

Remarks on the yellow fever of the south and east coasts of Spain : comprehending observations made on the spot, by actual survey of localities, and rigorous examination of fact at original sources of information / by Thomas O'Halloran.

Contributors

O'Halloran, Thomas.
Royal College of Physicians of Edinburgh

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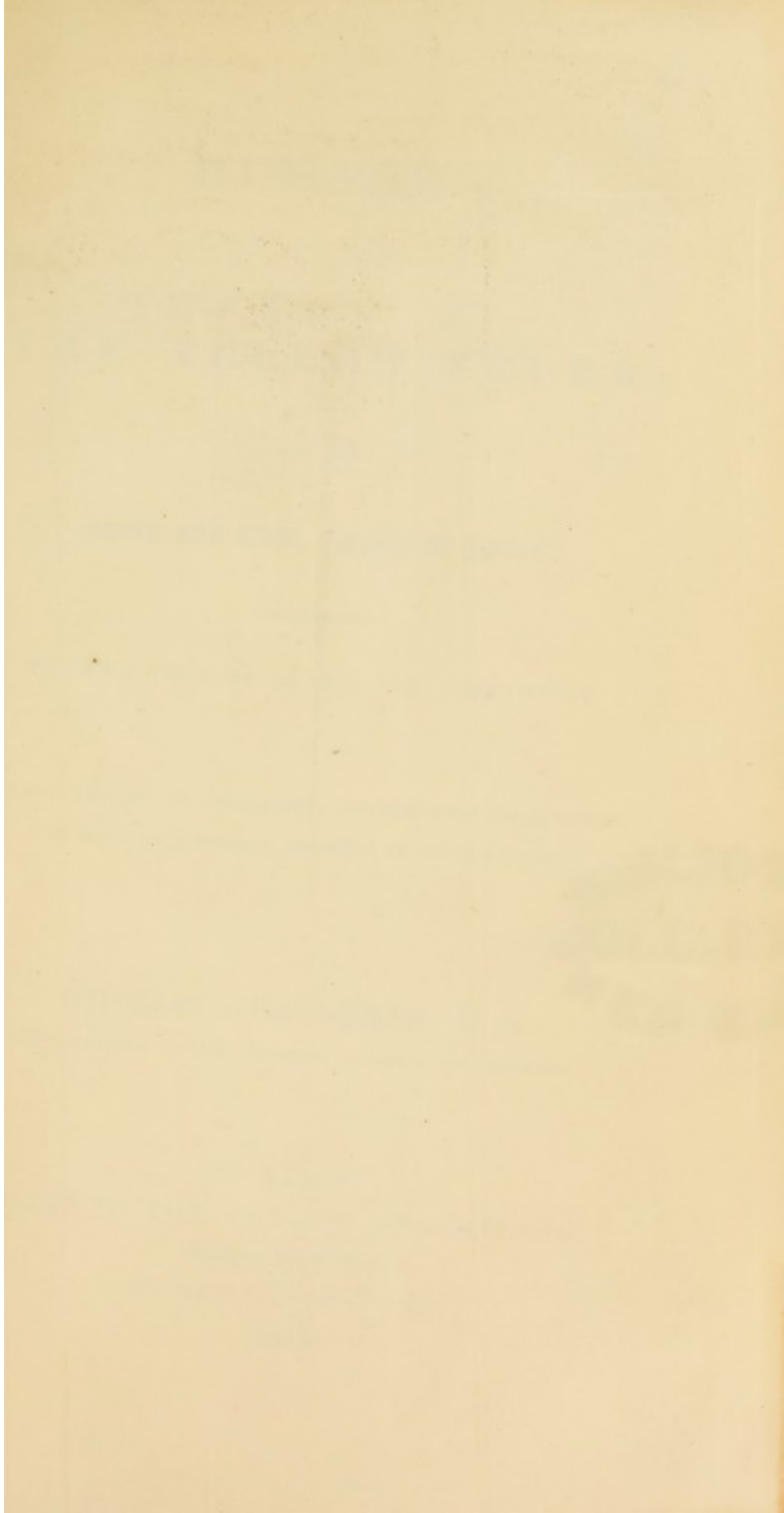


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REMARKS
ON
THE YELLOW FEVER

OF THE
South and East Coasts of Spain;

COMPREHENDING
OBSERVATIONS MADE ON THE SPOT,

BY
ACTUAL SURVEY OF LOCALITIES, AND RIGOROUS EXAMINATION
OF FACT AT ORIGINAL SOURCES OF INFORMATION.

BY
THOMAS O'HALLORAN, M. D.

MEMBER OF THE MEDICAL ACADEMIES OF MADRID AND BARCELONA.

LONDON:
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1823.

PUBLIC
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MED. B

REMARKS

THE YELLOW FEVER

FREDERICK, DUKE OF YORK,

AND HIS GENERAL STAFF:

TOGETHER WITH THE OBSERVATIONS MADE ON THE SPREAD

OF THE DISEASE

IN THE CITY OF LONDON, AND THROUGHOUT THE KINGDOM

IN THE YEAR 1817.

WILLIAMS & CO. 15, N. B. 15, N. B.

By Your Royal Highness

Colonel for the purpose of inspecting

THOMAS O'HALLORAN, M.D.

the nature of the epidemic at which

prevailed that city and some other parts of

Spain in the autumn of the year 1817.

LONDON:

PRINTED FOR CALLOW AND WILSON,

the field of operation without delay, and

LONDON:

PRINTED BY CHARLES WOOD,

Poppin's Court, Fleet Street.

TO HIS ROYAL HIGHNESS

FREDERICK, DUKE OF YORK,

FIELD MARSHAL,

COMMANDER IN CHIEF OF THE BRITISH ARMY,

&c. &c. &c.

SIR;

YOUR Royal Highness having been pleased to give me leave to visit Barcelona, for the purpose of inquiring into the nature of the epidemic sickness which ravaged that city and some other parts of Spain, in the autumn of the year 1821, I have the honour to say, that I proceeded to the field of observation without delay; and, having investigated the subject in all its

bearings, transmitted the sum of my remarks to the Medical Board Office, in Berkeley Street. The Report alluded to, considered as a document in the Medical Board Office, will not probably see the light; and, as the matter of it appears to myself to be important to the settling of the question of contagion or non-contagion, in the disease vulgarly termed yellow fever, so long and unprofitably litigated among medical men, I ventured to solicit your Royal Highness's permission to lay the detail of my information before the public, under the authority of your Royal Highness's name. In this request your Royal Highness has graciously acquiesced; and I may be allowed to say, that I would not have presumed to make it, were I not confident in myself, that the statements are correct; that the knowledge of the correct fact is important, not only to the British army, but to the British empire; and that

the sanction of your Royal Highness's name is a guarantee for its obtaining due attention from the public. With this impression, and with gratitude for your Royal Highness's condescension, I have the honour to subscribe myself,

Your Royal Highness's

Most faithful Servant,

THOMAS O'HALLORAN,

Assistant Surgeon of the 64th Regiment of Foot.

PREFACE.

THE author of the following statement takes leave to inform the reader, that he spent some years of the earlier part of his life in the West Indies, where he had the opportunity of observing the forms and characters of the diseases of that climate; that he served some time in the northern parts of America, and in the southern parts of Great Britain; and, finally, that he did duty in the garrison at Gibraltar for some years, and is now actually on duty at that station. He had seen the disease, called Yellow Fever, in the West Indies, and even suffered from it; and, being desirous to know its real character in other countries, concerning which there has been, and still is, much difference of opinion, he obtained leave from General Sir George Don, in the year 1820, to

accompany a medical friend into Spain, who was on a tour of professional investigation—particularly anxious to investigate, by personal observation, the real nature of the yellow fever of Cadiz. The author arrived [at Cadiz, with the person alluded to, on the 25th of August, the day on which the malady was declared to be in the city. He was eager to see it; and, during his sojourn in that place, was permitted to attend at the hospital, San Juan de Dios, into which the more aggravated cases of the disease were received. From Cadiz he went to Xeres, where the yellow fever raged with violence. He there prescribed for some sick; and, by that means, became qualified to judge of the effect of medical treatment, in mitigating its violence, or of actually cutting short its course. His observations on the subject have been submitted to the public.

The epidemic, called yellow fever, which frequently makes its appearance on the south and south-east coasts of Spain in the autumnal season, broke out at Barcelona in the month of August, 1821, spread

rapidly, and occasioned great mortality. The author was then in England; and, desirous of having the opportunity of prosecuting his views on the subject in question, he solicited, through the Director General of the Medical Department of the Army, his Royal Highness the Commander in Chief, for leave to proceed to Barcelona for the purpose stated. Leave was granted; but the season was far advanced; Barcelona was distant; and, notwithstanding continued travelling, he did not arrive at it until the rage of the malady had somewhat abated. The height was past; but there still remained enough to show what the disease was, and to furnish opportunities of illustrating its character by means of dissection. The authorities granted every facility that could be desired for the prosecution of professional purposes; and he is willing to believe, that they have not given their indulgence without some good to the community. His movements were directed from Barcelona to Tortosa, and other towns in that vicinity; to Malaga, Lebrixa, Xeres, Puerto de Santa Maria,

San Lucar, Cadiz, &c. ; and finally to Gibraltar, his proper official station. The field of investigation was an extensive one ; the fatigue, implied in traversing it, could only be sustained by a strong man ; and the comforts of living, in a country where money is of little value, could not be attained by one of narrow income. The excursion was not one of pleasure ; but the object in view was an important one in the author's mind, and he laboured to attain it. What he has attained, he attained with difficulty, but he trusts with utility to others. He is confident of the accuracy of the statements which he has made ; and he thinks he perceives in them such uniformity in results, though obtained at distant places and by different persons, as to establish clearly the important fact, that the disease in question is not personally contagious. He begs leave to observe in this place, that he examined, with the utmost care and circumspection, the nature of localities at the points where the disease first made its appearance ; and that he did this in every town in Spain

where the epidemic was observed in 1821. That he noticed, with care, the tracts by which the malady proceeded onwards, and the circumstances by which it might be supposed to be impeded or forwarded in its progress: and farther, that, disregarding current reports, in proceeding in the scrutiny into fact, that he went directly to principals, questioned and cross-questioned the living subject, and thus generally, he thinks, extracted the truth. This was not always easy; but it is not impossible to be done. The Spaniards, though prone to believe reports without examination, particularly such as are connected with the dark and wonderful, do not wilfully, I believe, deceive, where there is no purpose or profit in deceiving; and I have reason to think, that I almost always obtained a true statement, particularly from the peasant of the cottage, in what concerned his own or his family's health. The information which I have obtained gives collectively an intelligible and consistent view of the rise, progress, and properties of the disease

usually called yellow fever; and, in that belief, I have taken the liberty of submitting them to the consideration of the public. The substance of the remarks was sent in a Report to the Director General of the Medical Department of the Army; but as I do not know, officially, that it has been received, and as I believe the matter of it to be not unimportant to the interests of mankind, I take this method of making it known. I do so with the conviction, that if the statements within, which are perfectly authenticated, make no impression on the public mind, the delusion under which it now labours may probably be perpetual; for it is scarcely possible that any thing stronger than what is here given can arise from farther research.

The author being young, and unwilling to be thought presumptuous, has abstained from remark on the law of quarantine, though intimately connected with the subject on which he writes. He is ready to admit, that if any given disease have the property of communicating itself to persons in health by contact or near approach, in-

terdiction of intercourse is not only prudent, but imperious on the superintending powers of the state. But while he admits this as a fundamental rule, he must at the same time add, that it is incumbent on the powers of the state to ascertain the fact of danger by correct evidence, not to assume it on trust, or from the reports of prejudiced persons. This applies directly to the epidemic yellow fever, in which the quarantine laws have been enforced in all their rigour, without evidence that the restraints thus imposed were either necessary, or sufficient to secure the public safety. The yellow fever, it may be remarked, appears generally at a certain season of the year, and declines after a certain duration—not precisely the same in all seasons and at all places, but generally so defined in its circumstances as to show that it is connected with a law of nature. It appears at one point, or at different points, and diffuses itself in a given district. It is not confined or impeded in its course by artificial barriers, but it cannot be carried beyond the natural barrier by

any means of art. If this be true, and it is as well ascertained as an historical fact can be ascertained, the quarantine restrictions are futile in the main point, and they are injurious, or even destructive in others. If the cause of the disease be local, it must be considered as barbarous (if the arbitrary destruction of human life be barbarous) to prevent the people from leaving the destructive locality; particularly as it is clearly ascertained, that they are not capable of transporting the cause, that is so much dreaded, in their clothes or persons. But, farther, if the cause of disease be imported contagion, as it is everywhere admitted that a contagious cause is augmented by the accumulation of living men in a limited space, the restrictive law of quarantine must be inhuman, unless it be made clear that it is absolutely necessary. Means of remedy exist, and they do not appear to be difficult of attainment. If camps for persons not actually sick, but in different degrees of suspicion, were established in healthy and clear positions, the whole of the healthy and suspicious

might be withdrawn from the infected town or city; and, as the disease would cease in a short time, in want of subjects, or from other causes, the town would again be safe and habitable after a skilfully conducted expurgation. If the lights of science were permitted to direct the health arrangements of states and kingdoms, there are grounds to believe, that the alarm, misery, and destruction, which attaches to the appearance of contagious or epidemic diseases, would be much diminished; so much diminished, indeed, that the common business of life would scarcely be interrupted. Such change of measures may be wished, but they can scarcely be expected. Power is self-sufficient, and does not permit humble science to enter its threshold; but until it grant this indulgence, the affairs of human life will be fluctuating, tumultuous, and without permanent prosperity.

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REMARKS,

&c. &c.

CHAPTER I.

A SKETCH OF THE MEDICAL TOPOGRAPHY OF BARCELONA AND ITS ENVIRONS.

THE province of Catalonia, which forms the north-east extremity of Spain, extends forty leagues from east to west, and forty-four from north-east to south-west. It is bounded by the Mediterranean Sea on the east, by Arragon on the west, by the Pyrenean Mountains on the north, and by the kingdom of Valentia on the south. Barcelona, Tarragona, Urgel, Lerida, Gerona, Solsona, Veich, Tortosa, Figueras, Olot, Igualada, Reus, Mataro, Villa Franca, Manresa, and Talamos, are the principal among its towns. The mountains are derived from the Pyrenean chain, which, running from the Mediterranean on the east, to Arragon on the west, sends forth nume-

rous branches, which intersect the country in various directions. The Catalonian mountains are high and rugged, generally in ridge, seldom in cone form ; they are connected, but not continuous, and sometimes they are clustered into irregular masses : the sides are rugged and precipitous, diversified by ridges and rocky precipices, intersected by deep ravines of various dimensions, through which torrents descend with impetuosity in the season of rain. Some of these mountains are beautifully picturesque, cultivated to the summit ; many are thinly dotted with trees of various kinds, verdant throughout the year, but of great diversity of colour ; others, destitute of wood and verdure, wholly consist of limestone and other rock. The elevated country, not mountain, is naturally of a light and barren soil, gravel, clay, and sand blended together in various proportions. But, though naturally barren, it is rendered productive of the different articles necessary for the support of man by the industry of the inhabitant.

The plains are numerous, small, and fertile, the scenery charming. Some of the ravines present the appearance of amphitheatres variously diversified, picturesque in themselves, and cultivated with taste in many parts.

The province is watered by several rivers ; the

Ebro, which is navigable, is the largest and most important.

The country contiguous to Rosas (a town situated at the eastern extremity of the province near the sea) is extremely unhealthful. The soil is alluvial and swampy. The inhabitants are severely harassed by fevers of the intermitting type, untractable in ordinary circumstances, malignant at particular times and seasons. The form, which is generally tertian at the commencement, sometimes changes to remittent, sometimes to continued, and death takes place, for the most part, soon after the change alluded to appears. Those, who dwell in the vicinity of Rosas, suffer from intermittent fever in much greater proportion than others in any part of the province: those who dwell in the vicinity of Barcelona, particularly between Mataro and Molius del Rey, also suffer, but less than at Rosas, although the reputed causes of disease appear to the eye to be nearly in equal force at both places. The country in the neighbourhood of Molius del Rey is wooded, the other comparatively bare: to this cause, perhaps, the comparative mildness of the disease may be ascribed. There is no ostensible swamp to the eastward of Barcelona, not even on its northern side. Water is found at all points along the southern margin of the plain, at the distance

of three feet under the surface. The river Besos, as it descends from the mountains to the plain eastward of Barcelona, is diverted from its natural course, and turned into artificial channels for the irrigation of the lands, which give great returns to the cultivator as thus prepared.

The country to the westward of Barcelona is watered by the Llobregat river, which, after descending from the mountain to the plain, gives off some branches to the left. The branches vary in size: some are small, others considerable: the most important is that, which, running in a south-east direction, waters the plain on the western side of Monjui, and which finds its way into the sea near the base of the hill. The principal part of the land contiguous to the river is swampy during the autumnal months, or season of rain; after that period it becomes partially dry, so as to admit of culture. The district adjacent to the mouth of the river, to the extent of one mile in circumference, is actual swamp at all times. The noxious exhalations from this source not only produce disease among the peasantry, but the air of Monjui, a hill which overlooks Barcelona, is so deleterious in its qualities, as to render it necessary, on some occasions, to relieve the stationary guard every eight or ten days. The injurious

impression of the exhalation arising from this swamp, manifests itself more conspicuously upon the summit than in the subjacent parts. Few escape disease who reside on the hill for any length of time; those who dwell on its skirts, or on the plain below, suffer little sickness comparatively, and experience little comparative mortality from their sickness; a fact proving, with a multitude of others, the superior force of the noxious influence of vapours, ascending from low, swampy grounds to rocky and mountainous heights in their neighbourhood.

The hill in question rises up on the plain, on the western face of the city, and runs into the sea in the form of a promontory. The height is about 700 feet. The summit, which is level and irregularly circular, affords space for a military work of considerable dimension, barracks for troops, &c. The position is strong in itself, and might be rendered impregnable by art. The southern side is nearly perpendicular, round and rocky; the western, abrupt and precipitous; the eastern, steep but practicable throughout, the surface irregular, in some parts protuberant, in others flat and rocky; the northern side, which slopes outwards by gradual descent, is irregularly diversified by ridges, shoulders, craggy protuberances, and comparatively level

places. The soil is a stiff and adhesive clay, not good vegetative soil; it notwithstanding supports several roots and plants, which are employed for the use of man. This hill is of the utmost importance to Barcelona. It not only affords protection to the harbour and shipping, but it commands the approach from the west. The town and citadel itself lie under its guns; and, besides this military importance, it is apparently useful in shielding the town and its environs from the unwholesome exhalations which arise from the swamp on the western side.

Barcelona, the capital of Catalonia, placed on a circumscribed bed of sand nearly level with the sea, covers a space of about two miles and a half in circumference. The fortifications are strong, almost impregnable towards the sea, the harbour not being sufficiently deep for the approach of large ships. It is protected on the land side by bastions, out-works, the citadel, and Monjui.

The houses are generally from three to five stories high. Some of the apartments are large, spacious, and well ventilated; others small, dark, and ill ventilated. The windows of the sitting rooms descend, for the most part, to the level of the floor, consequently the air circulates freely; the sleeping-rooms are too often small,

dark, dirty, and without means of direct ventilation. The staircases are narrow, and dark in general, for day-light has admission only through the windows of the upper story. The houses have, for the most part, areas in the centre, of various dimensions; but, in general, too small for the purposes of light and ventilation. Each floor has its respective family, with the exception of the under one, which, as it abounds with exhalable moisture, is rarely inhabited. The streets are extremely narrow, being seldom broader than two, three, or four yards, crooked, and intersected by a number of lanes and alleys. The sides of the streets are well paved: there are shallow drains in the centre for the conveyance of filth and water from the houses. They are covered with massive pieces of rock, three feet long and about eight inches broad, so arranged as to leave interstices for the passage of water from the houses, during the prevalence of the autumnal and winter rains. The unwholesome vapours, produced by the filth which stagnates in the sewer, exhale through the interstices, so as to offend the sense of smell at all seasons of the year. They excite the disgust of the inhabitants who are accustomed to them; they not unfrequently turn the stomach of strangers.

Upon the whole, when the narrowness of the

streets, the excessive filth in the dwelling-houses, the extraordinary construction of the sewers in the centre of the streets, and the dampness of the under stories are fully considered, there can be no surprise that the endemic disease should be of an aggravated kind, and, under the influence of a contingent epidemic, that it should be malignant.

The plain upon which Barcelona stands, as I before stated, is of considerable dimension, nearly level at all parts, and but little elevated above high water mark at any. The soil of it is commonly loose, light, and sandy; and, as the principal part of the land is cultivated, the surface being open, moisture arises from the interior in vapour, as acted on by the heat of a powerful sun. The febrile disease, produced on this locality, is modified variously according to circumstances. Ague is the most common; remittent is not rare; continued, or gastric, is frequent at certain seasons; and a form of malady, called typhus by some, and at present known by the name of yellow fever, has appeared at intervals from the commencement of the present century. It prevailed to some extent in the years 1803 and 1819. The mortality was considerable, but the disease was not then considered as arising from pestilential contagion.

The beautiful and extensive plain, now under consideration, is bounded on the south by the Mediterranean Sea; on the west, north, and north-east, by a lofty range of mountains, at the base of which stand the beautiful villages of Sans, Sarria, San Gervasio, Gracia, Clot, and San Martin.

Barcelona stands on the south-west side of the plain. Its walls are washed on the south-east by the waters of a spacious harbour, which is rendered secure on the western side by Monjui; on the opposite side, a mole of considerable magnitude, length, and beauty shields it from the east and south-east winds; the town and citadel protect it on the north.

On the eastern side of the harbour, not far from its north-east extremity, at the distance of two hundred and fifty yards from Barcelona, stands the small town of Barceloneta, the western side of which runs parallel with the harbour. The appearance of this little town is imposing. It is of a triangular form, and, on a superficial view, appears to be judiciously planned and well constructed. The buildings are uniform. The streets are straight, and intersect each other at right angles. Some lead to the country, others to the harbour or the open sea: they are about five yards broad, and the general appearance is at present beyond what is usually seen in Spain.

The houses are of two stories. The space allotted for two houses does not exceed, on many occasions, ten yards ; hence they touch on the back part, and have no ventilation except by the front, for they have no central court or area. The capacity is small, the rooms narrow, the ventilation imperfect, the interior miserable, not so much on account of the form of construction as on account of the filth of the indwellers. Glass windows are rarely seen ; wooden shutters are substituted ; and, as they are usually closed, the ventilation may be considered bad at all seasons of the year. The houses are low and covered with tiles, which, when acted upon by a powerful sun, render the inside a species of oven, not inhabitable by persons who are unaccustomed to such sickening heat. The site of Barceloneta is low and sandy, consequently alluvial, abounding at all seasons of the year with exhalable moisture. The streets are generally unpaved, and excessively miry in wet weather. The rain, which falls during the autumnal and winter months, readily disappears from the surface ; but, as it may be supposed to remain within the action of a powerful sun, it is in all probability exhaled in vapour, so as to contribute to harass the inhabitants with fevers of various types. One of the principal sewers of Barcelona skirts the town of Barceloneta, in its course

towards the sea. The stream is deep and rapid during the summer months; in hot and dry weather it is languid and slow, the water inky black, offensive to sight and smell. A row of houses stands upon the brink of this sewer, on the eastern side of the Plaza del Quartel. The barrack, which was converted into an hospital during the rage of the epidemic of 1821, stands on the western side of the Plaza, at the distance of forty yards. The number of deaths was proportionably greater in the range of houses constructed at the edge of the sewer, than in any other part of the town. It is reasonable to believe, that the noxious exhalations from this drain must have influenced the health of the people in the houses situated upon its margin; for health, in this part of the town, was otherwise comparatively good, as appears by the report of the hospital, which was shielded from the direct exhalations of the sewer by a range of houses which occupied its eastern bank. The servants of the hospital did not suffer; for, of fifteen persons who were constantly employed in the care of sick in the temporary hospital alluded to, only one contracted the malady. The same conclusion may be drawn from the circumstance of no more than six persons having died in the street adjacent to the hospital, on its western aspect. The fact is correct; and it

affords a striking example of the deleterious influence of water impregnated with putrid animal and vegetable substances.

