 — difference of climate in different parts, 38.</p> |
|---|--|

Nice, division of, into different zones, 39.

— comparative advantages of each zone, 44, 54.

— invalids and diseases that specially benefit, 54, 61.

— primitive inhabitants, 101.

— date of foundation of, 107.

— harbour of, 120.

— population and progress of, 124, 125.

— walks and excursions at, 127.

Phœnicians, settlers on coast, 103.

Phthisis, influence of the climate on, 64, 81.

— its varieties, 65.

— ordinary, 66.

— diabetic (note), 66.

— diathetic, 67.

— scrofulous, 67.

— arthritic, 68.

— bronchial, 69.

— conditions modifying prognosis in, 70, 76.

— acute form of, 74.

— laryngeal, 78.

Position of Nice, 1-3, 91.

Rainfall, 12.

— variations of, 21.

Remedies, cautions as to, 89.

Riviera, its primitive inhabitants, 101.

— aspects of vegetation of, 138.

Roman roads, 105.

— inscriptions, 114.

Romans, reputation of Nice in time of, and recently, 3.

Rules, hygienic, for invalids, 47.

Scrofulous diathesis, 57.

Sky, 13.

Sleet and snow, 14.

Soil and air, 4, 83, 86, 88.

Temperature, 7.

— daily variations of, 15.

Var, gulf of, 92.

— characters of the river, 93.

— analogy of, to the Durance, 95.

— embankment of the, 98.

Vegetation, aspects of, of Riviera, 138.

Warmth, influence of, 34.

Winds, 8.

— rotation of, 22.

Zones or districts, different, 39.

— comparative advantage of each, 44, 54.

ADVERTISEMENTS.

ASSOCIATION
OF
ENGLISH HOSPITAL-TRAINED
NURSES.

VILLA CLOTILDE

(Opposite the Villa Bermond),

**Rue St. Étienne,
NICE.**

THIS Institution is a branch of that established four years ago, under the patronage of the English and American Ambassadors, at 29, Avenue Wagram, Paris.

Its immediate object is to furnish visitors to Nice and the Riviera with efficient Nurses, all of whom have been trained in an English Hospital.

If this endeavour to meet a great want should receive encouragement, it is hoped that Nice may become a centre whence to supply the needs in sickness of visitors, not to the Riviera only, but to Florence, Rome, and other parts of Italy.

Donations in aid of the Institution gratefully accepted.

TERMS.

For ordinary Medical or Surgical Cases, 10 fr. a day, or 70 fr.
a week.

For cases of Contagious Diseases, 12 fr. 50 c. a day, or
84 fr. 50 c. a week.

The higher charge for cases of Contagious Disease is necessary in order to meet the expenses of disinfecting the nurse's clothing, and of providing for her temporary residence away from the Home after leaving the patient.

*All further information can be obtained from the Directress, to whom
all applications for Nurses must be made.*

OUVRAGES
DE
M. CHARLES LENTHÉRIC,

CHEZ
E. PLON & Cie., Éditeurs,
10, RUE GARANCIÈRE, PARIS.