At the extremity of the harbour, between Barcelona and Barceloneta, the principal sewers of the city deposit their disgusting contents; and, as several of them unite at this point, they form a stream, the water of which is black as ink. It runs in an open channel for the distance of one hundred and fifty yards, before it falls into the sea. The effluvia which arise from this canal are disagreeable in the extreme, at all seasons of the year; they were unusually so before and during the epidemic, the drought being unusually great and of long continuance. Some of the families in the vicinity were so annoyed by it, as to be induced to quit their houses, and repair to the country. Besides the loathsome condition of the part alluded to, and the disagreeable effects it occasioned, not only to the inhabitants of the houses in the immediate neighbourhood, but to persons who accidentally passed that way, the sea for years past has gradually retired from the walls, having previously deposited sand in considerable quantity. The deposition is partially a swamp at the present time, from which, during the prevalence of hot weather, very offensive vapours arise. Not far from this, and in the immediate vicinity of the

embouchure of the channel already mentioned, several condemned and half-rotten vessels were moored in the smallest possible space. Many of them were in a state of filthiness which nothing could surpass: the insides were filled with putrid water and heterogeneous materials; the outsides entirely neglected. The cables, which are generally made of a peculiar kind of grass or weed, become offensive when acted upon for a considerable length of time by moisture; in-somuch that sailors, it is said, not unfrequently nauseate or even vomit during the act of un-mooring. The stench of the mud which adheres to the anchor is equally, if not more unpleasant.

From the superficial sketch here given of the harbour, shipping, and surrounding locality, it will not appear surprising, that fevers of a complicated and dangerous nature arise occasionally there, and in the whole of the environs, without preternatural or foreign influence. This may be thought to have been the case in the summer of 1821. The first cases of aggravated disease are said to have appeared on shipboard; but the assertion is not proved by correct evidence. But, wherever it may have first appeared, it ravaged like a pestilence all the districts of this beautiful suburb, destroying life, beyond what has hitherto been heard of in Spain.

The climate of Catalonia is very changeable; perhaps more so than that of any other province in Spain. Transitions from heat to cold are so sudden, that wind, rain, heat, cold, even snow, alternately succeed each other within the course of the same day. The east winds predominate: they are extremely disagreeable to sensation; and, as they are always charged with moisture, they are supposed to render the inhabitants obnoxious to attacks of inflammatory diseases. The winds from the south and east are generally violent in the autumnal and winter months; in spring and summer they are hot, oppressive, and much dreaded by the natives, from a supposition, that, as they are loaded with moisture, they render the air unwholesome, and pre-dispose to sicknesses of different forms. The north winds seldom blow except in the winter; the cold is then excessive for the latitude. The westerly winds are by far the most agreeable. The heat of the summer is great. The thermometer generally ranges between 77° and 86° : the mercury has sometimes been known to rise as high as 90° .

The natives of Catalonia are ordinarily of a low stature, but they are well proportioned. The body is light, the countenance dark and austere, the general appearance striking. They are active, laborious, honest, and honourable;

reasonable in their demands, but fond of money to excess. They are good cultivators, not surpassed in assiduity by any people in Europe.

The women are rather of a low stature, and by no means handsome; but they are mild and amiable: and, although they are not possessed of the attractions and graces of the Andalusian ladies, they are better educated and more virtuous. The neatness of the foot here, as well as in Andalusia, is an object of the utmost importance with the women. Silk stockings and satin shoes are worn by all classes. The ladies appear little in public, except on Sundays or saint-days; they are then dressed in Spanish costume: at night they assume the fashions of the French.

The inhabitants of this part of Spain have an extraordinary predilection for plays and operas. Masquerades are common during the carnival; but, as the rooms are open to people of every class, and as there is seldom an attempt at character, the principal object being that of disguise, the exhibitions are stupid and tiresome. Notwithstanding the mixture of persons of all classes differently disguised, the utmost propriety is preserved in the ball-room, the most trifling breach of decorum is seldom or never witnessed.

The indecent, cruel, and barbarous exhibitions of bull-fighting have not as yet, I believe, made their way into Catalonia.

The table of the Catalonians is, comparatively, more abundant than in any other province in Spain: a considerable quantity of animal food is consumed by most; and wine, which is cheap, is used liberally, but not to excess.

CHAPTER II.

IMPORTATION OF THE YELLOW FEVER INTO BARCELONA, IN THE YEAR 1821.

THERE is no subject with which I am acquainted, that has caused so much unprofitable controversy amongst the medical men of Spain, as the origin of the Yellow Fever of that country. Some suppose that it is a disease of foreign origin, imported through the medium of ships, clothes, &c. ; others imagine that it is the endemic of the country, disfigured in its form through contingent or atmospheric causes. One party, *viz.* the advocates for importation, contend that the disease was brought, for the first time, into Spain from America in the year 1800, in the brig *Dolphin** ; and that it has prevailed

* The history of the importation of the yellow fever into Cadiz, in the year 1800, presents a remarkable proof of the delusion which exists in Spain, and of the facility with which the credulous inhabitants of that country are imposed upon.

The importation of the disease in this instance was attributed to the brig *Dolphin*, which sailed from the Havannah, on the 26th or 27th of May, 1800, arrived at Charlestown, in South Carolina, on the 30th, and embarked three sailors at

more or less since that time in some of the towns on the Mediterranean coast, either as the effect of newly-imported contagion, or from the

that port, the inhabitants being then in perfect health. The brig left Charlestown on the 11th of June, and arrived at Cadiz on the 6th of July. Twelve sailors composed the crew. There were twenty-two passengers; a chaplain and physician, Dr. Caro, were on board. The Board of Health at Cadiz took the precaution of preventing intercourse between this vessel and the inhabitants of the city, in consequence of its appearing, by the master's log-book, that three sailors died on board from the yellow fever during the passage. Dr. Caro, a physician of respectability, who attended the sailors alluded to, contradicted the assertion of the captain: he attributed their deaths to other diseases, and to their unwillingness to follow his advice. The whole of the passengers bore testimony against the captain's statement; yet the opinion of the captain over-ruled that of the doctor and others; consequently, the actual importation of the disease was fixed on the Dolphin. The voyage, although short, was extremely disagreeable, from excessive rains and gales of wind. A small crew was exposed to considerable labour; and, as their clothes were generally wet, they indulged freely in the use of new rum, which, added to the injurious effects of salt provisions, must have contributed materially to aggravate the disease in those who became the subjects of it.

The following is the affidavit of Dr. Caro.

“Don Joseph Caro, doctor of medicine, principal physician to the military hospitals and fortifications of the Havannah, swears, that he came as passenger in the brig Dolphin, and that during the voyage he attended three sick sailors; one laboured under pneumonia, for which he pre-

latent germ of the disease being called into activity by a peculiar disposition of the atmosphere—such disposition as gives the power, not only of propagating from person to person, but of diffusing the product through persons who hold communication with the infected. The other, *viz.* the advocates of non-importation, state, on the other hand, that the disease frequently appeared in Spain prior to the year 1800; that there is not a well-authenticated instance on record of its being imported; that it appears in multitudes of instances, epidemically and sporadically, in places where communication with shipping or infected persons cannot be traced; that it is modified and regulated by the state of the weather which belongs to the latter end of August or beginning of September, a period when the country is parched from excessive drought, and when the putrid animal

scribed the usual remedies, *viz.* blood-letting, &c. But, when the pneumonic affection was alleviated, the patient, regardless of advice, went on deck and drank plentifully of rum, which caused a relapse, from which he died. The second was attacked with remittent fever, and refused to take the remedies recommended. He eat and drank whatever he thought fit, without the slightest deference to medical opinion: and he fell a victim to the disease. The third died of venereal ulcers.”

The vessel got pratique on the 15th of July, twenty days from the date of the last death.

and vegetable substances, with which the Spanish towns abound, are acted upon by a powerful sun; and that it generally subsides in the latter end of December, when the atmospheric influences and putrid exhalations undergo a complete and permanent change, through the effects of cold and rain. Such is the sum of the difference of opinion. Each side has its partisans; and the contest is supported with the utmost zeal, or rather with acrimony. The advocates of importation, who, I am disposed to think, frequently act from interested motives, or from an unwillingness, or rather dread of offending the authorities, are supported by the public voice, through fear or prepossession, against which the arguments of fact and reason do not prevail. The mere assertion of the advocate of contagion is generally credited. A few, perhaps, doubt; but those who doubt, dare not dispute the correctness of what is asserted, without incurring something like political offence. The delusion, as an article of faith, is grateful to the people; it is maintained by the government for purposes; and those who have the pertinacity to oppose, or offer facts in refutation of opinions, if not legally punished, are viewed in the light of fools, and laughed at by the mass of the nation*.

* In the year 1801, Mr. Armesto, a meritorious officer of the Spanish navy, and a man of acknowledged ability, pub-

Without attempting to decide on the comparative justness of the respective opinions of the contending parties, and unwilling to examine into the medical and political discussions which agitate all ranks in Spain, relative to this subject, I shall attempt briefly to arrange a few unbiassed observations, such as appear to me most instructive and remarkable, among those which came within my own notice, in my visit to the different towns on the south and east coasts of Spain, which suffered from the yellow fever in the autumn of 1821.

In order that I might be better enabled to form an impartial judgment on the important question of importation, I examined, with the utmost care, recent events and occurrences in the different towns and cities which lately suffered from the yellow fever; and also in those that have never been affected by it, with the view of elucidating the point under consideration; and particularly of ascertaining if there existed any causes, as connected with locality and form of construction of dwelling, calculated

lished a small pamphlet at Cadiz, on the yellow fever, which had lately ravaged that city. In that pamphlet he explained, according to his judgment, the cause of the disease, and its local origin. His work appeared under the usual privileges, but it was suppressed, and the author imprisoned until he made a formal recantation.

to render one obnoxious to attacks of epidemical diseases, and to preserve another, as differently circumstanced, in a state of comparative security. The information which I have obtained shall be submitted to the consideration of the public in few words; in order that those persons, who adhere to the doctrine of the exclusive importation of the yellow fever, may have the opportunity of seeing how far the conclusions which they have formed on the subject correspond with the fact, as observed in experience on the occurrences of the year 1821.

ORIGIN OF THE EPIDEMIC IN BARCELONA,
IN THE YEAR 1821.

Previously to giving a brief sketch of the supposed origin of the yellow fever, which raged in Barcelona in the autumn of 1821, it may not be unimportant to prefix some observations relative to the state of the weather, and prevailing forms of disease, for the half year preceding the rise of that destructive malady.

During the month of January, the temperature of the atmosphere was mild; and, with the exception of a few days, it might be said to be unnaturally so. Diseases of the febrile class were numerous, but mild in character. Exanthema-

tous affections of an unusual kind prevailed to great extent. Pneumonic affections were common and violent.

About the middle of February the weather became cold, and the acute diseases increased in violence, the catarrhal and pneumonic affections particularly. Measles, erysipelas, and other exanthematous affections were numerous, and of a more violent nature than in the preceding month. Miscarriages were common; so much so as to excite the astonishment of the physicians, who imagined that they were produced by the northerly winds, and the extraordinary changeable state of the weather.

In the beginning of March the weather became warm and moist, and the inflammatory action which accompanied the prevailing maladies having subsided, the symptoms assumed a more gentle procedure. Rheumatic affections were common; and anomalous cutaneous diseases, of a kind which had not before been seen, made their appearance. Measles, catarrh, and pneumonia prevailed to some extent: they were in fact so violent, in many instances, as to baffle the skill of the physicians. The severity of these maladies was attributed to the vicissitudes of temperature, &c. The weather, about the end of March, changed suddenly, and the cold which supervened was intense. The inflamma-

tory action of the prevailing diseases was increased, and chronic rheumatisms were converted into acute. This month was remarkable for an extraordinary number of sudden deaths; which, without any ostensible cause, occurred to persons of all classes. The changeable state of the weather, and sudden transitions from heat to cold, were, as now said, assigned as causes.

In April, the weather was very changeable; it was now wet, now dry, and the transitions from heat to cold were frequent, and great in degree. Rheumatic complaints were severe, and resisted the usual means of cure. Measles, erysipelas, and other cutaneous affections were common. Catarrhs were numerous and obstinate. About the middle of the month intermitting fevers appeared in great numbers. Their origin was attributed to the intemperate and changeable state of the weather.

The weather, during the month of May, was changeable. The prevailing diseases assumed a serious and inflammatory aspect. The catarrhal affections were obstinate, and sometimes accompanied with hæmorrhages from the lungs. Cyanche tonsillaris was common, and difficult of cure. Intermitents were numerous; and some of them, which resisted the use of the Peruvian bark, were cured by spontaneous hæmorrhages from the nose. Intermittent fever frequently

attacked persons labouring under other diseases ; the latter were removed on the occurrence of the former, and vice versa. About the termination of the foregoing month, and beginning of this, sudden deaths were numerous : they were attributed to the state of the weather. Comatose affections seized upon persons of all ages ; and, when life was not suddenly destroyed, paralytic affections were invariably the consequence. Four scavengers, who were employed in different parts of the town in cleaning necessaries, were suddenly killed, presumptively by the effects of mephitical air.

The heat was considerable in the month of June. Colics, diarrhœas, and dysenteries prevailed, and affected all classes, but particularly the young. Infants, who were under dentition, and who happened to be deprived of the mother's milk, were generally afflicted with an inflammatory affection of the mucous membrane of the intestinal canal, which, commencing at the gums, descended to the anus, and generally terminated in diarrhœa and death. The bilious remittent, or gastric fever, was common during this month, and ultimately predominated in so high a degree, as in a manner to supersede all other diseases.

During the month of July, the weather was very changeable. The mornings were cold, the evenings hot, oppressive, cloudy, and damp.

About the middle of July, several cases of jaundice appeared among the people. The caterpillars, which in other years strip the large trees which ornament the square of the general hospital and public walk, were suddenly killed, as if by lightning. In this month the ordinary diseases of the season were rarely observed; *viz.* cholera and inflammatory fever. The bilious remittent, with hæmorrhagic affection, was common and obstinate. It is worthy of remark, that, during this month, the flies and musquitoes were infinitely multiplied.

The sketch which I have now given, relative to the medical history of the months preceding the epidemic of Barcelona, may not be thought to be unimportant, as exhibiting phenomena, which would appear to have been the forerunners, and in part, at least, the pre-disposing causes of the lamentable calamity with which the inhabitants of Barcelona were afterwards afflicted. The extraordinary changeable state of the weather, the prevalence of diseases uncommon at other seasons, the severity of catarrhal, rheumatic, pneumonic, and other febrile affections, the numerous miscarriages, the sudden deaths of persons apparently in health, the suffocation of individuals who were exposed to mephitical vapours in the necessaries of the city, the sudden and inexplicable creation of

some classes of animals, and the unaccountable destruction of others, were circumstances which foreboded an impending evil, which neither the ingenuity of man, nor any power which he has within his reach, could avert.

The occurrences which preceded the appearance of the epidemic of Barcelona, in 1821, correspond with the old and recent observations on a similar subject in other countries; it almost invariably happening, that the yellow fever of Spain is preceded by unusual diseases of various form and force; more particularly by bilious remittents, which are not unfrequently so aggravated and malignant, that physicians themselves do not venture to define the line of demarcation between them and the avowed epidemic.

This want of decision, or confession of inability to judge conclusively of the true character of the disease, occasioned considerable controversy in Barcelona. The medical faculty could not correctly ascertain the precise period at which the endemic bilious remittent ceased, and the real epidemic fever began. The difficulty was embarrassing; for, although the question has been the subject of much unpleasant controversy, it is not yet decided to the satisfaction of the public where the difference lies*. This un-

* In a manifesto against contagion, published at Barcelona in the beginning of the year 1822, addressed to the

certainty among physicians, as to the nature of the disease at its first appearance, is no inconsiderable proof of the analogy which subsists between the endemic bilious remittent and the epidemic yellow fever. A fever, bearing some of the diagnostic marks of this last disease, occurs annually in this city. The first cases which appeared in 1821 passed unnoticed, or were considered only as the ordinary diseases of the season, and treated as such. A few weeks subsequent to the appearance of these aggravated cases, and when it was discovered that a formidable form of malady prevailed in the place, some of the physicians, and the majority of the people, unwilling to acknowledge that a malady of such malignity had its origin among themselves, conjured up a tale of importation, ascribing to intercourse with the infected subjects of shipping, &c. the sickness and deaths which took place in the month of July.

The first deaths, according to report, occurred
Cortes, and signed by fifteen physicians, it is stated, that in the months of February, March, April, May, and June, fevers appeared in the city and in Barceloneta, under very malignant forms. They were attended with black vomiting, yellowness, &c. &c. They further state, that such fevers annually appear in these months. Fevers of a very malignant nature, as stated by Dr. Salva, appeared in Cadiz prior to the epidemic of 1800.

on board a Neapolitan sloop of war, which anchored in the harbour of Barcelona, on the 23d of April (a cruiser in the Mediterranean), and on board the frigate Liberty, lately from America* ; at least these were the first noticed by the government ; and, according to the prevailing notions of contagion and importation, suspicion attached to the vessels which had lately arrived from the Havannah. Much has been said on the subject of importation in this instance ; but no one has attempted to prove the fact by distinct evidence. The probability only is admitted, and the importation has been fixed, by supposition only, on the following vessels.

1. The brig Talla Piedra, Captain Narcisco Paris, sailed from the Havannah on the 28th of April, 1821, with a cargo of sugar, coffee, logwood, and tobacco, touched at Carthagena on

* A history of the disease has been published at Barcelona, by the Board of Health, dated 31st Dec. 1821, in which it is stated, that the first cases appeared on board a Neapolitan sloop of war. The brig Liberty, lately from the Havannah, the Grand Turk, lately from the same place, a vessel from Cadiz, two vessels from Mahon, and several vessels in the port, were subsequently but almost simultaneously affected. It is stated in this work, from the testimony of Dr. Pellicer, that the malady was more malignant in the vessels belonging to the port, than in those which had arrived from America.

the 12th of June, landed two passengers, and took another on board. She finally arrived at Barcelona on the 19th of June, where she got pratique, after having performed eight days quarantine.

2. Brig Nuestra Senora del Carmen, Captain Don Pablo Soler, sailed from the Havannah on the 28th of April, 1821, with a cargo of sugar, wax, coffee, logwood, and tobacco. This vessel arrived at Carthagená on the 16th of June, obtained pratique : disembarked her second pilot. She arrived at Alicant on the 29th, where she unloaded part of her cargo, embarked a passenger, and, finally, cast anchor in Barcelona harbour on the 11th of July.

3. Brig Grand Turk, Captain John Segreras, sailed from the Havannah on the 28th of April, 1821, with a cargo of sugar, pepper, coffee, cotton, and bullion. She arrived at Cadiz on the 5th of June, where she obtained pratique. Disembarked twenty-four passengers, embarked four others and three sailors, and, finally, arrived at Barcelona on the 29th of June.

4. The Spanish frigate Liberty, Captain James Sinderas, sailed from the Havannah on the 28th of April, 1821, with a cargo of coffee, cocoa, tallow, rum, and bullion. She arrived at Malaga on the 8th of June, obtained pratique, and disembarked part of her cargo; touched

at Carthagena, where she also disembarked a part of her cargo, a passenger, and a sailor, and, finally, arrived at Barcelona on the 28th.

The above-named vessels are those to which suspicion has been attached, as being the vessels in which the yellow fever was imported. They sailed from the Havannah in a fleet consisting of 52 sail, for the following ports; *viz.* 13 for Cadiz, 20 for Barcelona, 6 for Corunna, 3 for Santander, 4 for Malaga, 1 for Vigo, 1 for Ferrol, 1 for Bilboa, 1 for Palma, 1 for Lisbon, 1 for Bahia.

According to the creditable testimony of Mr. Bruno Vidal, an officer of the Spanish army, who returned to his native country in a vessel belonging to the fleet in question, the inhabitants of the Havannah enjoyed good health prior to his departure; there being only a few slight cases of the usual fever of the season in the town, and those confined to newly-arrived Europeans, particularly sailors. It appears also, from an official document which I have now before me, that only three deaths occurred in that part of the fleet destined for Barcelona, during the voyage; and that no suspicion has been attached to the vessels in which the deaths took place.

The history of the disease among the shipping in Barcelona harbour is involved in obscurity,

or, rather, total darkness. There is no clear evidence, nor authenticated fact, to prove the reports in favour of importation; but, notwithstanding this deficiency, the whole of the authorities, a few of the physicians, and the mass of the people, maintain with obstinacy, that the disease originated on board the ships from America, and diffused itself in the town, in consequence of newly-imported contagion. It is stated, as I before remarked, that the disease, according to report, made its first appearance on board a filthy Neapolitan vessel, lately arrived from some port in the Mediterranean*. This is report, but it is not of reliance; for the

* The Botanical Professor, Dr. Bahi, of Barcelona, in a pamphlet published in the year 1821, entitled "Relacion Medico Politica," page 7, says, "It is said, that the crew of a Neapolitan sloop, lately from Naples, was affected by a typhus, which some suspected was the petechial (el petechialis) which raged in Italy for some years past, and which also appeared in Barcelona in the year 1821."

In page 10, Dr. Bahi observes, "The aspect alone of the three patients in the General Hospital convinced me, that the disease was of foreign extraction, and not the product of the country. It was, in fact, the exotic typhus icterodes or yellow fever, arising, without doubt, in the ships from the Havannah; or, probably from some of those which arrived there a little before from Ethiopia, with cargoes of Negroes for that island; and it arose in neglect of expurgating the ships before the voyage to Europe, notwithstanding the mortality among the Africans during the passage to the Havannah."

fact is well authenticated by the British vice-consul (who resided in the Plaza de la Constitucion, which commands a view of Barceloneta), and supported by the most eminent physicians of the city, that several deaths took place in Barceloneta and Barcelona, at points distant from the supposed source, as soon, if not prior, to the deaths on board ship. The disease was not at that time regarded as yellow fever; but the attending physicians now declare, that it was analogous to what was afterwards known under that name. The physicians of Barcelona, it may be observed, had not the opportunity of treating the yellow fever before this season; and on that account much controversy arose respecting its character, and the name by which it ought to be designated. It was only on the 14th of August that it was decided to be the yellow fever of America, but not contagious*. In consequence of this decision of the Board of

* The superior Board of Health of Barcelona, published, on the 14th of August, 1821, that the disease was exotic, having been imported from the Havannah. On the 22d of August the same board published, that the disease which originated in the port had not manifested contagious properties. In a manifesto by the superior Board of Health, and Municipal Board, dated the 25th of August, it was stated, that the most energetic measures would be adopted for guarding against the propagation of the malady proceeding from the port.

Health, the port was lined with troops, all communication with the shipping was cut off, the sick were removed to lazarettos, and the usual precautions against presumed contagion were regularly adopted.

The authorities, perceiving the slow and gradual progress of the malady, and willing to make the public believe that it was wholly confined to the port, declared in the public papers, that they had it within their control, and consequently that it should be brought to obedience. The promise was bold, but not wise. Force of arms was of no avail; the disease started up in different parts of both towns, without a possibility of ascertaining from whence it came. The futility of guards became obvious; the troops were removed from the port, and the gates of the city were closed against the inhabitants of Barceloneta. After that was done, the malady spread with extraordinary rapidity in Barceloneta, and in that part of Barcelona which skirts the port: scarcely an individual escaped who was long exposed to the atmosphere of these localities; for there the morbid cause would seem to have been concentrated in a singular degree*. From Barceloneta

* In Barceloneta, the streets which skirt the port, *viz.* De los Encantes, Merced, Moncada, &c., being in the vicinity of what may be called the focus of the malady, suffered considerably. In Saint Ana, Tallers, San Pedro, which are

the disease marched in a westerly course through the centre of Barcelona, diminishing in activity as it proceeded outwards. It was finally lost before it reached the north-west extremity of the city; and, beyond a given limit, the epidemic character ceased, or only appeared by accident.

The circumstances, which lead to the rejection of the doctrine of importation, are strong and numerous, in so far as respects the epidemic of Barcelona, as well as in every other. I shall state them in as concise a manner as possible.

1st. Before the importation of yellow fever from Havannah to Spain can be admitted as probable, it must be proved, that there existed at that place a contagious fever of similar character to the disease in Spain, at the time of the departure of the fleet. Without this, the supposition of importation is mere gratuitous assumption; contrary to reason, and repugnant to commonsense. Yellow, or concentrated endemic fever, I believe, never prevailed at the Havannah in the month of April; the disease, commonly taken for it, being the bilious remittent, which attacks Europeans, newly arrived, at all seasons of the year; but which rarely, if ever, attacks persons at that season of the year, whose constitutions are situated at a distance from the focus, and exposed to the northern breeze, little sickness was observed.

assimilated to the climate. The form under which this disease appears, on such occasions, is generally remittent; sometimes so obscure, indeed, in its periodical movements, as to resemble the concentrated endemic of the autumnal months; but, however dangerous and complicated in its mode of proceeding, it never yet, I believe, has been considered to be contagious; at least it has not been thought so by experienced men. If this be the case, and the fact is founded upon the authenticated evidence of learned physicians of all nations, it is clear, that the material which produced yellow fever at Barcelona could not be imported. It is generally acknowledged, that the yellow fever of South America or the West Indies is not contagious at any season of the year, or under any circumstances of management; in confirmation of which opinion, it may be necessary to adduce a fact, which proves to a demonstration that the disease is not exportable. There never has been an instance of its propagating in well ventilated hilly situations in the interior, even at the small distance of three miles from Vera Cruz*. The noxious cause is circumscribed to a certain locality. Thousands of instances are on record of persons who contracted the disease in town dying in the

* I particularize Vera Cruz, because the fact may so readily be verified by the Spaniards.

country, without a solitary example of its affecting the most assiduous of the attendants. If the disease then be not contagious at its origin, how can it be imported, and so changed in its nature, as to assume a different character in a foreign country?

2d. It moreover appears extraordinary, how it could have happened, that the crews of vessels carrying this noisome pestilence, survived, and even preserved good health during a long voyage; or how they could, after having touched at different ports, discharge part of their cargoes in places that had formerly suffered from the yellow fever, without a single instance of injury being produced by the intercourse. If the cause of disease were actually on board, this is inexplicable. Cadiz, Malaga, Almeria, Alicant, and Carthagená, &c. &c. &c. were more exposed to injury from the intercourse, which took place between the crews of the vessels alluded to and the inhabitants of the above-mentioned places, than Barcelona, a port situated at the eastern extremity of Spain—yet they escaped.

3d. Had the disease been an imported contagious disease, it would have propagated in any atmosphere, in any town, and under any condition of climate. Its ravages would not be confined to one spot, as was the case in the present epidemic; for even parts of the infected city

were exempt from sickness, where no precaution was taken to guard against its inroad: and numerous villages, towns, and country houses, where individuals, who exposed themselves to the epidemic cause at its source, sickened and died, without detriment to the mass of their neighbours, or to their own immediate attendants. This could not have been the case, had the disease been imported as a contagion. It would have retained its original character; the power of propagation, though modified by locality, season, or temperature, would not have been annulled.

4th. Had it even been proved, that a disease prevailed at the Havannah of a contagious nature, at the time these vessels sailed for Europe, and that a portion of the contagion had been embarked on board, it is still evident, even according to the doctrine of the advocates of contagion, that the period between the departure from the Havannah, and the arrival in old Spain is tantamount to a quarantine of the most extended duration, with the additional advantage of constant strong ventilation from the high winds which usually occur at sea.

5th. As it is an undeniable fact, not disputed by the most prejudiced contagionist in Spain, that cold invariably destroys the epidemic yellow fever of that country; and as ships, in their return

from the Havannah to the continent of Europe, are exposed to more intense cold than is experienced at the sea coasts of Spain, at any season of the year, it appears unaccountable why a similar effect is not produced by a similar cause; or why excessive cold does not act on the germ of a disease on ship board, which it absolutely extinguishes on shore even in a few days.

Lastly. The departure from the Havannah of the ships in question, with clean bills of health; the trifling sickness and mortality which took place on the voyage; the touching at other ports before they arrived at Barcelona, without any suspicion of communicating contagion to those ports; and moreover, their speedy admission to pratique at Barcelona itself, are circumstances which still farther divest the Havannah ships of every reasonable suspicion of having been the importers of this dreaded malady.

From the brief topographical sketch which I have given of Barcelona, Barceloneta, and the port, it would appear, that these localities are productive of bilious remittent fevers in the autumnal season of the year, of more or less severity, according to a variety of causes; and that these fevers are liable to change or modification, according to the relative proportions in which these causes are combined: hence arise fevers of variety of types. It is thus probable,

that the malady, which ravaged the city of Barcelona in the autumn of 1821, was the disease of season and situation, changed and modified by an unknown morbid condition of the atmosphere, not as has been insisted upon by the advocates of importation, produced in a foreign soil, and transported in ships or other medium to a healthy country.

Having made a few observations relative to the appearance of the disease in Barcelona, I think it important, as connected with the subject under consideration, to lay before the reader, the official opinions of the French and Carthagena Commissioners, who were deputed by their respective governments to contribute their aid to the cure of the yellow fever.

The following is the translation of an official letter, addressed to the political chief of the province of Catalonia, by Messrs. Pariset, Bally, and Francois, members of the French commission of physicians, dated 25th of November, 1821.

“ TO THE POLITICAL CHIEF, &c. &c.

“ We beg your Excellency will pardon our tardiness in replying to your honourable request: the sickness of one of us, and the grievous loss which we have sustained in him, the variations of health, the serious indispositions we have suffered, of which one of us still remains danger-

ous, the continued labour, and, finally, the difficulty of conveniently meeting with Drs. Lopez and Merli, have been the motives which merit your Excellency's indulgence. Let us now enter into matter, concerning the points which your Excellency has had the kindness to submit to our consideration.

“ The first point ought to be, to determine or class the disorder which we have been studying. The symptoms, which we have found in the greater part of these disorders, and particularly in that of our companion, whom we have just lost, have convinced us, that the malady, which has afflicted, and still so cruelly afflicts the city of Barcelona, is the true yellow fever of America; the same that we have witnessed in the Antilles and in Cadiz.

“ The two points which follow relate to very delicate questions; the first is, to know if the fever, with which we are occupied, is foreign or exotic of Spain, if it has been imported or produced by local causes; or, finally, if imported, whether it has been fomented by particular conditions of climate, &c. With respect to the first question, an apparent concurrence of causes has raised difficulties, which from the beginning divided opinions; but, amidst these difficulties, there are many circumstances which appear to us preponderant and convincing. The principal

circumstance, which is found in all questions of this nature, is, that the first appearance of the yellow fever in Barcelona has coincided with the arrival of vessels from places where this disorder habitually prevails ; and it appears also, that the first persons that fell ill belonged to two or three of these vessels. Some local circumstances, relative to the state of the atmosphere, have been able to favour the invasion of the sickness, but have not been able to create it ; and if there remains any doubt on this subject, the lamentable accident which happened to Tortosa will suffice to dissipate it : for these reasons we judge (although not from positive evidence, but still from a strong probability), that the yellow fever has been imported from America to Barcelona, as was the case in the greater number of the former epidemics.

“ The second question, which is ultimately connected with the former one, is, whether the yellow fever, imported into Barcelona, has the deplorable property of propagating itself by contagion.

“ This question is very important ; it refers to interests of such an elevated nature, that we have not wished to determine in the affirmative, but after a most serious search and inquiry. The facts which establish the property on which we treat are so numerous, so various, and at the

same time of an identity so perfect, and these proofs, and the counter-proofs of the propagation of the disorder by approximation, and of its non-propagation where precautions are taken, are so decisive, and speak so loud, that the understanding remains subjugated, and all objections vanish. If we had no other instance than that of our unfortunate friend, it would alone be sufficient. Yes, Sir, in our conception, the yellow fever of Barcelona is contagious; and the conviction is confirmed by what has happened at Tortosa, where it has been propagated by communication, as at Barcelona; by the same means it has passed to Mahon and Marseilles, where cutting off the communication arrested its progress and extinguished its activity. The same convictions are found this day in this city; for, in the end, nothing resists the authority of facts. This triumph of upright judgment overcomes the cavils and sophisms of the interested and of the sages. No, we are not afraid to add, that the yellow fever of Barcelona is contagious to a greater degree than we have hitherto seen in any other epidemic disease of a similar nature, which always happens when a contagious disease attacks a city for the first time. At the same time that we come forward with so much ingenuousness, we have not the temerity to think ourselves infallible; and, if new lights can be thrown

upon the subject, which would put us under the necessity of reforming or changing our opinions, we shall with pleasure make this sacrifice to truth.

“ After having thus declared our opinions as to the nature of the disease, its most probable origin, and the contagious quality it has manifested, there still remains a fourth point, respecting the treatment which it requires ; but we must candidly confess to your Excellency, that this last point is the summit of difficulty. The yellow fever is a Proteus, which assumes so many distinct forms, whether in the slowness or rapidity of its course, or in the combination, succession, or degrees of its phenomena, that it is impossible to subject its treatment to any fixed or invariable rule. Notwithstanding, in the midst of the varied scenes of which the medical gentlemen of Barcelona have been witnesses, the experience of these gentlemen, which has given us such useful lessons, has proved, that spontaneous and profuse perspirations, which occur at the commencement of the disease, are the best augurs, and quickly lead to a happy cure. The abundance of urine, and the facility of passing it, are no less favourable: in fine, to keep the bowels open is what we ought not to lose sight of. Upon these indications, prescribed by nature, we have arranged our actual practice.

Besides, let the plan of treatment be ever so excellent, a good health police is infinitely preferable; because in every country it is much better to have no sickness, than good physicians to treat it.

(Signed) "PARISET, BALLY, FRANCOIS,
Members of the Health Commission, &c."

A letter had been previously addressed by Dr. Pariset to one of the faculty, a friend of his at Madrid, and by him made public, which among other things states the following.

"The political chief has had the goodness to address us, requesting that Doctors Lopez and Merli might unite with us, in order to fix our ideas upon the nature of the prevailing sickness, and its treatment. For my part I am ready, and so are my companions, as soon as a place is appointed for the meeting.

"If you wish to know my frank opinion, the sickness was introduced into the harbour, from thence to Barceloneta, and from the latter to the city. The vessels, which sailed from the harbour with people from Barceloneta, carried it to Tortosa, from which city it passed to Mequinenza, and recently to Arco. Other vessels have transported it to Malaga, from whence it has been conducted to Marseilles, and you

may rely upon it, and with certainty, that the disease is exotic and contagious; for we have before our eyes facts, which unhappily prove the fatal propensity.

“ With respect to its nature, the disease is produced by a miasm, which in my opinion is a true poison, or venom, that attacks life at its source. Its action is not confined to the brain; it also attacks the interior vital parts, such as the lungs, heart, stomach, liver, and intestines, which irritate, inflame, mortify, and cease to perform their functions; also the kidneys. The blood is decomposed, dissolved, and extravasated. In a word, it is a poison, which at times produces convulsions, true erysipelas, and kills suddenly, the true symptoms of the yellow fever, malignant and insidious, generally predominating. Abandoned to itself, the sickness does not present any evident crisis even in cases of a spontaneous cure*, therefore it is impossible to prescribe a rational plan of treatment. To eject

* This is very doubtful. The disease when abandoned to itself, or left to nature, in Barcelona, as well as in Andalusia, terminates critically; viz. in hæmorrhages from the nose, mouth, anus, vagina, bladder, &c., or in abundant feculant discharges, with an admixture of blood, sweats, hypostatic urine, &c. When, on the contrary, active measures are applied, and the evacuating plan of remedy attended to, if the disease admits of cure, critical evacuations are uncommon.

and eradicate the malady, when it is practicable, and sustain the vital powers, is all that the disorder has permitted of until the present.

“ With respect to prophylactics, or preventatives, there are none, except those that can be adopted by the government, and they have been omitted on this occasion.

“ In fact, my beloved friend, *the malady is so inveterate, and fatal, that there is no facility for the dissection of bodies as one would desire, nor of remaining in the hospital the necessary time, in order to observe deliberately the disorder**, being under the necessity of adhering to the principal characteristic symptoms, which are the only ones that indelibly impress themselves upon the memory. For this reason, the solution of the problems, which you desire in your letter, cannot take place at present.

“ As far as regards myself, God has preserved

* Here the contagious monster stares the commissioner in the face; he trembles at the approach; he is deprived of the facility of dissection, and of the power of remaining in the hospital the necessary time to observe the nature of the disorder. What an acknowledgment! What may the value of such a man in an epidemic city be? The physician, who dreads to handle and carefully to examine the state of a patient at the bed side, is of no value; his apprehensions excite alarm, and increase the calamity of the patient's family.

me until now, but Mr. Mazet has just expired, having been in convulsions for sixty hours*.

(Signed) "PARISET.

"Mr. Bally also finds himself indisposed."

COPY OF A LETTER FROM THE MEDICAL COMMISSION OF CARTHAGENA TO THE PEOPLE OF BARCELONA.

"And now, as it appears, that we have not arrived in time to be useful to the people of Barcelona, so as to contribute our slender professional aid to the cure and expulsion of the yellow fever; and, after congratulating with the inhabitants on the sudden and wonderful disappearance of so fatal a scourge, we cannot abstain from making known our ideas concerning the interesting questions, which never cease to excite the attention of those who possess feelings of humanity.

"Without any other object, then, except the public safety, we take up the pen, confiding in the purity of our intentions and in the kindness of the illustrious physicians of Barcelona, that they will deign to hear us with indulgence, with-

* This is an unusual occurrence; a patient convulsed for sixty hours is what has seldom or never been seen in the disease called yellow fever: when convulsions set in, dissolution is rarely far distant.

out declining at the same time to admonish us of the errors into which we may happen to fall. Tolerance, in matters of controversy, ought to be the motto of the medical philosopher; the contrary is distinctive of the ridiculous quack, or of the man of science of little honesty. We shall write then with freedom, solicitous of deserving the notice of the wise, and nothing fearful of encountering the calumnies of presumptuous fools, whom we cordially despise.

“ If the sickness, from which a great part of this community has suffered, be the same as that which the patients (whom we have seen in the hospital Seminario and Virreina) now actually exhibit, we have no hesitation in asserting, that it is the yellow fever, such as we have treated in different parts of America and Europe, without other differences than what may be supposed to belong to a locality, which resists or modifies through particular circumstances; differences, however, which do not disarm it of the property by which it spreads contagiously in the summer and autumnal month; and which has been until now, and still is foreign to Spain.

“ According to the best information we have been able to attain on the subject, there are three points or peculiarities in the yellow fever of Barcelona, more conspicuously marked than in more southern climates; *viz.* 1, a mortality as

great, if not greater than the plague of the Levant; 2, a limited sphere of propagation; 3, a general and unusual determination to the urinary organs.

“It is necessary, in order to explain these phenomena, to keep in mind the nature of the soil, the latitude, and temperature of the city of Barcelona and its environs. A cultivated soil, a temperature hot and dry, as has been experienced this spring, and a latitude from $41^{\circ} 24'$ to $55'$, are not, in reality, calculated to attract, much less to generate the destructive germ alluded to. It is admitted that the land is not much elevated above the level of the sea; but it may be asked, where are to be found the other topographical circumstances, which can be supposed to favour the development of the contagion. Barcelona touches as it were a latitude on which this fever never has been observed to act; and the temperature of the place in the present time was not humid. For this reason, the force of the miasm which penetrates into its soil must be supposed to be great, and the destruction which it occasioned great in proportion to the resistance encountered. On the same ground of reasoning, its propagation ought not to be so rapid as elsewhere, in correspondence with the difficulties which it has to overcome. In the last place, if we consider the organic

constitution of the Catalans, we observe marks of vigour throughout the frame, with a predominance of power in the sanguiferous and muscular apparatus; and if to this we add the effects of the frequent use which is made of salted or pickled provisions and spirituous potations, substances which act with preference on the urinary organ, we shall not be in difficulty in comprehending the great changes, severity, and acuteness of symptoms which this organ has sustained.

“ Let us take for granted, that the malady of Barcelona is the true yellow fever; and in this, as it appears, there exists no doubt, notwithstanding that there have been, and still are physicians, who consider its origin, nature, and mode of propagation as problematical. This assuredly has surprised us, as we hold it for an ascertained fact, that, if once the existence of the malady, yellow fever, was acknowledged by the inhabitants of Barcelona, its particular origin, its sui generis poison, its exotic nature, and its mode of propagating by contagion and combined infection, were not disputable.

“ The facts, which reflecting physicians have accumulated upon this subject, are so many and of such a kind, and the reasonings deduced from them so forcible and so pointed, especially those which are met with in the first and second volume of the Journal of the Medical and Chirurgical

Society of Cadiz, by Dr. D. Bartolomeo Mel-
lada, that the judgment is subjugated, every ob-
jection vanishing, according to the expression
of the physicians of the French commission.

“ We have, however, impartially examined
the foundations of the aforesaid opinion: and we
have met with no other than negative arguments,
which prove nothing against the positive ones
of the opposite opinion, or with arbitrary theo-
ries, the offspring of conjectural, not prac-
tical medicine. We find moreover, that those,
who resist the light of a decisive practice, are
those who for the most part have had the fewest
opportunities of putting it to trial; consequently,
that are the least competent to give rules for
the prevention and cure of a malady of such
destructive tendency as the yellow fever, which is
that which most avails.

“ We cannot send forward, nor permit to pass
forward the suspicion that some have entertained,
viz. that the idea of contagion is only a diplo-
matic expedient.

“ We are very far from giving in to these rash
conclusions, when there exist strong reasons to
convince us of the existence of contagion, much
less to believe ourselves authorized by a farther
motive, to judge of a mercantile or foreign ex-
pedient, which implies the impugning of the
clear doctrine of which physicians ought to know

the force. We do not indulge in conjectures, we look to facts.

“In fine, since we do not see the refutation of what has been written on this subject by eminent physicians, and particularly by Spaniards acquainted with America and Europe, and who, endowed with characteristic prudence and honor, are not capable of being false to their consciences for the interest of any class, let us be permitted to conform ourselves to their opinions, approved of everywhere and refuted nowhere, insomuch, that the right of discussing opinions so well known is in a manner precluded.

“Before proceeding to indicate the most suitable means for the cure of this terrible malady, we shall, according to what experience has pointed out to us, sketch an outline of its course, and of the different forms which it is wont to assume.

“It appears to us, that the irregular aspects which the present typhus assume have been excessively exaggerated; and we do not comprehend how it hath happened, that physicians of ability have been led so much astray, that they still denominate it a Proteus; as if originalities were not observed at every step, even in the most ordinary cases, which are not very characteristic of the sickness in question.

“All the forms, which the pretended Proteus seems to assume, amount to no more than three:

1. Catarrhal; 2. Angiotenic; 3. Bilious. The proper discrimination of the essentiality and preponderance of these three forms, without losing sight of the important fact, that the gastro-biliary system is always implicated, either idiosyncratically or sympathetically, decides the mode of treatment that is most suitable to the case; whence arises the impossibility of fixing an exclusive proceeding for the first stage or period of invasion. From this arises the occasional utility of diaphoretics, antiphlogistics, emetics, and purgatives; and in a similar manner the promptness to modify circumstances of hurt or inconvenience, which arise from doubtful regimen. We believe, moreover, that by the effect of causes not well known, there develop, in every epidemic season, a number of the forms alluded to; so that the remedial means, which have been useful in some, have been hurtful in others; and on this account it is that practical writers are so divided on therapeutical indications for the relief of this malady.

“The second and last period of the fever does not offer so great difficulty with regard to the plan of cure; but the adynamic and ataxic symptoms develop themselves with so much celerity, that there is rarely time to oppose to them adequate means of remedy; so that the greater part of those, who have the mis-

fortune to enter into this stage, may be ordinarily considered as lost; especially if the course of the first period has been protracted, and if nervous symptoms have made their appearance. The cure is then the same as that of the indigenous typhus or camp fever; keeping always in mind, not to employ forcible means on account of the excessive primary or secondary irritability of the mucous membrane of the stomach and intestines, which is particularly conspicuous in this latter stage.

“ These principles of cure being applied to the present epidemic, we infer, that its nature is of an extraordinary kind; and consequently that the plan of cure is the most proper for the extermination of it.

“ Moreover, in addition to what we have stated before respecting the physical constitution of the inhabitants of this beautiful country; and keeping in mind their lively character, industrious disposition, corpulent habit, animated colour, and exquisite sensibility (inasmuch as they breathe a highly vitalized atmosphere, the product of the verdant fields and flourishing gardens which encircle the inhabited stations), we infer the predominance of the sanguine nervous temperament, and the predisposition, for the most part, to inflammatory diseases with irregular acci-

dents; and hence, from these powerful conspiring causes, we think that the typhus icterodes, which has affected this province, must have presented generally an angiotenic character, more or less varied according to individual circumstances and the intensity of the cause. The physicians who treated it will estimate these observations according to the results which have followed the antiphlogystic plan; which, managed with prudence, must, according to our conception, have been eminently beneficial during the first period.

to “Contagionists as we are by conviction, and without fear of those who think otherwise, we will not lay down our pen without declaring our sentiment on the necessity of careful disinfection and expurgation; so that so great a calamity be not reproduced through carelessness or neglect. The interests of mankind call loudly, that, while the learned dispute, we do not abstain from adopting all precautions we can adopt against the inroad of a destructive poison. We see with pleasure, that the authorities of Barcelona, directed by illustrious medical men, do not spare any means that have the chance of preserving the health of their charge; and we do not doubt that they will continue, with the same zeal, to take means at a proper season,

which, as known, we think it superfluous to enumerate, for the total destruction of the latent activity which this contagious poison may be supposed to retain in the winter season.

“ We conclude then this short manifest of our voluntary opinion, which we may extend at some future period, with congratulating the inhabitants of Barcelona at the decline of a malady (which free Spain deplores), in a province which is its impregnable wall, and feeling strongly on our own part that we have not been present at the period of destruction, to succour our heroic neighbour in his afflictions; a neighbour worthy of a better lot, on account of his courage and decision in sustaining the liberties of his country.

(Signed) “ JOSE' RANCE'.

“ JOSE' FURIO'.

“ SEBASTIAN FLORIT.

“ MANUEL NAVAS.

“ Barcelona, 29th of November, 1821.”

There is so much equivocation, or ambiguity of expression, in the above letter, that the author thinks it necessary that the translation, which cannot be at once faithful and intelligible, should be accompanied by the original.

Suplemento al Diario Constitucional de Barcelona del Domingo 2 de Diciembre de 1821.

LOS MEDICOS DE LA COMISION DE CARTAJENA,
AL PUBLICO BARCELONES.

Ya que, segun parece, no hemos llegado á tiempo de ser útiles al pueblo de Barcelona, empleando nuestros débiles conocimientos en la curacion, ó preservacion de la fiebre amarilla, despues de congratularnos con sus habitantes por la casi repentina, y maravillosa desaparicion de tan funesto azote, no podemos prescindir de manifestar nuestras ideas acerca de las interesantes cuestiones que llaman en el día toda la atencion de los amantes de la humanidad.

Sin otro obgeto que la pública salud tomamos la pluma, confiados en la pureza de nuestras intenciones, y en la bondad de los médicos ilustrados de Barcelona, que se dignarán escucharnos con indulgencia, sin dejar por eso de advertirnos los errores en que pudiesemos caer. La tolerancia en materias controvertibles debe ser la divisa del médico filósofo, así como su contraria es el distintivo del ridículo charlatan, ó científico de mala fé. Escribirémos, pues, con desembarazo, ardiendo en deseos de merecer la censura de los sábios, y nada temerosos de las injurias de los necios presumidos que desde luego despreciamos.

Si la enfermedad que ha padecido una parte

de este gran pueblo es la misma que sufren en la actualidad los pacientes que hemos visto en el Seminario y hospital de la Virreina no podemos detenernos en asegurar haber sido la fiebre amarilla que hemos tratado en diversas partes de América y Europa, sin mas diferencias que las que son propias de un local que la ha resistido por sus particulares circunstancias ; diferencias no obstante que no la constituyen otra que la que se comunica por contagio en las estaciones del Estío y Otoño y que hasta ahora ha sido y es exótica á la España.

Por las noticias que hemos podido adquirir tres son las diferencias ó particularidades de mas nota que se han observado en la fiebre amarilla de Barcelona, comparada con la de los países mas meridionales, á saber 1.º una mortandad tan grande, sino superior, á la de la peste de Levante; 2.º su poca propagacion ; 3.º el aparato urinario atacado con una generalidad extraordinaria.

Para esplicar estos fenómenos es necesario tener presente la naturaleza del terreno, latitud, y temperatura de Barcelona. Un terreno cultivado, una temperatura calida y seca, como se ha experimentado este verano una latitud de 41.º. 24'. 55'. no son á la verdad muy apropósito para acoger y mucho ménos para crear el germen devorador. Es cierto que el terreno no está muy elevado del nivel del mar ¿pero dónde estan las otras circun-

stancias topográficas en general que favorecen el desarrollo del contagio? Barcelona casi toca á una latitud sobre la que jamás se ha notado esta fiebre; ni su temperatura en la presente estacion ha sido húmeda, por lo tanto debe ser muy grande la intensidad del miasma que penetre en su suelo, y grande el estrago que ocasione, proporcionado á la resistencia que encuentre. Asimismo su propagacion no deberá ser tan rápida por las dificultades que tiene que vencer. Por último, si se considera la constitucion orgánica de los Catalanes, observaremos un estado vigoroso en todos sus sistemas, con predominio particularmente del vascular de sangre roja, y del muscular; y si á esto se agrega el uso frecuente que hacen de alimentós condimentados, y de bebidas espirituosas, substancias todas que obran con predileccion en el aparato urinario, no estreñaremos su mayor alteracion y la gravedad y agudeza con que ha sido atacado.