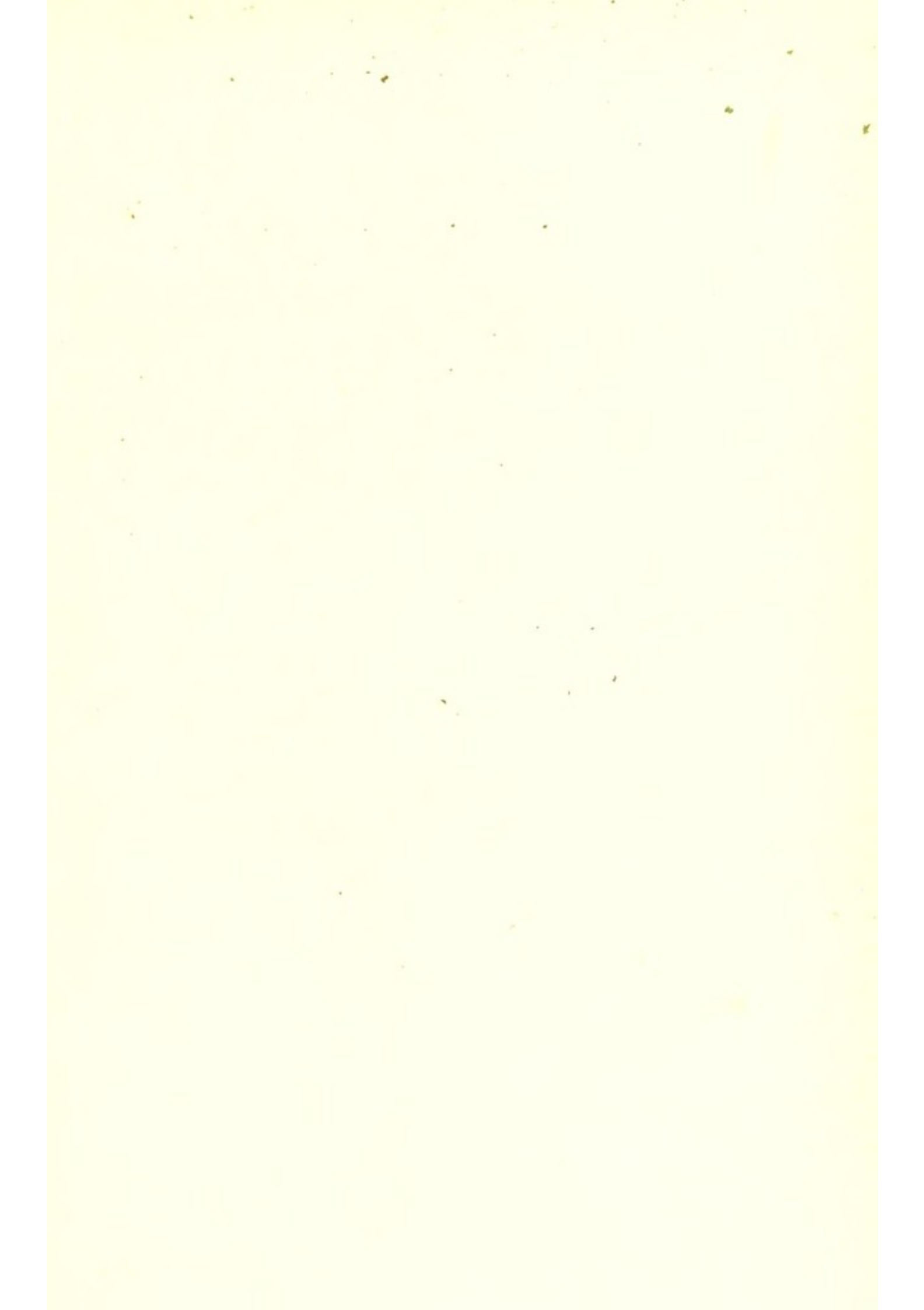
LES VILLES MORTES DU GOLFE DE LYON.—Illiberris, Ruscino, Narbon, Agde, Maguelone, Aigues-Mortes, Arles, les Saintes-Maries. Un vol. petit in-8° anglais, orné de 15 cartes et plans. Prix 5 fr.

LA GRÈCE ET L'ORIENT EN PROvence.— Petit in-8° anglais, orné de 15 cartes et plans. Prix 5 fr.

LA PROVENCE MARITIME, ANCIENNE ET MODERNE.—La Ciotat, Tauroentum, Toulon, Hyères, les Maures et l'Estérel, Fréjus, Cannes et Lérins, Antibes, Nice et Cimiez, Menton et Monaco. Un vol. petit in-8° anglais, orné de 9 cartes et plans. Prix 5 fr.

Il a été tiré quelques exemplaires de ces trois ouvrages sur papier teinté. Prix du vol., 8 fr.

18



90