Dejamos dicho que la enfermedad de Barcelona es la verdadera fiebre amarilla; en lo que parece no existe contradiccion alguna, al paso que ha habido y hay todavía Médicos que presentan como problemático su origen, naturaleza, y modo de propagarse. Esto seguramente nos ha sorprendido, cuando teniamos por cosa averiguada, que una vez caracterizada de fiebre amarilla la enfermedad de los habitantes de Bar-

celona ya no era disputable su origen particular ó propio de un vi rus sui-gèneris, su naturaleza exótica, y su modo de propagarse por contagio, combinándose la infeccion en su decurso.

Son tantos, y tales los hechos que médicos reflexivos han aglomerado sobre estos particulares, y tan robustos, y exactos los racionios que de ellos han deducido, con especialidad los que se encuentran por el Dr. D. Bartolomé Melado, en el 1.º y 2.º tomo del Periódico de la Sociedad Médico Quirúrgica de Cádiz, que el entendimiento queda subyugado, y que toda objecion se desvanece por si misma, como dicen los señores médicos de la Comision Francesa.

Procuramos nosotros, sin embargo, examinar los fundamentos de opinion semejante, y solo hemos encontrado argumentos negativos que nada prueban contra los positivos del opuesto dictámen; ó teorías arbitrarias, hijas mas bien de una medicina conjetural, que no exacta; y hemos encontrado tambien que los que resisten á la luz de una práctica decisiva son los que, por lo general, han tenido ménos ocasion de lograrla, por consiguiente los que ménos reglas saben darnos para precávernos ni curarnos de una enfermedad tan asoladora; que es lo que mas conviéne.

No podemos pasar adalente, ni dejar pasar la sospecha que alguno ha tenido de que el contagio sea un recurso diplomático.

Nosotros estamos muy léjos de caer en estos juicios temerarios cuando razones muy poderosas nos convencen de la existencia del contagio, no obstante de creernos con mayor motivo autorizados para juzgar un recurso mercantil y exótico el empeño de impugnar la doctrina mas luminosa médicos instruidos que deben conocer su fuerza ; pero no gustamos de conjeturas, sino de hechos.

En tanto, pues, que no veamos la refutacion de lo escrito en esta materia por excelentes médicos, y en particular por los Españoles, experimentados en ella en América y Europa, y que dotados de la prudencia y honradez que los distingue no son capaces de faltar à su conciencia por íntereses de ninguna clase, seànos permitido conformarnos con sus opiniones, por todas partes comprobadas, y en ninguna rebatidas, por mas que se les quiera negar el derecho de discutir asuntos que tan bien conocen.

Antes de proceder à indicar la curacion mas análoga á este tremendo mal, segun lo que nos ha enseñado la esperiencia, trazaremos en bosquejo el cuadro de su carrera, y de las diversas formas con que suele presentarse.

Nos parece que se ha exagerado en demasia el aspecto irregular con que aparece el Tifus que nos ocupa, y no alcanzamos que se haya podido extrañar tanto per médicos instruidos que no cesan de llamarle, entre otras denominaciones

con la de Proteo, como si en la práctica no se observasen à cada paso originalidades aun en los afectos mas consecuentes por lo comun, y como si no fuesen muy propias de la enfermedad en cuestión.

Todas las formas que suele tomar el pretendido Proteo se reducen á tres : Primera Catarral, Segunda Angiotenica, Tercera Biliosa. El discernir la esencialidad y preponderancia de cada una de estas tres formas, sin perder nunca de vista que el aparato gastro biliar es siempre afectado ideopática ó simpaticamente, decide el tratamiento mas análogo, de donde resulta la imposibilidad de fijar uno exclusivo en el primer período, ó sea de invasión. De aquí la utilidad de los diaforéticos, antiflogísticos, eméticos, y purgantes, y de aquí igualmente, esto es, de la ligereza en calificar su genio los estragos, y desórdenes propios de un régimen equivocado. Creemos igualmente que por efecto de causas aun no bien conocidas, en cada epidemia se desenvuelve con mas generalidad alguna de las formas espresadas, y que por ello han sido perjudiciales en unas los medios que han sido provechosos en otras ; por eso los prácticos escritores de ellas han discordado tanto entre si al designar las indicaciones terapeuticas.

El segundo y último período de la fiebre no ofrece tan grandes dificultades á la resolucion del

plan curativo, pero los síntomas adinámicos y atáxicos se desarrollan con tanta rapidez, que apenas hay tiempo para oponerles el régimen adecuado, y perecen por lo regular la mayor parte de los que tienen la desgracia de entrar en él, especialmente si se ha prolongado demasiado el tratamiento del primer período, y si resplandecen los síntomas nerviosos. Su curación es la misma que la de los tifus indígeno ó castrense, teniendo siempre á la vista, para no usar de un método demasiado activo, la sobre irritación primaria ó secundaria del tegido mucoso gastro intestinal, que se da á conocer principalmente en este último estado.

Aplicados estos principios á la presente epidemia deduciremos su genio sobresaliente, y á su consecuencia el plan mas propio para esterminarla.

Ademas de lo que anteriormente dejamos relacionado acerca de la constitución física de los habitantes de este hermoso suelo, atendiendo á su carácter vivo, genio laborioso, estatura corpulenta, color animado, y exquisita sensibilidad; á que respiran un aire muy vitalizado á causa de la frondosa campiña, y de los jardines que circuyen su población, todo comprueba el predominio en ellos del temperamento sanguíneo nervioso, y predispuesto por lo mismo á las afecciones inflamatorias con degeneraciones atáxicas,

por tan poderosas razones opinamos que el tífus ictéroides padecido en esta provincia, habrá presentado por lo comun un carácter angioténico, mas ó menos graduado segun las circunstancias individuales é intensidad del mal. Los señores médicos que lo han tratado valuarán nuestras observaciones segun los resultados que haya tenido el régimen antíflogístico, manejado con prudencia, que, en nuestro concepto, y por las consideraciones espuestas, debe haber sido sumamente provechoso mientras la duracion del primer período.

Contagionistas por convencimiento, sin temor del opuesto bando, no levantaremos la pluma hasta significar nuestro sentir sobre la necesidad de una cuidadosa desinfeccion y espurgo para que no se reproduzca tamaña calamidad. El interes de los hombres reclama altamente que mientras disputan los sabios no dejemos de adoptar cuantas precauciones se puedan contra el veneno esterminador. Vémos con gusto que las autoridades de Barcelona, dirigidas por médicos ilustrados, no perdonan medio alguno para conservar la salud de su comitente, y no dudamos continuaràn con el mismo celo tomando en el tiempo oportuno los medios que por conocidos, tenemos por superfluo detallar, hasta conseguir la total destruccion de la actividad latente con

que suele permanecer el Virus Contagante en la estacion del Invierno.

Concluimos, pues, esta sucinta manifestacion de nuestro espontaneo dictámen, que mas adelante ampliaremos, felicitando à los Barceloneses por la decadencia del mal, que tanto llora la libre España en una provincia que es su muro inexpugnable, sintiendo, no obstante, no habernos encontrado en ella al tiempo de la desolacion para socorrer y aliviar á su vecindario heróico, digno de la suerte mas dichosa por su decision en sostener las libertades de la Patria.

(Signed)

JOSE' RANCE'.

JOSE' FURIO'.

SEBASTIAN FLORIT.

MANUEL NAVAS.

Barcelona, 29 de Noviembre, de 1821.

The narrow limits of the present work do not permit a very particular examination of the different points contained in the above letters. The minds of the writers appear evidently to have been made up on the question; without inquiry, and without correct personal investigation at the source where truth only can be found. At the time the reports were written, no official investigation had been instituted to ascertain the correct history of the fact; and, as the opinions

forced upon the public in these reports are simply of popular prejudices and preconceived notions, it must be left to the unprejudiced reader to judge in how far they are entitled to attention.

The observations relative to the treatment of the disease are ridiculous and absurd. The Spanish commissioners only visited the hospital once. A ward was allotted for the French commissioners in the Seminario hospital, and adequate means of carrying into effect an effective system of treatment were afforded to them. They entered upon the task with eagerness, but not without using the precaution of covering themselves with oil-cloth dresses. This necessarily struck terror into the hearts of the sick, who naturally imagined, that where such means of preservation were employed by the faculty against the impressions of contagion, their own chances were almost desperate. The results of the practice of the French physicians were not successful; and the Spanish doctors now boast of one consolation, that, if they only cured one patient in ten, the French were still behind them; for there were, in fact, but very few recoveries in their wards.

Under those circumstances, I cannot help expressing my astonishment at their effrontery, in making observations on the cure of a disease,

which set their art at nought ; and to which, in fact, they did not approach, except under circumstances which indicated that they were under impressions which obscured their judgment, and paralyzed their faculties ; it is not therefore surprising that the French commissioners were unsuccessful practitioners.

CHAPTER III.

GENERAL OBSERVATIONS ON CONTAGION.

It is much to be lamented, that the physicians of Andalusia, who have had the opportunity of treating the different epidemics which have ravaged their province since the year 1800, had not been more assiduous in investigating, and somewhat more candid and liberal in publishing to the world, the result of experience gained by observation, than it appears they have been. They have prosecuted a question, which is intimately connected with the interests of man, more with a view of supporting pre-conceived theories and delusive opinions than with the idea of establishing truth; for, although they have had ample opportunities of treating the malady where its ravages were not extensive, and where their observations could not be embarrassed by equivocal circumstances, which too frequently perplex and mislead in epidemic periods, they have not had, until lately, the liberality, in any one instance, to declare, that the malady arose without the intervention of a fo-

reign agent, and proceeded without manifesting contagious properties. The nature of the disease was such, in the year 1821, as to afford the most favourable opportunities of examining its general and particular qualities. It appeared in various parts of the country; and, although it was characterized by a degree of malignity somewhat greater than had hitherto been observed, and though all the supposed conditions favourable to its propagation were present, it was acknowledged, by some of the most prejudiced of the physicians, not to exhibit contagious properties, inasmuch as it affected those persons only, whose constitutions were susceptible of diseases arising from causes of a local or general nature.

The disease ravaged, like pestilence, the cities of Barcelona and Tortosa, destroying thousands without respect to age or sex; but, in the towns of Asco, Mequinenza, Malaga, Cadiz, Puerto de Santa Maria, Xerez de la Frontera, Lebrixa, San Lucar de Barameda, and Seville, its attacks were so limited, as scarcely to deserve the denomination of an epidemic. This circumstance, although it has made no impression upon the Spaniards generally, will, if I mistake not, compel those who think and reason, to doubt the truth of the doctrine of contagion. Had the propagation of the malady depended upon

specific contagion, or intercourse with the sick, the result, it is presumed, would have been pretty similar throughout the different towns in which the contagion appeared; for the most unlimited intercourse took place between the sick and healthy*. In each of the towns in

* The Spanish soldier of the present day is, probably, the most wretched object of the community. He is sometimes ill fed, ill paid, ill clothed, and not unfrequently destitute of the common means of support: he is always open to bribery. As admission is thus obtained to the bedside of the sick, if it be desired, the preventive measure of the government is thus violated; and, as the lower orders of Spaniards evince a total indifference to the danger of visiting their sick friends, the most unlimited intercourse does or may take place. This is the fact: the orders to the sentinel are peremptory; they are disobeyed for a trifling sum of money.

The following extract from a letter, published at Barcelona, by a physician of that city, dated 13th Dec. 1821, will give a just idea of the facility with which the line of circumvallation, or what was commonly called the Cordon de Media Piseta, or sixpenny cordon, might be penetrated. Persons of inferior rank went in and out for sixpence; for those in exalted stations a larger sum was required; but the way was open to all for a bribe.

“ In confirmation of the wise ideas expressed by Mr. Lefont in the foregoing letter, it is necessary to observe, that the fever, with which we have lately been afflicted, has not diffused its mortal venom in the adjacent villages within and without the cordon, notwithstanding that the communication with the former ones has been great and uninter-

which minor epidemics prevailed, between two and seven hundred persons died of the yellow fever; and, as it may rationally be concluded, that several thousands were exposed, under various circumstances, to the impression of contagion, did it exist, it must be granted, that, if the malady was contracted by intercourse or

rupted, and numerous families from the city have passed to the latter ones; practical experience having manifested the inutility of cordons to surround a contagion that does not exist. The impunity with which thousands of individuals have come in contact with contaminated persons is the strongest possible proof of the non-contagious property of the disease; and it would be well for all those, who see objects through an exaggerating prism, if the ideas they entertain of the contagious nature of the sickness did not originate more in habitual errors and tradition than in real conviction.

(Signed) "RAIMUNDO DURAN."

N. B. The demolition of the Inquisition gave freedom to the press in Spain, otherwise the publication of the foregoing circumstances would be certain ruin.

The following circumstance will also show with what facility the Spanish cordons are passed. An Irish impostor, of the name of M'Kenna, who assumed the character of a priest, with a view of travelling free of expense through Spain, left Gibraltar during the rage of the epidemics of Cadiz and Xerez, in 1820, and reached Seville without interruption. From Seville he returned to Cadiz, and embarked for Lisbon. He was unacquainted with the Spanish language.

near approach to sick, the result would be similar in all; the reverse was the case, presumptively owing to the atmosphere possessing different degrees of malignity at different places. The disease was diffused rapidly in some; in others, where the cause existed in a minor degree, the friends and relations performed all the necessary offices for the sick, and attended carefully at their bed-sides: the children slept with their parents, the wives, regardless of danger, slept in the very bed with their husbands; yet, the individuals who were thus exposed to the impressions of contagion, if contagion existed in the case, were not injured by the communication, even under circumstances apparently favourable to the diffusion of contamination.

The city of Barcelona became the seat of an epidemic yellow fever, for the first time, in the year 1821. The physicians, who are justly considered as the most enlightened in Spain, were to a man impressed with the contagious property of the disease. They had not had the opportunity of treating it at any former period; they were consequently prepossessed in favour of a doctrine in which all Spain believed, and which had been stamped upon their minds by those who had seen and treated the epidemics of Andalusia, since the year 1800; but who, whether from prejudice or fear, neither gave a faith-

ful history of its symptoms, nor of the alleged attributes which have attached such importance to it, and which, in consequence of misrepresentations and inveterate prejudices, have not only on former occasions paralyzed the neighbouring provinces, but, in the present instance, have caused all France to tremble. The physicians of Barcelona, however, prepossessed with notions reputed to be of high authority, did not, when their city became the seat of disease, suffer the opportunity to pass over without satisfying themselves, by their own observation, relatively to the doctrines which they had been taught, and on which they were wont to place implicit reliance. They carefully watched its movements, observed its course, not only in the private houses and public establishments, but also in the adjacent villages, country houses, and lazarettos; and when they were convinced as to its true nature, from the strong proofs which daily offered to their observation, they were too candid, liberal, and enlightened not to forego their former prejudices; and, with the candour and magnanimity of men of science and knowledge, they have, with few exceptions, avowed to the world, that the doctrine of contagion, in so far as relates to the disease called yellow fever, is founded upon fiction.

A letter, of which the following is a transla-

tion, was published in a daily paper at Barcelona, by the Proto Medico, or chief physician of that city, on the 2d of December 1821. The matter of it is important.

“ TO DOCTOR LASSIS, OF PARIS, CHIEF PHYSICIAN OF THE HOSPITAL OF NAMUR, &c. &c.

“ My dear Sir, and very respected colleague;
“ When, last year, the translation of your work on the non-contagion of typhus fever appeared, I published a critique thereon, which appeared in the general Gazette of the Medical Society of Paris; and this having caused a polemical dispute, the enlightened translator withdrew from the contest, without doubt unwilling to involve himself in one of the most arduous and difficult points of medicine. Vain of the occasion, which opened to me the way to measure my talents with those of so learned and illustrious an adversary, I own I considered myself master of the field of battle; the more so, as no other professor, or learned body, appeared to sustain the doctrine of non-contagion.

“ Who then could have imagined, that ‘ the disease in the lazaretto was the exotic yellow fever, whose miasmata had been transported from the Havannah to this port; that hitherto it had not shown itself contagious, and it was hoped would not thenceforward: also, that the

disease which had originated in the port had not manifested a contagious character.'

" Nothing is more easy than to combat the contrary doctrines contained in the preceding passages, there not having appeared, perhaps, an occasion more favourable for one who might have had pretensions to be the chief of contagionists. Not to have seen till then one single case of a person contaminated or infected was a weak argument, because disorders (in a medical sense) are not called contagious because they precisely communicate, but inasmuch as they can communicate. Nor was the motive for boasting, 'that particularly our province was one of those in which, until then, the sickness was altogether incommunicable,' since there is not a country known in which there does not exist small pox, measles, &c. &c. which are essentially contagious; whilst, in no region on the earth, have the asthma, dropsy, or apoplexy been deemed communicable, as they are not essentially contagious.

" The first symptoms which our malady presented excited in me that philosophical doubt, without which man is confirmed in his errors, and obstinately persists therein without courage to abjure them.

" The direction which our disease took from east to south-west; the existence of various cases

of sickness in distant parts of the city, previous to the incommunication of Barceloneta; the considerable augmentation of sick in the latter, as well as in the former place, bidding defiance to the barrier; the attacks of those who had adopted the most rigorous precautions of incommunication; the changes in form of the common diseases, even the chronic ones, to that of the reigning malady, prove the disease to be much more epidemic than contagious; the indisposition in the same house, nay, even at the very hour, of two, three, four, or even six individuals, shows clearly, that, far from the evil spreading from person to person, all fell ill from one general cause, to the influence of which they had been simultaneously exposed.

“Whilst the attentive observer noted in secret these and other phenomena, very particularly, those, who contemplated the catastrophe from afar, saw the contagion through a telescope, although they had not been able to discern it while they remained on the spot, and who had at various times published, ‘that it was hoped the contagion would not manifest itself.’

“Such, Doctor, was the state of this unfortunate city, when the commission of physicians from Paris presented itself, whose philanthropic virtues will descend to the most remote posterity. Companions in arms, having served under

the same yellow colour of contagion, Doctors Pariset and Bally did me the honour to renew their ancient consideration of me, and counted me among the partisans of contagion, which I had with so much pertinacity sustained in my writings; but, as irrefragable facts confirmed me more and more every day in the philosophical doubt which I had from the beginning entertained, it was impossible for me to coincide any longer in opinion with those, whose doctrine I had before upheld and defended.

“ I never had, nor shall I ever have, the least scruple in abandoning the opinion of yesterday to adopt that of to-day, when supported by irresistible and convincing facts; because, when experience speaks, the understanding should give way, although the weight of authority may interpose, or spurious reasoning seduce.

“ Those doctors went on, only noting particulars, which they conceived might favour their cause; whilst as many more were tendered to them, manifesting the contrary. One solitary positive fact, they said, destroyed a thousand negative ones; but this same pretended positive fact, perhaps, would lose all its force, if it were submitted to the crucible of an impartial and able criticism. Thousands of negative facts always the same, always consistent, prove positive practice; and, even if this prin-

ciple should be denied, it must be granted, that, if the supporters of contagion have made a great many particular observations to favour their doctrine, their adversaries have collected many more to refute it.

“ Particular cases, therefore, being insufficient, as susceptible of arbitrary and various expositions, it was necessary to appeal to general observations, made and repeated in those theatres at once of terror and instruction. Neither we, who visited the sick in the lazaretto, hospital, &c., nor the nurses who remained day and night in attendance upon them, ever suffered in the least. The nuns of the general hospital, those heroines of the most perfect charity, without the smallest precaution, consigned entirely to the hands of the All-powerful, presented themselves with intrepidity before the ferocious enemy, who did not dare to attack them. Whilst the president of the convalescent hospital, the head apothecary, and the procurador, none of whom had ever entered the rooms of the sick, and who had taken every precaution not to communicate with the infirm, nor with any thing belonging to them, all fell victims.

“ Instead of the danger being in direct ratio with the exposure, it would appear to have been quite the reverse; unless it may be said, that there is a tutelary saint, who guards and protects

from the impending danger to which infants, madmen, and drunkards are hourly exposing themselves ; so may there be one who watches over the medical men and nurse-tenders to protect them from contagion. If the facts which have been stated have no other force, they appear to me at least sufficient to restrain the partisans of contagion ; and, if the conduct of those may be deemed extraordinary, who changed tone as soon as they left the city, and found themselves in the open country, much more so is that of the French commission, which, when on retiring, declared to our government, ‘ that the disease was contagious, to a much higher degree than any other epidemic they had before witnessed.’

“ What should have been the fate of this populous capital, in which, if means on the one hand were taken to restrain the spreading contagion, there was also, on the other, every facility to communication and contact between the infirm and the healthy ? The beautiful environs of Barcelona, that had been the seat of health, should become one vast lazaretto, to have been quickly converted into a mournful churchyard. The continual intercourse and uninterrupted communication of the inhabitants of this city, going out from the focus of disease, and passing their nights in the country with their families ; the daily traffic of the same carriage, which had

secretly conveyed the sick, the removal to the country of infected families, on the very day that they had lost one of their numbers, even whilst their hands were yet humid from the vapour of their dying relations,—I say, not to have been able to produce one solitary case of the disease having propagated itself without the walls of the city, are so many further proofs, repeated on subjects differing in age, sex, temperament, physical constitution, or individual sensibility.

“ The heat of the weather, the terror, the crowds of persons, even in the most confined and limited habitations, all favoured the explosion; and there could not have existed more adequate means to propagate contagion, had the disease been ‘ in an excessive degree more contagious, than had ever before been witnessed in any other epidemic.’

“ It is not to be wondered at that the regiment of Maria Louisa, encamped between Chick-lana and Puerto Real, in the year 1800, should have been preserved from contagion in consequence of strict incommunication, since during our epidemic, where the intercourse was uninterrupted, the malady never extended itself beyond the fortifications of the city; and if Puerto de Santa Maria, San Lucar de Barameda, Xerez de la Frontera, and other towns should have

fallen victims to the hospitality shown the fugitives of Cadiz; at least the inhabitants of Sans, Gracia, &c. &c., within the cordon, never can so upbraid the inhabitants of Barcelona, as conductors of a disease from whose fury they have escaped.

“ These reflections must induce any one to confess, that the virulence of the disorder became inert, and lost all its power at a short distance from the city, when exposed to pure air; from which circumstance it is difficult to imagine, how it could have been imported from Havannah to this port (*contagium in distans*) unabated by the length of the voyage, the violence of the winds, tempests and rains; whilst it has been impossible to extend its ravages to Gracia, Sans, and other adjacent villages, and when so many causes conspired to promote its development. From this, therefore, it may be equally inferred, that if the disease lost its force when exposed to pure air, it is not to be supposed it will return next year, or revivificate, should there take place in the city a general and effectual ventilation, cleaning of furniture, clothing, washing of the habitations, and exposure of the whole to the cold air of the approaching winter.

“ The influence of the irregularity of electricity, in augmenting the number of sick and deaths, has been exactly stated by an observer,

equally modest and judicious, who says, that the disappearance of the epidemic took its date from the 18th of November (that is to say, ninety days from its commencement), when at night-fall an extraordinary heavy cloud extended itself over the city, after which it was observed, that only one or two fell sick daily; and that the disease thus began to decline, flying from one street to another abruptly, as it had done at its first appearance.

“The examination of local causes merits the attention of such as are concerned for the preservation of the public health from the dangers which threaten it; and although it should not serve any better purpose than to facilitate the unfolding of contagion, an idea which ought to be thought as little of as possible, we shall at least have the satisfaction to reflect, that we have done every thing in our power to contribute to an object of the greatest utility and importance.

“Now, Sir, as the study of those causes had induced you to undertake the arduous journey from Paris to this capital, careless of expense and fatigue, you will be able in a paramount degree to illustrate what will contribute to confirm or refute what you had before written on the true causes of epidemic diseases. Being highly delighted at having had the honour of your per-

sonal acquaintance, and extremely thankful for the useful lessons I have had in my conversations with you, on the importation and propagation of our typhus, I beg to renew the sentiments of high consideration with which

“ I am, &c. &c.

(Signed) “ FRANCISCO FIGUILLEM.”

With regard to the propagation of the malady in the epidemical atmosphere, or within the infected town, little need be said. All persons are liable to contract the disease, if a predisposition exists in the system capable of receiving it; it is, therefore, the duty of every individual to fly from the infected district, so as to be without the sphere of infection, otherwise they are hourly exposed to danger.

Both parties, contagionist and non-contagionist, find arguments to fortify themselves in their opinions from the history of what occurs in an epidemic place. The advocates of contagion find, that the disease destroys the greater part of the population where they are long exposed to its impression, particularly in those parts where the cause is concentrated to a high degree, as was the case in Barceloneta, and in that part of Barcelona which skirts the part, whether exposed to the influence of sick chambers or otherwise. They also find, that persons, who com-

municate with the sick, the dying, and the dead, may contract the disease; consequently suspicion arises on the score of propagation by contact. They again perceive, that persons who leave a healthy part of the town, in health, and visit their sick friends in contaminated places, sometimes return, sicken, and most probably die. Such cases occur daily; the contagionists consequently find a field for surmise, and attribute to contact and communication with the sick, what in reality is simply the effect of exposure to contaminated air, not only unfit for supporting the action of health, but directly destructive of animal life.

The non-contagionists, on the other hand, find, that nurses and other attendants, who handle the sick, the linen, and the bed-clothes, escape in as great proportion as those, who, never coming into contact, are simply exposed to the epidemic cause, which is probably rendered more intense and destructive by emanations from the sick in impure, ill-ventilated abodes. They again find, that those persons, who observe the strictest seclusion (as happened to some persons in Barcelona) contract the disease in the same or greater proportion than those who walk the streets at all hours*. They also discover,

* The head clerk of Mr. Gill, an English merchant at Barcelona, observed the strictest seclusion, shut himself up

that persons, on entering the infected town or district from the country for the first time during the epidemic season, are liable to be suddenly seized with head ach, and sometimes die in less than three days from that date. All these and many similar circumstances occur daily. They supply an interminable source of disputation, but they amount to nothing, being inconclusive in the way of ascertaining the true nature of the malady.

A thousand accidental coincidences are daily occurring within the sphere of the epidemic influence, which embarrass, and lead, not unfrequently, to erroneous conclusions; hence the history of the propagation of the malady from person to person is subject to palpable and numerous contradictions. It is not, in fact, within the power of man to ascertain correctly, even with all his circumspection, whether the disease arises from contact or near approach to a sick person, or whether it is occasioned by a general cause, which obviously pervades all points within the circle of infection. Those equivocal and

in his house, with one servant; received even the water for drink through a bamboo, and every other article of necessity with equal circumspection. He ridiculed the temerity of those persons who exposed themselves to the impression of a disease, which, according to his idea, could only be got by contact. The master and servant sickened about the same period. Both died.

embarrassing circumstances, which too frequently annoy and lead to false conclusions within the infected circle, disappear when the scene is changed to a district of common atmosphere; for it is ascertained beyond a doubt, that in places where no adventitious cause exists, although circumstances calculated to aid the propagation of malady be present in the highest possible degree, a single well authenticated instance cannot be adduced of its being communicated to the attendants, if they themselves had no intercourse with the seat of infection. This important fact was strongly exemplified in the epidemic of Barcelona, where the inhabitants of five populous villages continued healthy, notwithstanding the uninterrupted intercourse, and numerous deaths which occurred in them amongst persons who communicated with the epidemic city. I shall state two cases in illustration of the fact. Mrs. Demestres was taken ill in the village of Saria on the 19th of October, and died on the 22d. The number of persons who were exposed to contagion, had it existed in the case, amounted to twenty-six; all of them were susceptible, as never having had the disease before. Ten young children were constantly by her bed side, and no harm ensued.

In the house of Mr. Serrillach, in the village

of San Gervasio, one of the Italian refugees was taken ill with the reigning malady, on his return from Barcelona. He was attended in an ill-ventilated apartment by fourteen of his countrymen, and a few servants. All of them were susceptible, as never having had the disease before. They alternately watched at his bed-side during the day and night, made his bed, removed filth and feculent matters without reserve, and yet not an individual suffered. This case was related to me by Mr. Ryan, a Barcelona merchant, who frequently visited the patient during his illness. Mr. Ryan is known to be a man of candour and judgment; and he considered the case as interesting, because the patient was attended by one of the French physicians, supposed to be Mr. Pariset, the Barcelona oracle; and if so, he ought not, in candour, to preach the doctrine of contagion, the circumstance alluded to being strongly subversive of the fact.

Every kind of traffic went on between Barcelona and the different towns of the province, and even more extensively. The indiscriminate exportation of merchandize was allowed, through what was denominated the Sixpenny Cordon; and yet all those towns and villages, with the exception of three, *viz.* Tortosa, Asco, and Mequinenza, which are situated on the muddy

banks of the river Ebro, at a distance of more than ninety miles from Barcelona, enjoyed absolute immunity from disease.

It is evident, from what has been stated, that some other cause, besides contagion, must have been in action before the disease became epidemic; for, had the propagation depended upon specific contagion, all parts of the city of Barcelona would have been similarly affected: it is on the contrary known, that parts of it were healthy where no precautions were taken, and where no ostensible cause could be assigned for exemption; except that of distance from what appeared to be the focus of the cause, or by contingent protection from the force or free play of the pestilential atmosphere; which, having its origin in the eastern part, was obstructed and actually destroyed before it reached the north-west extremity of the city, where comparative good health prevailed. The almost absolute exemption of one part of the city from fever, under the circumstances described, proves that no contagion existed in the case, and that the epidemic cause was somewhat connected with the noxious vapours arising from the depositions of filth in the port and surrounding parts, for there the disease prevailed to an extraordinary degree.

I shall now state a few facts, which will prove to the satisfaction of the most prejudiced, that the disease is not contagious; and that it will not propagate, under any circumstances, in atmospheres not epidemical.

The House of Charity is four stories high, a stone building, one hundred yards in length and twelve in breadth. It fronts the east, and is situated at the north-west extremity of the city, in an open and well-ventilated space. The apartments are spacious, lofty, and clean; the interior arrangement is unobjectionable.

This house was occupied by upwards of eleven hundred persons during the rage of the epidemic. They consisted of men, women, boys, and girls, who were distributed or formed into five divisions. One division consisted of four hundred and sixty-four persons: they went out daily, and walked through the healthy part of the city, accompanied by an overseer. One of them was seized with the prevailing malady, and sent to the Seminario hospital. On recovering, she returned to the House of Charity, and mixed with the others; notwithstanding which, they continued healthy.

A second division consisted of three hundred and forty-two women. One of them was taken ill with the epidemic fever, and sent to hospital,

where she died. The remainder, who went out daily, and mixed with the people, continued healthy.

In a third division there were one hundred and sixty-eight girls, under fifteen years of age: they went out daily with the matrons, communicated with the inhabitants, but received no injury.

In the other divisions, there were seventy-seven in one, and sixty-four in another. They all walked through the city, some with overseers, others without, and none of them got the disease.

There were besides fifteen friars attached to this establishment, who were employed in procuring eatables for the house; they communicated with all classes, purchased and procured whatever they could for the poor; two of them collected alms. They entered the houses of the dying and the dead, communicated with the people in a variety of ways; notwithstanding which, they all continued healthy.

There were also about twenty men attached to this institution, who went to all parts of the city to procure subsistence, and articles of various descriptions. They were under the necessity of taking the dinners for the poor to Barceloneta every day. At the beginning of the epidemic, they went into the town, and laterly to the

barrier, where they were much exposed; not one of them sickened, nor did they introduce the disease into the House of Charity.

The foregoing is a true report, and it may be regarded as an important one. Had the House of Charity been situated in the eastern extremity of Barcelona, or in Barceloneta, where the epidemic cause existed to a high degree, the destruction would have been in all probability great; but, as the cause did not extend, or only in a very inferior degree, to that part of the city in which the House of Charity stands, the cause of the non-propagation of the malady is easily accounted for. This case strongly tends to prove, that the yellow fever will not multiply, except where an epidemic cause exists in force; and it moreover proved, that the disease is not contagious.

The Casa Miserecordia, or House of Pity, is a building of considerable magnitude, situated in the immediate vicinity of the House of Charity, in the north-west extremity of Barcelona, in an apparently healthy situation. The building is low, but the apartments are spacious and well ventilated. It contained one hundred and fifty girls during the rage of the epidemic. The nuns who teach them are twenty-four in number. They maintain themselves by washing, ironing,

and other similar modes of occupation. They employ women to traverse the city—from house to house, to procure needle-work, &c. These women went to all parts of the city; they communicated indiscriminately with the inhabitants; they were not affected by the disease; nor did the nuns or girls suffer by communicating with them.

This is a singular fact, and a strong one. It appears strange, that a disease, which was said to have been imported from the Havannah to Barcelona, from Barcelona to Tortosa, and from thence to Asco, Mequinenza, Malaga, &c. &c. could not be introduced into the House of Pity through numerous channels of communication. From this case it may be inferred, that if an epidemic cause existed in the north-west extremity of Barcelona, it was of so mild a nature, that the disease arising from it did not retain the power of propagating itself.

The House of Correction, which is also situated in the north-west extremity of the city, is a stone building of three stories high, forming three sides of a square, one of which is still unfinished. In the centre is a court-yard of considerable dimension, which is used for various purposes, more particularly for the recreation of the women during their idle hours. The venti-

lation on the whole is good ; the apartments are lofty and spacious, and the building is open to free circulation of air. There are no houses to interrupt the breeze on the western side. The arrangements, the beds, the cleanliness, &c. are of a superior description.

There were one hundred females in this establishment during the epidemic season. Nine of them were attacked with the reigning malady ; four of them were recently admitted, as having committed some irregularity in sickly Barceloneta. They were all removed to the Seminario hospital, where four died ; the remaining five, when cured, returned to the House of Correction : they communicated freely with the others, but no disease ensued. This house was visited daily by some of the female inhabitants of the city ; who, through charity, brought eatables, &c., but without detriment to the inmates.

Had this been a contagious malady, the persons who returned to the House of Correction, after having been cured in the Seminario hospital, which was then the seat of pestilence and of death, and to which hundreds were sent to die, could scarcely have failed of communicating the disease to the numerous females, who had intercourse with them at all hours of the day.

About ninety men were constantly employed,

during the whole course of the epidemic, fishing at the sea shore, eastward of the town, within three or four hundred yards of Barceloneta. They alternately conveyed the fish to town; and, after having sold their cargoes, generally returned to pass their nights in the country. Some were accommodated in temporary sheds, erected on the sand at the sea beach; others in the adjacent villages. Many of them attended their friends in the city, who were ill of the reigning malady, and only one got the disease. He was a sickly boy, and had been much in the infected parts of the town.

Of fifty persons, who were constantly employed burying the dead, only two died, although they communicated freely with the inhabitants of the city in the night time.

The lazaretto, called Marine, is situated on a sandy, flat beach, at the distance of one mile from Barcelona, to the eastward, within one hundred and fifty yards of the sea. It was opened for sick on the 7th of August. The ventilation rooms were converted into wards. Seventy-nine sick were admitted into the lazaretto as an hospital; fifty-eight died, and twenty-four were cured. Thirty-two persons were employed in the various duties of this temporary establishment; as doctors, friars, servants, and

washer-women, and not one of them took the disease. Of the above number six were employed in burying the dead, and three in washing the bedding. After this establishment was broken up, five women remained in it, employed in washing the bedding of the Seminario hospital, but without being affected by the disease. Besides the above, twenty-four soldiers, who were relieved every eight days, acted as guard. It may be presumed, that they communicated with the attendants and convalescents; they all enjoyed good health.

The General Hospital, which is situated in the western part of the city, is a very extensive square building, of two stories high. The wards in general are spacious, lofty, clean, and well-ventilated. The court-yard, in the centre, is one hundred and twenty yards long, and forty broad. The interior arrangements are excellent. There is a mad-house for men, and another for women, attached to this establishment; but the structure is objectionable, on the score of ventilation and damp. An extensive building of three stories is occupied by nuns. The apartments are spacious, lofty, and clean; but the ventilation is unusually bad, the air having access to the body of the building only from a court-yard of trifling dimensions.

The following is a state of this hospital, given me by Dr. Sahuc, one of the attending physicians.

Eight hundred and thirty patients, labouring under epidemic fever, were admitted, and seven hundred and forty-nine died.

ATTENDANTS.

		Died.
Physicians	4	1
Surgeons	4	0
Chief Apothecary and Assistants	6	1
Surgeons' Assistants	10	0
Madmen	72	14
Clergymen	4	0
Nuns.....	35	6
Male Servants	23	4
Female ditto	9	1
Buriers of Dead	3	1
Mad-women	83	6

The first of the lunatics who became affected was a friar, who was confined in an obscure cell, where he held no communication with the persons who visited the sick; indeed, his state was such, that he could only be approached by the person who brought him victuals. I have seen the mad-house; and, although the inmates hold free communication with one another, in damp, ill-ventilated apartments, and in cells of the most wretched kind, the disease did not spread.

Had this been a contagious disease, it had every advantage of propagation from filth, damp, want of ventilation, &c. : it was limited in its progress, though no preventive precautions were taken in counteraction.

Four of the nuns who died, and the chief apothecary, had no communication with the sick : one hundred and twenty women communicated freely with the sick nuns, without suffering from the malady, although, as I before stated, the ventilation was bad, and the space allotted for the whole insufficient for the number.

Two of the four male servants who died, laboured under herpes. Two of the women who fell victims to the disease, also laboured under herpes ; another under chronic rheumatism, and a fourth under chronic catarrh, of a very obstinate nature.

The physician of the hospital stated, that all the hospital attendants who died, laboured under chronic diseases. The physicians of Barcelona generally remark, that scarcely an individual escapes an attack of yellow fever, who labours under venereal or chronic disease. Such were more susceptible than persons in health, and when attacked, their life was more speedily and certainly destroyed.

The citadel, which is situated within one hundred and fifty yards of Barcelona to the east-

ward, was secluded during the rage of the epidemic. There were upwards of six hundred soldiers, and many families, confined within its walls. A woman and five soldiers contracted the disease; they were removed to the military hospital, where they died. The disease did not extend in the citadel*.

In the hospital of the Virreina, which is situated within a mile of Barcelona, of thirty-two persons who assisted the sick, only four persons contracted the disease; and these sickened in Barcelona, according to the statement of the attending physician, Doctor Campmany. They all recovered.

The Seminario Hospital is situated in the north-west extremity of the city. It is a high building of four stories. The apartments are large, lofty, clean, and sufficiently ventilated. It fronts the north, and is one hundred and twenty-nine yards long. This hospital was opened for sick on the 14th of September. One thousand seven hundred and sixty-seven persons were admitted, and one thousand two hundred and ninety-three died. Of ninety persons, including doctors, apothecaries, friars, assistants, nurses, washers, and buriers of the dead, only

* The guard for the government-house was given by the regiment in the citadel.

three contracted the disease. One of the persons who died was a medical assistant, named Bila. He attended, from the beginning, those who were admitted into the hospital, dressed the blisters, and administered the medicines throughout the whole course of the epidemic. He also assisted in dissecting, whenever the bodies were examined; and zealously aided myself in eleven dissections. He attended the last person who was ill in the hospital; and it was not until the establishment was shut up, and only a few sick remained in the city, that he contracted the fever. He fell ill on the 14th of December, and died on the 19th.

It is unnecessary to multiply examples. Some hundreds may be produced to prove the non-contagious nature of the malady, more particularly in the country within the cordon, where the population was immense, owing to the emigrations from the city. I shall, however, briefly observe, that the course of the malady from north-east to south-west, the different degrees of force attending its action in the course of its movements, its unusual destruction at what may be called the focus, during the whole of its continuance, the irregularity of its proceedings, jumping from point to point, and leaving intermediate places untouched; the diminished degrees of violence by which it was characterized

as it proceeded towards the westward ; its fatal and malignant nature in ill-ventilated places ; the exemption of parts of the city from its influence, where no precautions were taken ; the sickening of persons who observed the strictest seclusion ; the sudden impression of contaminated air on persons recently from the country, without communication with the inhabitants of the city, the greater exemption of nurses and other attendants on the sick from the disease, than those who were simply exposed to the contaminated air of sickly houses ; the almost absolute exemption of washers of bedding, clothes, &c., which had recently been used by the sick ; the circumstance of the attendants in the hospitals and lazarettos having generally escaped the impression of the malady ; the impossibility of diffusing the disease in the country, where no epidemic cause existed ; and, finally, the deaths of some hundreds of persons who communicated with Barcelona, and who sickened in the neighbouring villages and country houses, without a solitary instance of its affecting the most assiduous of the attendants, however circumstanced, are ascertained facts, and convincing proofs of the non-contagious nature of the yellow fever*.

* I was disposed, when I first entered the army, to believe in the doctrine of the contagious property of the yellow

fever, prior to my arrival in a small town in the island of Martinico, called La Trinite; where the observations collected, although on a small scale, presented to my mind conclusive evidences of the non-contagious nature of this species of disease.

The quarter for the accommodation of the medical officer was peculiarly objectionable. The military detachment, sick, and medical officers were received into the same house. The soldiers occupied the under story. The medical officer and sick were accommodated in the story above. The hospital was separated from the medical officer's room by a thin partition, not exceeding eight feet in height; which, being open at the top, permitted a free communication of air from the contagious quarter. To get to the hospital, or to my own room, it was necessary to pass through the soldiers' barrack. A staircase on the left led to the medical officer's quarters, and one on the right to the hospital; so that it was impossible, under the existing circumstances, to prevent communication between the sick and healthy; yet no instance occurred of yellow fever being communicated from intercourse, to persons who suffered from other diseases, nor to the healthy part of the detachment. The few cases of yellow fever which occurred were of the most aggravated kind, and invariably contracted when on duty in a neighbouring fort. The women and children, it may be conjectured, as well as the soldiers, had occasional communication with the sick; but the same immunity prevailed among them as in the other case. Had the yellow fever been a contagious disease, it must have propagated, as every thing was favourable for the diffusion of a contagious cause, the barrack being small and crowded.

The town of La Trinite has always been reputed healthy; but the fort, which is formed on a rock of about fifty feet elevation, and projects into the sea, on the north-west side of the town, has, at particular seasons of the year, been

considered deadly to those who reside for any length of time upon it, or even to those who sleep there during the performance of military duties. A swamp to windward, on the opposite side of the bay, at a distance of more than one mile, is supposed to furnish the cause, which acts thus injuriously on the health of persons who reside in the fort.

CHAPTER IV.

A SKETCH OF THE MEDICAL TOPOGRAPHY OF
TORTOSA AND ITS ENVIRONS.

THE city of Tortosa, which suffered from one of the most destructive epidemics on record, in the year 1821, is situated on the right bank of the Ebro—the largest and most important river in Catalonia—at the distance of ten miles from its mouth. It occupies an irregularly indented triangular flat, at the bottom of a deep ravine. The body of the city is small, not exceeding one mile in circumference. The base of the triangular space, upon which this city stands, rests on the river to the westward; the apex, which extends through the ravine towards the south-east by a gradual ascent, afterwards expands into an uneven platform of considerable dimensions, and is finally lost in a craggy mountain, at the distance of one mile and a half. On the sides of the ravine, contiguous to the apex of the triangular space upon which the city is built, two semicircular ridges, of height of three hundred and fifty feet elevation above the bed of the river, encroach upon the limits of the

city; the one on the right for a distance of one hundred and fifty yards, that on the left for one hundred; these finally terminate by an abrupt, and in some parts a precipitous descent, near the centre of Tortosa.

These projecting eminences, by which a great part of the ravine already alluded to is occupied, are strongly fortified on both sides. The one on the left is occupied by the citadel; that on the right, which is the largest, by a large and beautiful barrack, which, during the epidemic season, was converted into a lazaretto and hospital. The Spaniards, not contented with the fortifications of the citadel on the land side (from which only the town could be assailed by an enemy), have erected a wall of immense height and strength, on the side which looks to the town, and which is defended, in the natural state, by perpendicular cliffs of considerable elevation. It follows, from the height of this projecting shoulder of land, which actually overhangs the town, that, as the houses are principally built against the rock, they are inaccessible to the free circulation of air at the rear; consequently they are almost destitute of ventilation in calm weather, especially as the houses increase in height as they descend towards the river. The eminences on the right and left, as they skirt the town, terminate in craggy, and in some parts perpen-

dicular cliffs. The eminence on the right is somewhat more extensive than that on the left, and it is naturally strong; but, independently of its natural strength, it is covered with artificial works, which finally terminate at the river on the right of the city, as those from the citadel do on the left. The buildings, on the right side of the ravine, are partly formed by the rock in the rear, and defended from the breeze by craggy precipices and works of art. The descent on both sides, from the points of elevation, is precipitate, irregular, and rugged.

The city, as before stated, is of triangular form, the base skirting the river; the apex enveloped, if I may use the expression, by stupendous cliffs, and lofty artificial works. The houses in the vicinity of the river are from three to four stories high; they are generally locked together in the rear, so as to possess no means of ventilation except at the front. Many of the streets are not broader than one and a half or two yards; so that the roofs, which project more or less, nearly meet, and in a great measure exclude the light towards evening; hence, as the sun approaches the horizon, lamps, &c. are lighted in all the ground floors. There is a peculiarity in the form of construction of this city, which I have not hitherto seen in Spain. Barcelona is ill constructed; but the under sto-

ries, on account of the damp, are rarely occupied. In Tortosa, on the contrary, the lower floors are not only inhabited, but inhabited under a complication of miseries. The staircases, which frequently break off at the distance of three or four yards from the external door, are usually only one yard wide, dark, and dirty. Under the staircases are arched ways, which much resemble the holds of small ships or brigs when the hatches are closed. These arched ways communicate with apartments in the interior; and, as the whole are supplied with air and light from the street door, it is evident, that, when the narrowness of the streets is taken into consideration, a quantity of air adequate to the support of health cannot have admission into these abodes in calm weather. Towards the angle of the ravine, at the south-east extremity of the town, the houses diminish in height; they are generally one story high. As they ascend towards the fortresses on the overhanging heights, the condition deteriorates; for, as the poverty of the owner increases, the main object becomes the means of diminishing expense, in constructing a place of abode for himself and family. Glass is never seen in the windows of the miserable cabins of the poor; it is not even common in the windows of the rich. The streets of Tortosa are well paved, but they are

without sewers for the conveyance of nuisances into the river. Lofty walls, which terminate at the bank of the river, defend this city from the salutary breeze, as well as from the threatening enemy. The river, which is one hundred yards broad, was so destitute of water, prior to the appearance of the epidemic, as to be fordable by foot passengers; a circumstance, I am told, seldom or never observed before. The want of sewers obliges the inhabitants to carry their nuisances from the houses to the river. The circumstance is not, perhaps, of moment on ordinary occasions, when the river is full, for the impurities are then carried off by the current; but at other times, when the river is low, so that a space is left between the outer bank and the moving stream, the nuisances of the city are accumulated upon it, and they emit, when acted upon by a powerful sun, noisome vapours, which predispose to disease, and, if I mistake not, on many occasions produce it. The preceding winter was hot and dry; the mountains presented no covering of snow, an unusual occurrence in that climate. The days were hot, the nights were calm and oppressive, for months preceding the epidemic. Tortosa is nearly surrounded by lofty mountains, and its locality thus renders it liable to all the effects arising from sudden and irregular changes of tempera-

ture; *viz.* violent gusts of wind or dead calms. The breezes, which rush down the ravine in strong and direct currents, wind in eddies around the banks and in the streets, so as to act unequally, according to the circumstances of locality. The houses, which are situated upon the sides of the hills, or near the commencement of the expansion which forms the space upon which the principal part of the town is built, are particularly exposed to changes of temperature, from these varying currents of wind; and so exposed, they are but little protected by form of construction from the effects thence resulting. The eastern breezes, which are surcharged with moisture and oppressive, from something unknown in their nature, act unfavourably on the health of the people. There is no open swamp in the vicinity of Tortosa; but the site of the city is alluvial, and water is to be found close to the surface, throughout the whole of the extensive plain on the opposite side of the river. Intermittent and remittent fevers are common: a concentrated continued fever, commonly called putrid, frequently occurs in the autumnal months; and a complicated dysenteric form of malady, which has sometimes proved fatal to a considerable extent, appears annually; it was epidemic in the year 1810: the ravages occasioned by it were then considerable.

ORIGIN OF THE YELLOW FEVER AT TORTOSA,
IN THE YEAR 1821.

The history of the malady in Tortosa, as well as of Barcelona, in so far as relates to the first cases, is involved in considerable obscurity. The disease, according to the latest official reports of the authorities and Board of Health, appeared in the person of Salvador Curto, a soap dealer, who sailed from Barcelona on the 1st of August, and arrived at Tortosa on the 4th. He was taken ill on the 6th, in the soap manufactory Calle de Merced, the property of Raphael Magrina, and died on the 11th, without yellowness, black vomiting, or hæmorrhages; symptoms which usually characterize the epidemic yellow fever under a fatal form, when treated by the Spanish physicians, or when the evacuating plan of cure is neglected. From the symptoms under which he laboured (if we are to form a judgment from the report of the attending physician), it would appear, that his disease was the bilious remittent fever, by which several others in the city were at the same time afflicted. But, as these were not newly arrived from a suspected place, their cases were unnoticed, and considered, even by the physicians, as the periodical diseases of the season. After the disease had exhibited a formidable aspect, suspicion was attached to Salvador,

as being the person in whose habit it was imported. His wife slept with him during the two first days of his disease, and paid him all the attention which is due to a husband when under affliction; yet she received no injury from contact. Several persons held free communication with Salvador; and, with the exception of a sailor, who accompanied him from Barcelona, none were affected by the malady until it was prevalent in the city, then some of his friends died. The death of some of Salvador's relatives (although the importation had been previously fixed upon a man named Buenaventura Puich) attracted the attention of the authorities; who, regardless of the general cause, and of the calamity which at the time afflicted the whole of the city, abandoned the indirect suspicion of importation in the person of Buenaventura Puich for that of Salvador, who had unequivocally communicated with Barcelona. Four persons who continually worked in the soap manufactory, subsequently to the death of Salvador, continued healthy. Some of the family of Juan Pablo Ribas, who was the proprietor of the soap manufactory, held free communication with the sick man. Ribas and a little boy sickened; the former was attacked with the disease on the 3d of September, the latter on the 17th. The family, to the number of seventeen, and three friars, all of whom were exposed to contagion,

if such existed, held free communication with the sick persons without experiencing harm.

The foregoing is a simple statement of well authenticated facts relative to Salvador Curto, the reputed importer of the yellow fever into Tortosa, in the year 1821. That he communicated with Barcelona is unquestionably true; but he communicated with it at a time when, if we are to credit report, the city was free from disease. The tale of importation in this instance is firmly believed, not only by the vulgar, but by the medical faculty; who, regardless of authentic evidence, conjure up fictions and credit reports, however improbable and inconsistent, if they are in favour of their preconceived opinions. It has been customary in Spain, whenever suspicious cases of fever appear during the autumnal months, either to remove the patients to the lazaretto, or to prevent communication between the healthy and the sick by armed force; and, afterwards, to use every precaution against presumed infection, by washing, cleaning, fumigating, ventilating, &c. This system has been invariably resorted to since the year 1800, whenever the nature of the disease excited alarm; but, as such precautionary measures were not deemed necessary in the instance before us, it is fair to conclude, that the form of malady under which Salvador laboured was not con-

sidered to be different from the common endemic, or autumnal fever of the city.

The first marked case of yellow fever, according to the official report of the Board of Health, and authorities of Tortosa, a copy of which I procured through the Political Chief of Barcelona, and which on examination on the spot I found correct, appeared in the person of a seaman, named Buenaventura Puich, belonging to the brig Ventura. This vessel sailed from San Felio Guixolo early in July, and was detained fifteen days in the river Ebro, for want of water to float her to the city. Previous to the arrival at port of the seaman in question, he had been shooting for four successive days under a parching sun. After his entrance he held no communication with Salvador, nor with any of his family. He was taken ill on the 11th of August, and visited on the 13th by Doctors Joseph and Ramon Galindo, who pronounced his disease to be yellow fever. When black vomiting, and other unequivocal symptoms of a malignant disease made their appearance, he was forcibly taken from his bed at eight o'clock at night, obliged to dress himself, and, with a rope around his neck, forcibly dragged by four armed soldiers to a lazaretto in the country, at which he arrived after a march of three hours. The lazaretto, being unoccupied, was forced open,

and the unhappy and helpless victim, without assistance, or even water to allay his thirst, was left to his fate for the remainder of the night, without a bed on which to repose, without an individual to whom he could speak, and without nourishment of any kind. He died on the 15th, with the usual symptoms of yellow fever; *viz.* yellowness, hæmorrhages, black vomiting, &c.

The foregoing was the first case of the yellow fever at Tortosa noticed by the authorities; the next was in the person of a seaman, newly arrived with Salvador Curto, from Barcelona. After the death of these sailors, cases appeared in various parts of the city, where communication with sick could not be traced*.

* In a dictamen, on the origin, course, contagious propagation, and extinction of the yellow fever of Barcelona, published by a few of the medical gentlemen of that city (Dr. Bahi at their head, who scarcely treated a case, for he deserted the city at an early period, and contemplated, as Dr. Piguillim observes, "the contagion of the malady from afar, through a telescope"), it is stated, that "a servant of the house of Ribas (*viz.* Salvador Curto) sailed from Barcelona on the 1st of August to return to his house, after having had communication with the vessels lately arrived from the Havannah, and with Barceloneta. He fell ill at sea, and died a few hours after his arrival at Tortosa. From him the disease passed to his confessor, then to the owner of the house, then to the assistants, then to the visitors, spreading through the city, and seizing with the greatest rapidity upon all the streets which were first affected. We have in our

So determined are the authorities and the people of Tortosa on the score of importation, that they declare (although contrary to the opinion of the attending physician, who is also an advocate of importation), that the disease, under possession the certificate of the physicians of that city, relative to the origin of the disease, course, communication, destruction of the evil, with the printed manifesto published by Vidua Ribas*, which confirms it. In Tortosa, the yellow contagion committed rapid and horrible destruction, in consequence of the great heat of the preceding winter, and its topographical situation."

I assert unreservedly, that the whole of what is mentioned in the preceding paragraph, relative to the origin of the disease of Tortosa, is false. For the truth of what I state, should it ever be questioned, I must refer the reader to the family of Ribas, to Mr. De Mora, lieutenant of artillery, who took considerable trouble in assisting me in the investigation, and from whom I received the greatest attention during my sojourn in that city. Mr. De Mora believes in importation and in contagion; but, as I believe him to be a man of judgment, and willing to give any information in his power, which may lead to the elucidation of the subject under consideration, any reference to him, will, I doubt not, be strictly attended to.

1st. Salvador Curto fell ill in the city where he died.

2d. They cannot have the certificate of the physicians of the city, for they either died, affected illness, or ran away, with the exception of one, who shut himself up in the lazaretto, and never showed his face in town.

* Vidua Ribas, if I mistake not, was the physician who shut himself up in the lazaretto.

which Buenaventura Puich laboured, was not the epidemic, but a putrid fever; and, although Salvador Curto's malady, as well as that of several others, who were affected at the same time, were unnoticed; yet when it was found, that an epidemic prevailed to some extent, the importation was fixed upon Salvador, from an idea that he brought it from Barcelona, though the disease scarcely existed there at the time of his departure. It is true, that suspicion might have been attached to him as being the importer by the ignorant, or by those whose prejudices lead them to the speedy adoption of opinions, however ridiculous and inconsistent, which favour and support their doctrines; but, in my mind, no enlightened person, when he impartially takes into consideration all the circumstances of the case, will consider Salvador as the person who imported yellow fever to Tortosa in 1821. Several persons died of fever in Tortosa in the latter end of July and beginning of August; and no suspicion was attached to them, because they held no communication with infected places. Salvador Curto's case was not noticed by the authorities until the 1st of September, although he died on the 11th of August; and it would not have been noticed then, had Buenaventura Puich touched at Barcelona. The first attempt, as I before stated, was made to fix the importation of

the disease on Buenaventura Puich ; but, when it was ascertained that he had no communication with Barcelona, and that he had remained a considerable length of time in the river, the attempt was abandoned, and a report was immediately sent abroad, that the disease of which he died was not yellow fever, and that the liquor ejected from the stomach was chocolate, and not black vomit. The importation was then fixed upon a man, who died of a disease which little resembled the epidemic yellow fever when left to itself, or treated by the Spanish physicians ; and this was done merely because it was ascertained beyond a doubt, that he had recently been in a city in which an epidemic influence prevailed.

The unexampled cruelty of the Board of Health towards Buenaventura Puich was not suffered to pass unnoticed. The military governor, Don Miguel de Haro, supposing that its conduct was a species of refinement on brutality, not sanctioned by laws either human or divine, remonstrated against the proceedings, and preferred a formal complaint to the Political Chief of the province, who, in all probability, treated it with little attention ; for the propriety or non-propriety of treating a fellow creature, while under disease, with such brutality, has not hitherto been a subject of investigation in the

province of Catalonia, at least if I am informed correctly.

This dreadful contagion, which, according to official reports, reached Tortosa on the 4th of August, made little progress until the 29th, although upwards of sixty persons held free communication with Salvador during his illness, and many assisted him, even during his dying moments, who were not affected by the malady. On the 29th of August, the day being hot and without the customary breeze, the night oppressive and calm, thirty persons were suddenly seized with a destructive fever, of whom, if my information be correct, not one recovered. After this period the increase of sickness was wonderful—the people fell by hundreds daily; destruction was anticipated, for few of the infected escaped death. On the 11th of October, a smart breeze set in from the north-west, the progress of the malady was suddenly arrested, and subsequently to this few were affected*.

The three first cases noticed by the Junta

* The sudden disappearance of this disease was somewhat singular and unusual; it is a fact strongly subversive of the existence of contagion. The advocates of contagion in England attributed the subsidence of the disease to the emigration of the inhabitants, but that took place only to a certain extent.

happened in the persons of men who had recently been at sea, from which we may reasonably conclude, that individuals removing suddenly from fresh air to an infected town are much exposed. The progression of the pestilential principle is in my opinion gradual; for it would appear, that the inhabitants of a town, in which an epidemic influence is accumulating, become insensibly habituated to the impression, and apparently resist, where persons newly arrived not unfrequently suffer. Hence the great danger in removing from fresh to infected air. The sudden change in the system may prove dangerous, and ultimately fatal; for it not unfrequently happens, that new comers are instantaneously struck in entering the town, at a moment when, in all probability, thousands, who are exposed to the cause from which they suffer, continue healthy. This was strongly exemplified in my own person in the year 1821; for, although the epidemic influence did not prevail to a high degree at Xerez when I entered that city, yet I became indisposed on the night of my arrival; the febrile excitement was great; but, by the aid of active remedies, I was soon restored to health.

It is from this cause that the contagionists find so many plausible cases in support of the doctrine of importation. The inhabitant of an epidemic district, whose system becomes gra-

dually habituated to the progressive advance of an epidemic influence, which has not yet attained a sufficient degree of intensity to produce disease in native subjects, retains health, whilst the sailor or traveller, from his susceptibility of impression, is suddenly affected by a malady, probably bearing all the diagnostic marks of the succeeding epidemic. If it so happen that the stranger has had intercourse with an epidemic quarter, he is considered as the importer. But if such communication cannot be proved by substantial fact, suspicion is still attached to him, and a story is fabricated to give plausibility to the rash assumption.

As there are many who may differ with me in opinion, and consider Salvador Curto as the importer of the yellow fever into Tortosa in the autumn of 1821, I think it important, in order that they may be the better enabled to form a judgment on the case from something like evidence, to give the deaths which occurred in his family, with dates, &c.

Salvador Curto died on the 11th of August. His brother died on the 19th. The brother's wife died on the 29th. A boy, who worked in the manufactory, died on the 30th. The son of Salvador died on the 11th of September. Two of Salvador's brothers, his wife, and two persons who worked at the same place subsequently to

the death of Salvador, were not affected by the malady.

The population of Tortosa was fifteen thousand; one-fourth emigrated; four thousand, it is conjectured, died; and the remainder, with the exception of a few, enjoyed good health.

Previously to the appearance of the epidemic, there were five physicians and three surgeons. The surgeons died; two of the doctors also fell victims; a third was attached to the lazaretto; a fourth, alarmed at the fate of the others, ran off; and the fifth affected illness; consequently medical aid was not to be had.

On the opposite side of the river there are two villages, one named Jesus, the other Roquitas, situated at the distance of one mile from the city, and about one hundred and fifty houses are interspersed throughout the plain. The villages and country houses contained the emigrants from the city. In the village of Jesus a man named Cordoba and his daughter, both of whom communicated with Tortosa, died. The disease was not communicated to the attendants: several persons died in this village, without injury to the inhabitants, or the most assiduous of the attendants.

In the village named Roquitas several persons died. The first, who fell victims, were two women, named De Juari. After these a barber.

After the barber the mayor. They all contracted the disease in Tortosa. Their attendants were not affected, nor did the malady spread in the village.

There is, besides, a village named Regens, distant from Tortosa five miles. Some persons died in this village, but the result was the same as in other cases.

Several persons died in the country houses, but without detriment to the families or attendants.

The mercury in the thermometer has been known to rise as high as 110° in Tortosa; the average range in the summer and autumnal months is between 80° and 90° .

CHAPTER V.

A SKETCH OF THE MEDICAL TOPOGRAPHY OF MALAGA.

MALAGA, a large town of considerable trade and importance, is situated on the western coast of the Mediterranean sea, at the distance of eighteen leagues from Gibraltar, and twenty-one from Granada. It is bounded on the south by a deep bay; on the west by a fertile and extensive plain, which extends in a north-west direction towards Ronda and Seville; and it is protected on the east and north by lofty mountains; the mountains on the northern side are distant from three to four miles; those on the east skirt the town. The plain on the western side is sandy and alluvial throughout, more particularly towards the sea-coast; it is watered by a river of considerable size.

Malaga, the area of which is about two and a half miles in circumference, containing a population of about sixty thousand, is, like most other Spanish towns, ill constructed. The site is alluvial, and elevated only a few feet above the level of the sea at high water mark. The bed of

the Guadalmedina river, through which torrents rush down with impetuosity during the rainy months, and which is almost dry in summer, runs through the western extremity of the town. On the eastern side, not far from the harbour, stands an old and extensive Moorish castle, which, as it defends the town from the eastern breeze in calm and oppressive weather, may be supposed to act injuriously on health, in the filthy abodes of the poor, which are very injudiciously arranged along its western sloping extremity. From the castle, which protrudes abruptly on the town, a hill of considerable elevation extends in a northerly direction, so as to skirt the whole of the town on that side. It is on the sloping side of the hill, and in the immediate vicinity of its base, that the poorer classes dwell; and, as this district is justly considered the most filthy and least ventilated in the town, both from situation, form of construction of the houses, and narrowness of the streets, it has been also considered as the most unhealthy—*viz.* the first that suffered when epidemic influences prevailed. The proximity of the Moorish castle to the bay, and the impure parts in its neighbourhood, afford grounds for surmise and suspicion in seasons which exhibit the pestilential character. It is remarked, that the first cases of malignity appear in this district; hence

suspicion attaches to the sailors, who visit the brandy and wine shops, and houses of ill-fame, which abound in this quarter. They contract sickness from local causes, and are thus frequently and falsely accused of importing it from a foreign country.

The streets throughout the town are generally narrow, many of them are only two yards wide. They are ill paved, and not unfrequently dirty; for, as there is a scarcity of sewers in many parts of the town, the filth is allowed to remain in the streets in small heaps near the doors, until the careless owner or slovenly scavenger thinks fit to remove it. The houses are from two to five stories high; the windows in front are large, and generally descend to the floor; the front rooms are consequently well ventilated; those in the rear, uncommonly small and obscure, are supplied with air and light from the apartments in front. The stair-cases are for the most part narrow, dirty, and dark; and, as several families occupy the same house, they are reservoirs of offensive impurities. On the whole, however, Malaga, although by no means a handsome or clean town, may (with the exception of the districts in the vicinity of the Moorish castle) be considered superior to most others in Andalusia. The part of the town which borders on the sea may be called handsome; the streets in this quarter are wide; the

houses high and splendid. There is, besides, a beautiful promenade, ornamented with trees, &c., which runs parallel with the beach, at the distance of one hundred yards, and which impresses the stranger with the idea of magnificence. The women of Malaga, those of Cadiz excepted, are considered as the most beautiful in Spain.

ORIGIN OF THE DISEASE AT MALAGA IN THE
YEAR 1821.

The Danish schooner *Initium*, Peter B. Daker, captain, sailed from Barcelona on the 24th of July, touched at Carthagena, took in ballast, and arrived at Malaga on the 1st of August. Claus P. Cleyn, a sailor, was attacked with fever on the 26th of July, and died on the 31st. There was no vomiting, except from an emetic; no hæmorrhage, and no yellowness. Previous to the departure of Cleyn from Barcelona, it was said that he went on board a brig lately from the Havannah. Another sailor became indisposed in the port of Malaga on the 2d of August, and died on the 7th, without what are considered by the Spaniards the diagnostic marks of the yellow fever, *viz.* black vomiting, hæmorrhages, and yellowness. During the whole of this man's disease he only vomited once, and then the irritability of the stomach was occasioned by bark. On the 13th, two Swedish

sailors embarked in the schooner, and both were attacked with fever on the 18th: one died*. This vessel got pratique on the 11th of August, the health officers went alongside daily, and administered medicines.

The foregoing remarks may be considered authentic. On my arrival at Malaga, the suspected schooner was in port; and, after having obtained a letter from the Danish consul, I proceeded on board with the British vice-consul, and collected the foregoing facts from the captain, who appeared to be a man of respectability. Whether this man had the causes of disease applied at Barcelona, or on board a ship, it is difficult to decide. But if we can form a judgment from the date of her departure from Barcelona, and from the list of deaths which occurred in the port, we are disposed to conclude, that the malady was occasioned by the action of a powerful sun, acting in combination with local causes, upon persons recently from sea and natives of a cold climate; for we find, that of the twenty-one persons who sickened in the port, seventeen were born in northern climates, and four were Spaniards newly arrived from other ports. This fact alone proves, that the sudden action of

* The nature of the disease could not be ascertained, for the authorities would not permit an examination of the patients before or after death.

a powerful sun is calculated to produce fever in natives of a northern latitude in the south of Spain as well as in the West Indies*. The supposition is strongly subversive of the opinion of importation; and it confirms me in belief of my opinion, that there is little or no liability in the crew of coasters, &c., to attract this form of malady. The disease had no sooner appeared in the port of Malaga, than it appeared in the town at different and distant points. It was more prevalent in the dirty, ill-ventilated parts in the vicinity of the Moorish castle, than elsewhere; and, in that district, few of those who were attacked recovered. The medical faculty, finding that the malady did not spread with its usual rapidity, and fearful that that circumstance might be adduced in support of its non-contagious nature, thought proper to deny its existence; but, as it became alarming in its attacks, and as it was discovered to be equally, if not more destructive than in former years, when general epidemic influences prevailed, they at last reluctantly acknowledged, that the disease was analogous, in every respect, to the epidemics of former years.

* Thomas Gill, a seaman belonging to the Bann sloop of war, was admitted into the 26th Regimental Hospital, at Gibraltar, on the 28th of April, labouring under yellow fever; he became yellow on the third day, and, after an illness of twenty days, recovered.

Supposing that the disease had been imported in the schooner *Initium* from Barcelona, and that all the persons who died in the port received the infection from communicating with that vessel, how did it happen, that the foreigners who were on board contracted disease, and that the natives, or those who were assimilated to the climate, continued comparatively healthy? Or how could it have happened that the board of health, which now boasts of the services it has done the country in the suppression of the malady on ship-board, should have suffered it to appear in the city, without being able to say from whence it came; for it is a fact, ascertained beyond a doubt, that the persons, who were first attacked in the Moorish castle and its vicinity, held no communication with the port, nor with infected persons? And, finally, how did it happen that an imported disease, which exercised its merciless ravages upon foreigners, should have ceased, after having entered a populous town, and after having affected upwards of two hundred persons, without farther detriment to the population, where no restrictions were imposed on its course after a given time, *viz.* a few weeks.

The authorities in this instance, as well as in most others, were puzzled as to the manner in which they might introduce the disease into the

town; for, when the first cases appeared, the port was guarded by an armed force. They were therefore under the necessity of resorting to supposition; and the accounts, or rather surmises, which they then gave to the public, and upon which their quarantine restrictions are founded, were, it may be presumed, inaccurate and inconsistent. They attributed the origin of the first cases, which made their appearance in and about the Moorish castle, to clandestine importation of goods from the shipping, without the slightest evidence in support. This fact, alone, shows how little dependence can be placed upon the statements and assertions of official authorities, where they are called upon to support a system upon which their characters and interests depend.

It is a fact, ascertained beyond a doubt, and which cannot be disputed by the most prejudiced of the Spanish faculty, that yellow fever appears annually in all the large towns on the southern coast of Spain, either epidemically or sporadically. It even sometimes appears in the interior, *viz.* in Murcia, Orihuela, Granada, Cordoba, &c., without apprehensions being entertained on the head of importation, or on the power of propagating from person to person by intercourse with the sick. A disease of a similar nature appears annually in Gibraltar, some-

times in an aggravated form, and runs its course to death or otherwise without injury to the attendants. This is the fact: the medical officers of the garrison, generally, can vouch for its authenticity; yet some, who have doubted the existence of this disease on the rock, without importation, positively maintain, that "even the bilious remittent fever is not common there, and ague not known," an opinion, which unquestionably betrays, either a want of knowledge, or a want of candour.

The annexed return will give an idea of the deaths, &c., in the port of Malaga in the autumn of 1821.

RETURN OF NUMBER OF DEATHS, &c. IN THE PORT OF MALAGA, IN THE AUTUMN OF 1821.

Date of Clearance.	Nation.	Name of Vessel.	Name of Master.	Number of Sick.	Num. of Deaths.	REMARKS.
1821, Aug. 22	Danish	Brig Mariana	P. Broder Decher	2	1	From the 24th October nothing further occurred afloat.
—	Ditto	Schooner Laurina	Thomas Brechel	2	0	
—	Ditto	Ship Matilda	John Muller	2	0	
—	Swedish	Schooner Mariana	Peter Sorwer	1	0	
—	English	Schooner Eclipse	James Newton	1	1	
25	Danish	Brig Nicolino	L. C. Mollat	2	0	
—	Ditto	Brig Ann Catherine	Malix Bandix	1	0	
26	English	Brig Prince Regent	Richard Benson	0	1	
—	Spanish	Lugger San Jose y animos	Valentine Lozarregin	2	1	
Sept. 2	English	Brig Auspician	Naper Drewet	1	1	
—	Ditto	Schooner Superb	William Murdock	1	1	
13	Danish	Brig Mariana	James I. Schroder	1	1	
14	English	Schooner Flying Fish	John Bates	1	1	
Oct. 8	Spanish	Xareque N. S. de la Solidar	Lewis Genea	0	1	
—	English	Brig Harriet	John Sherlock	0	1	
—	Ditto	Brig Elizabeth	John M'Dowel	0	1	
14	Spanish	Xareque Las Almas	Miguel Alemany	0	1	
24	French	Bombardier Victor	John Gourain	0	1	
—	Danish	Schooner Initium	P. B. Daker	4	4	
				21	17	

Deaths at the lazaretto.....	82
Ditto at the general hospital; common cases	72
Ditto in town; common cases	180
Ditto, ditto, suspicious cases	99
Ditto afloat, ditto	13
<hr/>	<hr/>
	446

Taken daily, by the undersigned, from the reports published by the Board of Health, at Malaga.

(Signed) N. E. FASHA,
British Vice-consul.

6 Dec. 1821.

The vessels alluded to were under a quarantine of forty days, and ordered to Mahon.

Vessels in the Bay were allowed to unload, by paying to the Board of Health 300 reals of vellon for a licence, and an equal sum for loading.

CHAPTER VI.

A SKETCH OF THE MEDICAL TOPOGRAPHY OF PUERTO DE SANTA MARIA.

THE town of Puerto de Santa Maria, which contains a population of thirty thousand souls, is situated on the north-east side of the bay of Cadiz, near the mouth of the Guadelete river, at the distance of three leagues from Cadiz, two from Puerto Real, one and a half from Rota, two from Xerez, and three from San Lucar. The town, which is a mile and a half in length, and three quarters of a mile in breadth, skirts the western bank of the river. The site of the town declines towards the bank of the Guadelete by gradual descent, so as to render the locality unobjectionable. The soil of the site is sandy. The streets wide generally; well paved near the river; ill paved, or not paved at all towards the country. Near the river, they are tolerably clean. A large and beautiful street, called the Calle Ancha, or broad street, runs in a south-west direction, at the distance of two hundred and fifty yards from the river, nearly through

the centre of the town. This broad street, which is one mile in length, and formed by houses of a superior kind, is intersected at right angles throughout its whole length by streets, which are distant about eighty yards from each other. The intersecting streets are narrow, the houses generally small and not well ventilated. The streets of Santa Maria are clean in winter, as washed by streams of fresh water, more or less polluted with offensive materials from the houses. In the summer months, when there is a deficiency of water, they are for the most part dry; but pools of black stagnant water are to be met with at intervals, wherever the pavement has been damaged: these emit offensive vapours when acted upon by a powerful sun. The houses in general throughout this town are tolerably well built, and on the whole judiciously arranged, at least more so than we generally find in Spain. There is a scarcity of sewers in Santa Maria, a want which induces the inhabitants (who, to do them justice, are not over particular on this head), to leave filth and ordure within doors until it is no longer tolerable.

Puerto de Santa Maria is built on the bank of a broad and muddy river, into which the filth of the town is thrown. The stench from the mud is said to be very disagreeable at low water. There is a small swamp on the right of the

town, opposite to the river: a swamp of considerable dimension extends towards Puerto Real, the town itself being partly built upon the verge of one of the most extensive morasses in Andalusia, extending in a north-east direction towards Xerez, Arcos, &c. This swamp affects not only the inhabitants of Puerto de Santa Maria with intermittent and remittent fevers; but the health of the people in all the neighbouring parts is supposed to suffer from it.

ORIGIN OF THE DISEASE AT PUERTO DE SANTA MARIA, IN THE YEAR 1821.

CASE I.

In the street called Charity, or la Caridad-house, Cæsaria, of the Duke of Medina Celi, two Asturians, the one named Francisco, aged twenty-five, the other John, aged forty, were taken ill on the 8th of August, with a disease analogous in its symptoms to the yellow fever of the south of Spain: both died on the 14th. From the circumstances related by the people of the house in which the men in question lived, there was no probability as to their having communicated with the shipping, nor with their crews; but, allowing that they held free communication with every vessel in the port, there was none (astonishing to relate!) to which suspi-

cion of importation could be attached during the rage of the epidemic of 1821. This is a singular fact; the authorities were not able to trace the origin of the malady to a foreign source; but the people, conceiving that a disease of this nature could not be generated locally, declared that it was imported in a brig from Martinique.

CASE II.

In the street called La Caridad, first house of the Duke of Medina Celi, Antonio Busto, aged twelve, was seized with yellow fever on the 14th of August, and died on the 29th. Joseph Busto, aged eight, fell ill in the same house on the 26th of August, and died on the 29th; neither of them communicated with the Asturians, nor with sailors from the shipping. Their friends, who were candid enough in detailing every circumstance connected with the disease, period, and mode of attack, said that they supposed the malady was occasioned by the vapours from the neighbouring sick, *viz.* the Asturians.

CASE III.

In the street called Palacio, in a wine-house, fronting the church called Charity, Francisco Sanches, a boy, eleven years old, was attacked with the yellow fever on the 19th of August, and died on the 24th. The family stated expressly,

that this boy had no communication with sick persons, nor could he possibly have had any with the shipping.

CASE IV.

In a blacksmith's house in the street called Swilla, Manuela de Sota, aged twenty-four, was taken ill with yellow fever in its most complicated form on the 20th of August, and died on the 24th. She had no communication with sick, nor with sailors.

The foregoing well authenticated cases, the first which appeared in Puerto de Santa Maria, were carefully noted by me in the presence of the friend of Mr. Dumeck, a Cadiz merchant, to whom I am much indebted for the trouble which he took on this occasion. They unquestionably, in my opinion, prove, that the malady appeared without being imported, and that it spread, not from contagion, but from an unknown cause.

The origin of the disease in this instance was attributed, by the vulgar, to the eating of fish which was boiled in impure coppers.

In the *Periodico de la Sociedad Medico Quirurgica de Cadiz*, published in 1822, it is stated (page 24), "The epidemics of Xerez in the year 1820, and of Puerto de Santa Maria of 1821, were probably reproduced from the con-

tagion which ravaged those towns in the preceding years."

In page 28 of the same work it is observed, that "The physicians of Puerto de Santa Maria acknowledge the happy results which followed the precautions taken in the years 1804, 1813, and 1820; but they cannot refrain from complaining of the indifference which was manifested in the years 1819 and 1821, on this interesting subject."

We have here an example of the equivocating character of the Spanish physicians of Puerto de Santa Maria. They attribute the immunity of the town from disease in the year 1820 to their precautionary measures in preventing intercourse with the infected towns. This is not the fact; for several persons, who contracted disease in Cadiz and Xerez, sickened at Puerto de Santa Maria in that year. I passed through it from Cadiz and Xerez on four occasions. Dr. Jackson passed through the town from Xerez without interruption. The Gordons of Xerez passed backwards and forwards when they thought fit; and in fact, the calash driver saying that he came from the country was a sufficient passport into the town. When strangers pass unmolested, what may not the natives do?

CHAPTER VII.

A SKETCH OF THE MEDICAL TOPOGRAPHY OF XEREZ DE LA FRONTERA.

THE town of Xerez, which is situated at the distance of two leagues from Puerto de Santa Maria, and contains a population of forty thousand souls, stands on the southern elevated extremity of an extensive plain. This plain, which is bare of wood, is often inundated during the winter and spring months; it is not even entirely dry in the hottest weather. The town is nearly surrounded, during the prevalence of heavy rains, by swamps; the smallest is close to the town, and the greatest at the distance of about three miles. To the local situation of Xerez may be ascribed its unhealthiness; and the number of intermittent and remittent fevers, of a complicated nature, which annually harass the inhabitants.

The town itself has a few broad and tolerably well-paved streets in the centre; but in other parts, with the exception of two small squares, the houses are ill constructed, the streets narrow, and either badly paved, or not paved at all.

But beside this, the streets in general, throughout their whole length, are covered in the centre with filth and ordure of all hues, collected from every house, so that passengers have only a narrow footway upon which they can walk with safety. Pools of black, stagnant, stinking water appear in the different streets, with few exceptions, the intermediate spaces being covered by ordure, which, as disturbed by accidental violence, emits a stench which is scarcely tolerable. This loathsome condition of the town arises from the want of sewers to carry off the impurities thrown into the streets, and allowed to remain there through the indifference and laziness of the people. In some streets in the suburbs, where the poorer classes dwell, the nuisance is insufferable. The houses are low, crowded, ill ventilated, and commonly dirty within. The front wall is proportionably long; a door in the centre gives entrance into the dwelling, and to a square yard, or court, formed in the rear by the junction of four similar buildings, the abodes of different families *. The houses here being in general but one story high, the heat, during the summer and autumnal months, becomes insup-

* This form of construction of the abodes of the poor is not confined to Xerez; it is a Moorish plan of building, generally adopted in the suburbs of the majority of the Spanish towns and cities.

portable, from the direct application of the rays of a burning sun to the roof. Every room in these squares is for the most part occupied by a separate family, air and light being admitted by one door to the several apartments. The occupants of these apartments are numerous, and their means of accommodation deficient. Such, as may happen to be ill of fever, or other disease, are laid at the corner of the room; the others move about in the chamber without restraint, or apprehension of danger from what is near them. This is common; and it is under these circumstances that disease commits its most terrible ravages; few escaping with life, when seriously attacked.

ORIGIN OF THE DISEASE AT XEREZ, IN THE
YEAR 1821.

CASE I.

Juan Gonsales, who resided in the Plaza de la Constitucion, was attacked with yellow fever on the 13th of August, and died on the 20th. When the Junta de Sanidad discovered that a case of yellow fever appeared at a suspicious season of the year, a board of medical men was ordered to visit the patient, and report upon his case. The board was composed of the following members; *viz.* Doctors Terran, Blanco,

Xemeranes, and Fuentes. They were unanimous in opinion, that the disease was the epidemic yellow fever; and they recommended that measures should be immediately taken to prevent its spreading. In consequence of this opinion, the whole of the family, and such persons as were known to have communicated with the sick man, were immediately sent to the country, and placed under strict quarantine in the Carthusian convent. The communication between the healthy and the sick person in question was uninterrupted; the house in which he lived and died was not well ventilated; yet the persons who were placed under quarantine on his account experienced no inconvenience, nor did the cause of disease extend to the adjoining houses.

CASE II.

In the house of Manuel de la Ruoa, street called Porvera, a child, four years old, was attacked with the yellow fever on the 13th of September, and died on the 18th. This child was attended by Dr. De Maria, who reported, that her disease was the epidemic yellow fever, in its true form, characterized, towards its termination, by what the Spanish physicians consider the diagnostic marks, *viz.* yellowness, hæmorrhages from the nose, gums, &c., and black vomiting. There was in this case no pos-

sibility of communication with Puerto de Santa Maria, nor with Juan Gonsales. The disease was attributed to impure emanations from the burial-ground in the rear of the house, belonging to the church called St. Juan de Dios; where, in consequence of some projected improvements, it was necessary to remove the remains of persons recently dead.

CASE III.

In the house of Don Juan Domingues, which is only distant a few yards from the former, and which was also exposed to the reputed cause of disease in the second instance, Maria Augusta Domingues, a young woman, aged seventeen, was attacked with yellow fever on the 15th of September, and recovered. This young girl, who, on her return from Cadiz, remained two days in Puerto de Santa Maria, arrived at Xerez on a Saturday, and sickened on the Monday following. She stated, that she had no communication with sick persons at Puerto de Santa Maria, nor with persons who frequented sick chambers. At a subsequent period (the family does not recollect the precise dates of attack), a boy and a girl were taken ill in this house, and both died. The boy, it was said, communicated with sick persons at Puerto de Santa Maria, and became indisposed on the second day after his

arrival at Xerez. Guards were placed before the house, but to no purpose. Cases appeared on the opposite side of the street, where communication with the sick person was out of question. The fact was distinct : but so determined were the deluded people of this town on the indispensability of that contagious communication, that they attributed the origin of the disease, as it arose in another place, to intercourse with the guards, who were presumptively more or less exposed to the influence of contagion from the invested house, if contagion actually existed ; but the guards did not suffer.

CASE IV.

Juan Cachero, aged twenty-five, was attacked with yellow fever on the 30th of September, in the house of Mr. Lambeye, street called Porvera, and died on the 5th of November. A servant, who slept with the sick man when under disease, received no injury from contact ; and the deceased, it was supposed, held no communication with sick persons ; at least he was strictly cautioned by Mrs. Lambeye against entering into infected houses. When it was ascertained that Cachero laboured under the epidemic fever, the family departed immediately for San Lucar, where a servant sickened on his arrival ; but, notwithstanding the free intercourse between a

numerous family and the sick man, no injury was produced by the communication.

CASE V.

Francisco Lagarde, an old man of impaired habit of body, who resided also in the street called Porvera, was attacked with the yellow fever on the 29th of September, and died on the 6th of November. This old man, who dreaded the very name of yellow fever, held no communication with those actually sick, nor with persons who visited them.

In this instance we have evidence of the disease appearing in the persons of a man and a child, without the possibility of importation. Suspicion, it is true, was attached to them at first, as having had intercourse with smugglers; but as it was ascertained beyond a doubt, that the disease was not occasioned by communication with strangers, the idea was abandoned, and the nature of the diseases alluded to was considered as doubtful*; but all doubt was re-

* The opinion of the Board of Health relative to the case of Juan Gonsales, and the testimony of Dr. de Maria relative to that of the child, are sufficient to prove the nature of the malady with which they were affected. Don Bartholomew de Maria is, if I am not much mistaken, a good and conscientious man.

moved in the case of Maria Augusta Domingues, who unequivocally communicated with Puerto de Santa Maria; and it is now generally believed, that she was the medium through which the yellow fever was introduced into Xerez in the year 1821; although it could not be proved, in a most rigorous investigation, that an individual belonging to the house in which she sickened contracted the disease; notwithstanding the intercourse, which, according to report, existed between her and some of the inhabitants prior to the adoption of precautionary measures*.

* In a pamphlet in favour of contagion, published at Cadiz in the year 1822, entitled "Periodico de la Sociedad Medico Chirurgica de Cadiz," bearing the signatures of seven of the physicians and surgeons of that city, the following concise description is given of the introduction of the disease into Xerez in the year 1821 (page 11), "An individual, who came to Puerto on the 20th of September, and resided in the street called Porvera, No. 656. This individual inoculated his sister; both died, and the contagion propagated to the family and contiguous houses.

N. B. We have here another example of the facility with which vague and unfounded reports are confidently affirmed as facts, by the physicians who have subscribed their names to the pamphlet in question.

I investigated the disease of Xerez with Mr. Haurel and Mr. Gordon. These gentlemen will vouch for the correctness of what I have stated.

CHAPTER VIII.

A SKETCH OF THE MEDICAL TOPOGRAPHY OF LEBRIXA.

THE town of Lebrixa, which contains a population of twelve thousand souls, is distant one league from the Guadalquiver, five from the town of Xerez, and four from San Lucar. The greater part of it stands in a valley, at an elevation of about fifty feet above the level of the river. A rocky hill, of trifling elevation, runs a semicircular course from north to south, through the western extremity of Lebrixa; a small hill, principally adhesive clay, runs a semicircular course on the eastern side, and finally, uniting with the other in the northern and southern extremities of the town, forms a shallow basin in which the town is built. The soil is stiff, adhesive clay. The town is exceedingly dirty, nearly as offensive as Xerez; streams of ink-black matter run through several of the streets, and stagnate in some. In others, though there be no stagnant pools, the accumulation of filth and nastiness, thrown out from the houses, presents

a very disgusting sight. The streets are broad and badly paved, the centre depressed, in order to facilitate the flow of water, &c. to the exterior. The houses are low, rarely exceeding two stories in height; there are few of three stories. Glass windows are seldom seen; wooden shutters are substituted; and, as they are seldom opened, except in extreme heat, the houses are dark and ill-ventilated. This town is defended on the western side by a Moorish castle of considerable dimensions. The country between Lebrixa and the Guadalquivir river, to the very entrance of the town, is perfect swamp for the greater part of the year; it is wholly flooded during the rainy season. The inhabitants then enjoy comparative good health; but when the water, in consequence of excessive drought, recedes from the town, and when the intervening space is covered with a glossy, dry crust, the inhabitants become sickly, harassed by intermittent and remittent fevers, which are difficult of cure, and in some seasons fatal. Ague is the most common form of disease with which the inhabitants of Lebrixa are afflicted; remittent fever is common in the autumnal months, and a species of disease, commonly called tobardillo, or spotted fever, harassed the people at particular times, and occasionally alarmed them by its great fatality.

ORIGIN OF THE DISEASE AT LEBRIXA, IN
THE YEAR 1821.

CASE I.

The first case of yellow fever (if the testimony of the mayor and chief physician is to be credited) appeared in the person of Simon Riega, a man forty years of age, who resided in the Posada Neuva de la Constitucion. He fell ill on the 15th of September, and died on the 18th, from a disease precisely analogous to the yellow fever of Andalusia in its most concentrated form. The family, which communicated freely with the sick man, consisted of eight persons, among whom were five children: not one got the disease*. Two men, who accidentally passed, and slept in the Posada Neuva, were suspected of having imported the malady from Puerto de Santa Maria; but it was afterwards ascertained, that the persons to whom these suspicions attached held no communication with that town, nor with any of its inhabitants.

* The reader's attention is particularly directed to the dictamen of the Lebrixa physicians (page 153) and to the history given by the Medico Chirurgical Society of Cadiz, relative to the introduction of the disease into Lebrixa, in the year 1821 (page 152).

CASE II.

The second case occurred at the distance of five hundred yards from the former, in the person of Maria Catalina, a girl of sixteen years of age, who resided in the Calle Neuva. She became indisposed on the 15th of September, and died on the 21st. This girl had no communication with Simon Riega, nor with any persons who communicated with Puerto de Santa Maria; at least if reliance can be placed on the unvarnished tale of the family itself. Ten persons were exposed to the atmosphere of the malady in this ill-ventilated house of one story high, in which the woman died. No one suffered, although the authorities had recourse to the most effectual means of aiding its propagation, and of assuring the destruction of the family, had its nature been contagious, by stationing guards over the house for the prevention of intercourse with the inhabitants. This cruel and barbarous measure was deemed necessary, in consequence of an old woman (the mother, if I am not mistaken, of Maria Catalina) having had some of her ribs broken by a fall, when returning from Puerto de Santa Maria, twenty-nine days prior to the appearance of the epidemic in Lebrixa.

CASE III.

Gonsales Sancho de la Paz, aged thirty-two, who resided in the street called La Peña, was attacked with the yellow fever on the 16th of September, and died on the 23d. The family consisted of eight persons, among whom were three children. No one suffered, with the exception of a child, who contracted the disease at the expiration of two months subsequent to the death of Sancho de la Paz. This man had no intercourse with sick persons, or with Puerto de Santa Maria; nor had any of his family. He was a labourer, whose occupations confined him to Lebrixa. The house in which he died is distant from the Posada Nueva, where the first case appeared, at least two hundred and fifty yards; and from the house in which Maria Catalina died about half a mile.

CASE IV.

Benito de Salas, a young man, aged eighteen, who resided in the Barrio Neuvo Secundo, was attacked with yellow fever on the 20th of September, and died on the 28th. The family, consisting of seven persons, departed for the country. A boy, at the expiration of fifteen days from the death of Salas, sickened, and died after an illness

of thirty-six hours. Salas was suspected of having had intercourse with a person who was said to have communicated with Puerto de Santa Maria. But be this as it may, the family did not suffer from communication with him or with the boy. The house in which Salas sickened is distant, at least, two hundred and fifty yards from the nearest of those in which the cases previously noted occurred.

The following account of the origin of the yellow fever of Lebrixa is extracted from the *Periodico de la Sociedad Medico Chirurgica de Cadiz*.

“Lebrixa, 1821 (page 12). Don Rodrigo Morales, and some other persons, proceeding from Puerto de Santa Maria, introduced themselves into the Posadas, and infected different men-servants in these lodging-houses. The servant of Don Rodrigo, whose mother was a messenger in Puerto de Santa Maria, came to see her daughter, whom she infected. Antonio Morales Taria, who concealed from whence he came, and Don Benito de Salas (who assisted to unload the cart), and the whole of a family who assisted, died.”

The following dictamen of the Lebrixa doc-

tors was written by desire of the French consul and political chief of Andalusia. It was transmitted to me by Mr. James Gordon, of Xerez, who procured it from the mayor of Lebrixa.

“ Having procured the most correct information from the professional men, and the municipal Board of Health of this town, in order to answer with that truth and delicacy, which the matter you have been pleased to refer to me in your letter of the 4th January last requires, I have the honour to transmit the following observations, as the result of my investigations on the subject.

“ In the year 1800, the people of this town suffered from the yellow fever, in consequence of contagion received from the cavalry regiment of Alcantara, which, proceeding from places then afflicted by the disease, passed a night in this town, and left some sick. The fever spread in consequence, and attacked progressively the inhabitants, in such a manner, that numbers of them could not obtain professional aid or attendance for this malignant and fatal disease. The most authentic reports state, that no less than three thousand persons of different ages and sexes were carried off by the epidemic.

“ From that period the disease has not re-

appeared here. The Board of Health increased its vigilance, and succeeded to preserve the place from the contagion, by strictly cutting off every communication with those seaport towns, which subsequently suffered from this malady.

“ This happy result could not be obtained last year (1821), because, when the Board of Health received the official information of the existence of fever in Puerto de Santa Maria, a few suspicious cases had already appeared in this town with aggravated symptoms*.

* I must take the liberty of informing the reader, that whenever a suspicious case of fever appears in any of the towns of Andalusia, at a suspicious season of the year, a board of physicians is immediately convened to report upon the case; and the opinion of that board, if unfavourable, is immediately circulated throughout the province. It now appears, from their own statements, that the first case at Puerto de Santa Maria appeared on the 8th of August, and the first at Lebrixa on the 15th of September; so that when we consider the distance, the towns being only seven leagues asunder, we cannot but be astonished at the faculty's want of information on the state of Puerto de Santa Maria. How the mayor and head physician, from whom I got the names of the four first persons who were attacked at Lebrixa (I required no further information from them, knowing that truth, if to be found in an epidemic town in Spain, can only be attained by personal inquiry at the very houses of the sufferers), could have made this palpable mistake, is not a little astonishing.

“There was no equivocation about the character of the fever, as in a few days it attacked those who had been near the first sufferers, and spread to those who held communication, or had been in the vicinity of the sick*.

“This disease was undoubtedly introduced from Puerto de Santa Maria, as the first individuals attacked were those who had been in contact with persons proceeding from that town†; and this was the origin of the contagious disease from which Lebrixa suffered last year.

“The Board of Health acted with judgment

* As the physicians of Lebrixa seem to have involved themselves in a labyrinth of errors; and as I have given the particulars of the four first cases of yellow fever which appeared in the town, according to the testimony of the mayor (to whom I had a letter of introduction) and the chief physician, it may be necessary to observe, lest any doubt may arise relative to what I state, that I went to Lebrixa with Mr. James Gordon, jun. (a name well known to the sherry drinkers of England, and also remarkable for hospitality and uprightness), who did me the favour to investigate the origin of the disease with me. He can vouch for the authenticity of what I have stated. There is no equivocation, the simple fact only is recorded.

† The contrary is the fact; for the passengers who were suspected of having imported the disease into Lebrixa, and to have communicated it by fortuitous contact, held no communication with Puerto de Santa Maria; they came from Xerez de la Frontera.

and energy; promoted the emigration of the healthy into the country, and by these means succeeded in preserving the health of the greatest part of the inhabitants: so that in a numerous population, the majority of whom might be supposed to be susceptible of the yellow fever, as it had not been among them since the year 1800, the number attacked was small. From the most correct accounts, there have been only five hundred sick; and, of these, one hundred and fifty died. The fatal cases occurred chiefly amongst those who only called for medical assistance after the first period was over.

“The curative means, in the first period, were generally mild sudorifics, and antiphlogistic regimen, according to the constitution, age, and individual circumstances of the patient, if not contra-indicated by debility or tendency to putridity; the application of leeches, when indicated by particular symptoms; attention being at the same time paid to the state of the stomach and bowels, by means of the mildest emetics, purgatives, and enemas. When the disease was at its second period, the patients were treated, according to the urgency of the symptoms, with the tincture of bark, the extract, &c., by synapisms, blisters, and such medicines as allayed the irritability of the stomach, as vomiting became troublesome,

which was frequently the case in the aggravated forms: the vegetable or mineral acids, rice water, and the white decoction, were serviceable and agreeable to the patient; and, when great dissolution of blood occurred, the tonics were very useful, especially the application of cold, the topical application and the internal use of astringents."

CHAPTER IX.

A SKETCH OF THE MEDICAL TOPOGRAPHY OF SAN LUCAR DE BAROMEDA.

The town of San Lucar is situated on the right bank of the Guadalquiver river, not far from its mouth. It may be divided into two, *viz.* the new and old. The old town is situated at the extremity of a sandy plain, and terminates by a craggy and perpendicular boundary on the western side. This abrupt and precipitous termination, which forms a semicircle, overlooks the new town and river, the former being situated upon the flat underneath, the latter being distant three quarters of a mile. The old town, which is ill constructed and destitute of sewers, is extremely filthy, the houses ill constructed generally, the streets are tolerably broad, but filthy in the extreme, covered with masses of decayed animal and vegetable matters, which, when long exposed to the action of a powerful sun, emit vapours of a very offensive kind. It happens here, as well as in the generality of Spanish towns, that the houses of the poor, and even

frequently those of the rich, are not provided with necessaries. Large earthen pots are used for necessary purposes, and the contents are thrown into the streets occasionally; where, mixed with dirty water and other materials, they form pools or currents of the most disgusting aspect. The lower town, which is of considerable dimension, is built upon a sandy flat, at an elevation of a few feet above the bed of the river, apparently in one of the most unhealthy situations that can well be imagined. This town, which from the lowness of its situation cannot be kept clean by means of sewers, is equally, if not more filthy than the other. The streets are paved, and tolerably broad, but they are offensive and dirty in the extreme. The houses are from two to three stories high. The locality is evidently unhealthful: it is exposed to all the causes which engender fevers; and the inhabitants are annually harassed by intermittents and remittents of a complicated character.

ORIGIN OF THE DISEASE AT SAN LUCAR DE
BAROMEDA IN THE YEAR 1821.

CASE I.

In the house of Joseph Guteirrez, Plaza de la Constitucion, Bernardo Murena, a mountaineer,

aged sixteen, was attacked with yellow fever on the 8th of October, and died on the 14th. This man was not suspected of having communicated with Puerto de Santa Maria, nor with other infected towns.

CASE II.

Santiago Cavallero, aged thirty, was attacked with yellow fever on the 12th of October, and recovered. Previous to the illness of Bernardo Murena he communicated with him, but never after confinement. Eight or ten persons were exposed in this case, but without being affected by the malady. Cavallero had no intercourse with people from Puerto de Santa Maria, nor with the other epidemic towns.

CASE III.

In the house of Joseph Estrada, a barber, a young man, eighteen years of age, was attacked with yellow fever on the 13th of October, and died on the 19th. A young girl was attacked in the same house on the 23d of October, and died after an illness of twenty-four hours. This family held no communication with the house of Guteirrez, nor with persons from the infected towns. Guards were placed over Estrada's house for twenty days.

CASE IV.

In the Calle Bolsa, Antonio Gonsales, aged fifty-four, was taken ill on the 17th of October, and died on the 22d. Four persons communicated with this man without suffering from the malady. The family was confined to the house in which he died for a period of twenty-two days; after which, they were sent to the lazaretto, where they performed twenty-two days quarantine.

The following account of the origin of the yellow fever of San Lucar, is extracted from the *Periodico de la Sociedad Medico Quirurgica de Cadiz*.

P. 26. "In the year 1821, a young man arrived in San Lucar de Baromeda, from Puerto de Santa Maria, who fell ill on the day of his arrival with the fever which reigned in that town. He was secluded from intercourse with the people, and the disease ended there. A similar occurrence happened a few days after. A porter who arrived from Xerez, a mountaineer, and the driver of a calash, proceeding from Puerto de Santa Maria, imparted the contagion to several persons of their respective houses. They were all secluded, and the disease did not spread."

N.B. We have here another example of the erroneous statements of the Sociedad Medico Quirurgica de Cadiz. It would appear, if we were to credit what they state, that seclusion put a stop to the disease in San Lucar, and that there was no epidemic. I investigated the disease of San Lucar with Captain Power of the 2d Cordova regiment, and state the information I obtained.

CHAPTER X.

ORIGIN OF THE DISEASE AT CADIZ, IN THE YEAR 1821.

THE appearance of the disease in Cadiz in the year 1821 could not be traced to foreign or domestic importation; the physicians, therefore, being under the necessity of abandoning their favourite doctrine, imputed its origin to the revivification of the dormant seeds of the preceding epidemics.

In answer to a question put by Dr. M'Gibbon to some of the physicians of Cadiz, *viz.* "Was the yellow fever of last year, 1821, imported into Cadiz, or did it appear endemically?" Doctor Sola observes, "The epidemics, which have appeared since 1819, are but re-productions or propagations of that which appeared in San Fernando that year, the origin of which is not determined. All that is known is, that the first persons who suffered lived in that part of the town which is inhabited by the poor, or by smugglers; and that some of the latter, who had recently arrived from the bay, were amongst the first victims. From San Fernando it was im-

ported into Puerto de Santa Maria, in the person of a woman who attended her son when labouring under the fever in San Fernando. In a similar manner, it was conveyed to Xerez, where a soldier and two gypsies (one of the latter already under the influence of the disease) arrived from San Fernando. In 1821, it re-produced itself in Puerto de Santa Maria, Xerez de la Frontera, Tribujena*, and Cadiz."

For the medical topography of Cadiz I must refer the reader to the works of Drs. Jackson, Bancroft, and Alphonso de Maria, who, if I mistake not, is a native of Cadiz. I cannot, however, omit this opportunity of noticing a few paragraphs in Dr. Pym's work "On the Bulam Fever," as they bear upon some points contained in this book.

In page 137, alluding to Dr. Bancroft's description of Cadiz, he states—"I do not know where he met with this description of Cadiz!! It is not possible he could have given it from his own observation, for there is neither low damp ground, nor any thing resembling marsh within the walls of Cadiz, all of which are washed by the sea, excepting the landport barrier; nor is

* This is a mistake. I passed a night in Tribujena, where, according to the best authenticated information, there had not been a case of epidemic fever in the autumn of 1821.

there any marsh more contiguous than Port St. Mary's on one side, and Isla de Leon on the other, the one at least two, and the other seven miles distant. Remitting and intermitting fevers, as I mentioned before, are unknown among the inhabitants of Cadiz. When they are met with, they can always be traced to foreign origin, the consequence of having slept at Chicklanda, or other villages near marshy ground."

I really cannot help being at a loss to find where Dr. Pym got his description of Cadiz, for it is not possible that he could have given it from his own observation. He states, "that there is no marsh more contiguous than Port St. Mary's on one side, and Isla de Leon on the other; the one at least two, and the other seven miles distant." It would be well that he had particularised the one which was only two miles distant; for, according to the Spanish calculation, they are both distant from Cadiz two leagues, which is equal to seven English miles. With regard to the nearest swamp, this is a most palpable mistake; for the whole of the country between Puerto Real and the point from which Cadiz was bombarded by the French, which is only three miles from Cadiz, is actual swamp at all seasons of the year, extending on the right to Puerto Real, from Puerto Real to the Carakas,

Isla de Leon, &c.; on the left, to the town of Puerto de Santa Maria, where it expands considerably, and extends towards Xerez, Arcos, &c. The diseases of Cadiz must have altered considerably of late years, or Dr. Pym's information must have been very incorrect; for the autumnal endemic of Cadiz, in ordinary seasons, is the remittent fever. Ague is by no means uncommon; and though it may be true, that ague may be traced to foreign origin on some occasions, it attacks persons on others, who seldom, if ever, leave the city.

Dr. Pym further states—"Dr. Bancroft is so enthusiastic about the disease originating from marsh miasmata, that, wherever it has prevailed, he figures in his own imagination swamps and exhalations that never had existence. He thus, having in vain attempted to trace the source of the fever at Cadiz to swamp exhalations, goes to Gibraltar, where intermitting fevers occur more rarely, perhaps, than in any other spot upon the globe, and in his search for moisture he is here equally unfortunate."

Page 134.—"And so determined is Dr. Bancroft upon this point, that he attempts to trace its origin at Cadiz and Gibraltar to the same causes (*viz.* marsh miasmata), two places which have been more than once visited by this dread-

ful malady, although marsh miasmata and their consequences (remitting and intermitting fever) are totally unknown to either."

This is a mistake. Dr. Pym, in his endeavours to refute the doctrines of Dr. Bancroft, relative to marsh miasmata, has carried his assumptions and allegations beyond the mark, manifesting a total ignorance of the diseases of the Rock and Neutral Ground, when he states that "remitting and intermitting fevers are unknown in Gibraltar."

On the Neutral Ground, ague is not only common but malignant; remittent fever is the principal autumnal disease of both the Rock and Neutral Ground,—a fact which may be proved by regimental sick returns, more particularly returns of those corps to whose lot it has fallen to be encamped on the Neutral Ground in the autumnal months. The admissions, with remittent fever, in the 75th regiment, quartered on Windmill Hill, a situation ostensibly exempt from the commonly reputed causes of intermitting fever, have amounted to twenty-five in the last fortnight (7th July), many of them of an aggravated kind.

Besides these, there are some other points in the work of Dr. Pym to which I must call the attention of the reader. I am sorry to be under the necessity of doing so, but such palpable

errors as appear in his work, on subjects which essentially concern the welfare of mankind, imperiously demand that I speak the truth in the manner in which it has impressed me. Were I not to do so, and to do it without reserve, I should hold myself culpable in the extreme. I am ready to answer, under every possible penalty, for the fundamental correctness of what I state; and I now proceed to state it in as concise a manner as possible, leaving the reader to draw his own conclusions. I am responsible for the fact.

Dr. Pym, at page 55, alluding to the fever of 1813, which prevailed at Gibraltar, states—
“From queries put to Dr. Gilpin by the members of the Medical Board, it appears, that the individuals who brought the disease into the garrison were ascertained; one of them was ill when he arrived; the disease was communicated to persons residing in the same house, and speedily on both sides of the street in which the house was situated. All those who cut off communication with the infected escaped the disease. Of five hundred persons confined to the dock-yard during all the time of the sickness, there was not an instance of one of them being attacked, although this was, of all others, the most likely spot for marsh effluvia to exist, and which, during the fever of 1804, suffered

equally with other places, in consequence of the communication not having been cut off."

Page 139.—“The following extract of a letter written to me by Mr. Fraser, Deputy Inspector of Hospitals, during the prevalence of the fever at Gibraltar, in 1813, is a tolerable good proof of the non-existence of marsh miasmata there. ‘The elaborate endeavours to prove that marsh miasmata have been the producers of similar maladies occupy so wide a range, that I shall at present only beg to remind you of the topography of Gibraltar, the utter impossibility of percolation of water through its abrupt and stony sides, and the absence of those tests of aguish-ground so evident in other countries, and which annually prove their baneful influence.’

“Two facts connected with these points I shall mention, as I think they are not to be lightly estimated.

“1st. The artillery, who have been longer in the climate than any other corps, have suffered with the greatest severity, although for the last six weeks they have been encamped on the steep side of the Rock, nearly eight hundred feet above the level of the sea, where there scarcely exists a vestige of vegetation.

“2d. The labourers belonging to the naval works have been kept in strict quarantine in the dock-yard, very near the spot where the disease

showed itself in 1810, and if there is a situation in Gibraltar favourable to the generation of marsh miasmata it is there; and, in 1804, it shared the fate of the other parts of the garrison; yet those people this year have continued healthy, as well as another party of inhabitants, who established themselves in Camp Bay, and cut off all communication with the infected."

The perusal of the foregoing quotations in the work of Dr. Pym struck me forcibly on my arrival at Gibraltar in the present year. I thought the immunity of the dock-yard from fever in the year 1813 a singular circumstance, and one which strongly operated against the doctrine which I am inclined to embrace. I had not doubted the assertions of Dr. Pym and Mr. Fraser; for, from their rank in the service, the one being at the head of the Health Office in London, and the other at the head of the Medical Department in Gibraltar, it was reasonable to expect information of authenticity; for their opportunities of attaining it exceeded that of others. It happened, however, by accident, that a medical gentleman, who saw the epidemic of 1813, observed, in the course of conversation, that fever prevailed to some extent in the dock-yard in that year; and that, by an application to Mr. Buck, who was secluded with the others, and who is now the superintending officer in

charge of the establishment, particular and authentic information might be obtained on the subject.

I applied to Mr. Buck, and the information which I have obtained from him and his head clerk is the following; it may be depended upon as officially correct.

An order was issued on the 18th of September, 1813, for preventing intercourse between the dock-yard men and the inhabitants of Gibraltar.

“The whole of the officers and clerks are hereby directed to repair to the yard this evening, as all communication will cease with the garrison at day-light to-morrow morning.

(Signed) “PERCY FRASER, Commissioner.”

To the respective officers.

DEATHS AND CASES IN THE DOCK-YARD, AT GIBRALTAR, IN THE AUTUMN OF 1813, FROM THE 18TH OF SEPTEMBER TO THE 23D OF DECEMBER. TAKEN FROM THE BOOKS.

DEATHS.

1. Marion Thomas, shipwright, sent to the lazaretto, where he died.

2. The sister of Mr. Pontez, a sawyer, died on the 20th of September in the boat-house loft. This woman was supposed to have introduced the disease.

3. Antonio Mattas (date not mentioned), died of a very short illness in the boat-house. Hæmorrhages from the nose, mouth, &c. preceded her death.

4. Mrs. Hamlyn, died in the block store.

5. Juan Mirobas, died 24th of September, on the careening wharf.

6. Francis Guerero, labourer, died 6th of October.

7. Antonio Sowsa, died 20th of October.

8. Herbert's child, died on the sail loft on the 20th of October.

SICK.

William Walker Harder; Samuel Fursman; William Bernard; Robert Monk; William Betts, sent to lazaretto; William Ancel; William Whitehead; Patrick Thoneo; Joseph Caprella; Rafael Pons; Antonio Fiel; Mrs. Canter; William Salmon; Robert Newman; Mrs. Denham; Diego Dalmuda.

The communication between the sick and healthy was uninterrupted. The number of persons secluded, according to Mr. Buck's account, who examined the books in my presence, amounted to one hundred and seventy. Dr. Pym makes it five hundred. The people of the dock-yard were released from quarantine on the 24th of December, 1813.

Dr. George Crague took medical charge of the dock-yard on the 24th of September.

Mr. Mercer, assistant-surgeon of the San Juan, superseded him on the 4th of October.

The above list of deaths, sick, &c., in the dock-yard at Gibraltar, during the period alluded to, is (I blush to say, for the honour of the profession) authentic. The fact cannot be doubted, and the truth of it might have been, it is presumed, ascertained by referring to almost any insignificant individual now in the dock-yard. The impressions which are made upon those who are present in the lamentable scenes of sickness, the perpetual dread of the impending attack, the solicitude to avoid it, and the impossibility of avoiding it as confined within a narrow barrier, may be supposed to have left traces in the memory which are not soon obliterated. It therefore could not have been difficult for this head of the medical department to have satisfied himself of the actual fact, in a range so limited as that of Gibraltar; and thus to have saved his own mortification, and the public evil that may have arisen from his erroneous report. I cannot divine how the error alluded to can be explained, or what can be adduced in extenuation of a mistake so palpably flagrant as this. The evidence now given is conclusive against the truth of the assertion of Dr. Pym; and the

carelessness with which he made such report, or the motive which induced him so to modify an important fact, that it has no resemblance to truth, cannot fail to meet with reprobation from honest men, whatever be the doctrines which they adopt. It does not belong to me to seek for excuses for other men's errors or oversights ; but it may probably be suggested, that the dock-yard was not within the control of the military commander, and that this was the cause that the statement was incorrect. This excuse, I may add, if such be made, would not be valid, for some of the sick at least were accommodated in the lazaretto, which was under naval superintendence, whether they recovered or died.

It appears from Mr. Fraser's description of the topography of Gibraltar, that all within the lines is to be considered as a barren rock, "the utter impossibility of percolation of water through its abrupt and stony sides," implying so much. This is not so in fact: the space within the lines is three miles in length, and nearly one in breadth. The part which is situated between the town and the south barracks is formed into pleasure grounds and gardens, which produce vegetables in abundance ; in such abundance, indeed, that the garrison would experience little hardship if communication with the country were cut off. The semicircular flat on Windmill

Hill is more than one mile in circumference, and that of Europa is somewhat more; and, as their surfaces are not altogether without soil, they necessarily admit of percolation of moisture.

“The artillery, who have been longer in the climate than any other corps,” &c.

It is by no means astonishing that the artillery should have suffered from sickness at this time; for, independently of the injurious consequences which arise from encampments in southern latitudes, even in good situations, the situation of the ground upon which the tents of the artillery were then erected was objectionable on many accounts. It was exposed to the contaminated air of the town, as being situated on the sloping side of the hill above it: it was, moreover, exposed to exhalation from the neutral ground, and from the inundation on the right; and, as those vapours, which produce disease in southern climates, are known to act most conspicuously on elevated positions, it is not to be wondered that the artillery so exposed were comparatively unhealthy.

I have stated simple facts; they are important in themselves, and therefore submitted to the consideration of the public without reserve.

GENERAL REMARKS.

THE superficial sketch I have given in the preceding pages, relative to the origin of the epidemics which appeared in the east and south coasts of Spain, will not, I trust, be considered unimportant. In investigating the cause of the disease, I was not actuated by prejudice or prepossession for or against the parties who have so long agitated the world with their disputes. My principal object, in traversing the Spanish coast of the Mediterranean, was, to ascertain, by positive evidence, all the circumstances attending the origin of the disease in the different towns in which it appeared, in the year 1821; and to collect, with scrupulous fidelity, such facts and cases, from authenticated sources, as might tend definitively to determine what has hitherto been involved in doubt. It is impossible for any one who has not been in Spain to form an idea of the difficulties to which a person, who undertakes an investigation of the kind alluded to, is exposed. A readiness to believe in reports, particularly such as are mysterious and wonderful, characterizes the Spanish people; so much, that a deaf ear is turned to all remonstrances or evidences which tend to shake the faith, notwithstanding that the effect of it is injurious to themselves, and to the commercial interests of their country.

From an impartial consideration of all the circumstances attending the epidemics of Spain, in the year 1821, the conclusion is, I think, fairly deducible, that the disease was not, and is not occasioned by imported contagion; and that its origin cannot be attributed to the germ of a former epidemic, resuming original activity from the operation of a peculiar state of the atmosphere, without which it would remain dormant perhaps for ever*.

* On the reproduction of the disease, the following observations are made in the *Periodico de la Sociedad Medico Quirurgica de Cadiz*, page 23.

“Returning to the yellow fever: the reproduction of its contagion has been more manifest and sensible. To this we must attribute its appearance in Cadiz in 1801, limiting it only to a newly-arrived regiment, which was quartered the preceding year where the disease prevailed. In Seville, it reproduced itself the same year, in consequence of the opening of some packages, which were stolen from a lady who emigrated in the year 1800. These packages, which had remained deposited in the house of the second assistant, were returned on the 2d of June to the owner. The person, who proceeded on the same day to examine the clothes, fell ill, and afterwards his daughter and two servants. That of Xerez of 1820, and that of Puerto of 1821, were probably reproduced from the contagion, which affected those towns the preceding years. In Medina Sidonia there can be no doubt but that it owed its origin to some focus; because the neighbouring towns, which had horribly suffered from the contagion the preceding year (*viz.* 1800), were healthy. The first who were attacked with the yellow fever in 1820, in Cadiz, presented great probability as to its being owing

Fortunately for Spain, there now exists a great diversity of opinion amongst the physicians and the enlightened part of the people, relative to

to the same cause. The first was a Frenchman, who returned from Madrid in February, who was accommodated in a small room, where, in the preceding year, two persons died of the fever, and another was in great danger. At the end of May he was attacked with the diagnostic symptoms of the yellow fever. The second was the ordinario of the illustrious Bishop, who was lodged in a dark, ill-ventilated room, where, in the foregoing year, his predecessor died. The doctor, to whom we are indebted for this information, assures us, that there remain, in the house, spots of the excrement of the deceased. But it is unnecessary to accumulate observations in proof of the reproduction of contagion, when we daily have such public and open ones of the small pox, and other exanthemas of African origin. The society having observed these precedents, doubt not but that the contagion of the yellow fever can be reproduced, when the indispensable circumstances unite for its development.

“ To this cause many of the epidemics which have appeared in Cadiz, since the year 1800, may be attributed; and it will not be strange, if the same happens in Catalonia, if the coldness of the weather does not prevent it, and if the authorities of those towns do not endeavour to destroy the focus, or the disease in its origin.

“ The reproduction is difficult in the country, and in the small villages; it is more easy in the large towns, where a thousand causes oppose themselves to purifications, and to a knowledge of the first attacked: but, amongst the most exposed, are the southern cities (*los ciudades meridionales*), particularly those in which, from their commerce, &c., there is a continual renewal of people, and a concourse of strangers.”

the cause of the yellow fever. This diversity of opinion (which owes its origin to the arrival of Doctor Jackson in Xerez) will continue to prevail for some time. The dismissal of prejudice is not the work of a day. Would the Spaniards permit themselves to draw conclusions from an accurate knowledge of the general laws of the epidemics of the Mediterranean coast of Spain, and from the nature, construction, and situation of the towns which have been severely afflicted by them, at various times since the year 1800, the conclusion, I think, would be irresistible: *viz.* that warm south-east breezes*, unusual

The circumstance alone of the different towns of Antequera, Velez, Malaga, Granada, Vera, San Juan (universidad), Penacerrada, Guardama, Montilla, La Zembra, Espijo, Arcos, Paterna de la Ribera, Moran, Espera, Villa Martin, Xemena, Medina Sidonia, &c. &c., having only once suffered from yellow fever epidemics, is sufficient to disprove the doctrine of the reproduction of the disease. Lebrixa was affected in 1800; it again became the seat of an epidemic in 1821.

* Nothing can produce a more deleterious effect on the constitution than the sirocco wind: its effects are sensibly felt by persons of all habits of body; and when it continues to blow for a length of time, it is generally succeeded by epidemics, in those towns and cities wherein the destructive emanations from filth, swamps, rivers, and lakes are present to contribute their aid. The languor, which is occasioned by the enfeebling impression of the Levant or sirocco wind, can scarcely be imagined by those who have not felt its influence; it is so enervating at times as to produce faintness, even in persons of strong constitutions. When

drought, excessive heat, want of ventilation in the houses, exhalations from swamps, lakes, &c., and, above all, the malignant effluvia which arise from the decayed remains of putrid animal and vegetable matters, with which the majority of the seaport towns of Spain abound, and which in calm and sultry weather, particularly in hot and oppressive nights, render the air impure, and offensive to the sense of smell,—are the causes which essentially influence or increase the activity of what may be called the seminum of epidemic yellow fever. It is evident that yellow fever does not arise from the injurious impression of local impurities; for, if it did, the towns of Andalusia would have been depopulated long since. But, although effluvia from local filth are not, in themselves, sufficient to generate an epidemic disease; the combination of these effluvia with morbid conditions of the elements, will, most probably, be sufficient to bring it forth in extraordinary force*. But where the local

the breeze is strong, its effects are not sensibly perceived; but when it is gentle, particularly in the night time, it seldom fails to predispose to disease, by rendering the constitution susceptible of other morbid materials, which, without so powerful an auxiliary, might, in all probability, remain perfectly innoxious.

* I believe that the morbid alterations in the state of the air, which produce yellow fever, are generally the effect of unusual drought or unusual heat; the unusual heat being most commonly the result of the south-east or sirocco wind.

causes do not exist, although the elemental principle may be in existence, the effect is different. In sickly seasons, when epidemic influences prevail, the majority of the seaport towns and cities, whose situations are low and impure, and the form of dwellings bad, are more or less affected by epidemics of the yellow fever character; while, in the well-situated towns, where the local causes do not exist to a high degree, the ordinary diseases are increased in violence and number, and cases of yellow fever occur contingently, presumptively from the effects of heat; but epidemics of a minor grade, generally eruptive, such as measles, scarlatina, &c., are often conspicuous, and indicate, by their course and termination, that there exists something of general epidemic influence in the case. It was thus observed, that in the autumn of 1821, when the yellow fever raged in the cities of Barcelona, Tortosa, &c. &c., the towns in the vicinity suffered from eruptive maladies, catarrhs, &c.; and that the ordinary diseases, *viz.* intermittents, remittents, and continued fevers became unusually malignant; and so general in some parts, particularly in Rosas and its vicinity, that the intermittent fever might have been said to be epidemic. In Andalusia, when the different towns of Malaga, Cadiz, Puerto de Santa Maria, Xerez, Lebrixa, Seville, and San Lucar

de Baromeda were affected with yellow fever, in different degrees, the measles, scarlatina, &c. &c., raged, it may be said, epidemically, in Gibraltar, San Roque, Algeciras, Chicklana, Rota, Medina Sidonia, Shipione, Tribujena, Conil, Veger, Arcos, Ronda, Puerto Real, &c.

In confirmation of what has been observed, relative to filth having a considerable share in the production and aggravation of the yellow fever, it may be necessary to state, that in the year 1821, all the towns and cities, which suffered from the yellow fever, are, with the exception of Cadiz, filthy in the extreme, disgustingly so, and very objectionable on the score of ventilation, situation, and form of construction; while the different towns of Arens, Mataro, Badalona, Tarragona, Vinaros, Benicarla, Valencia*, Aliama, Velez, Malaga, Marabella,

* The clean and populous city of Valencia has never been the seat of an epidemic of the yellow fever class, notwithstanding its unlimited intercourse with the South American colonies, and the different epidemic towns of Spain. The situation of Valencia is bad; the environ is covered with gardens and rice grounds, watered from the neighbouring hills. On the west aspect, at the distance of three miles, a lake of about nine miles in circumference presents itself to view, which, it may be presumed, acts injuriously on the health of the numerous inhabitants who cultivate the extensive plain; and who are, in fact, so much harassed by agues, that the viscera are generally diseased, particularly

Estepona, Vejer, Conil, Puerto Real, Rota, Chipiona, Arcos, and Medina Sidonia, all of which are in the vicinity of the sea, and which, it may be presumed from their relative situations,

among the rice planters. Ague is not uncommon, yet the city has hitherto escaped the ravages of epidemics: this I ascribe to its cleanliness. The streets are not paved; they may therefore be supposed to be miry in wet weather. They are so in reality; but when the rain ceases, the gardeners, who contract for the manure, assemble in numbers, and remove every sort of filth from the streets and houses in a short time. The sewers of Valencia are superior, in point of size, to any in Spain perhaps; they are so large, that smugglers, on some occasions, import their contraband into the city through these channels.

Gibraltar was afflicted by epidemics in the years 1804, 1810, and 1813, and a few well-marked cases of the disease appeared in 1814. General Don, when he assumed the command of that station, improved its condition so much, that Gibraltar, from its being one of the most filthy towns in Europe, is now one of the cleanest anywhere to be seen; notwithstanding that it contains a portion of the refuse of all nations. Epidemic fevers have not been known in Gibraltar since the arrival of General Don. The immunity has been ascribed to quarantine restrictions; I am more disposed to ascribe it to the services of a well-regulated corps of scavengers, and to the precautions which are taken, at the approach of autumn, or what is called the sickly season, to expel vagrant Jews, and other useless vagabonds, than to the boasted sanitary regulation. Here is seen, as in other parts, the futility of cordon duties. A countryman delivers a bundle of straw, a goose, a sheep, or a jackass with one hand and without purification; he is obliged with the other, at the

communicated freely with the theatres of disease, were not affected by the malady. They seldom indeed suffered in other years; because, independently of their localities being better chosen for health, they are comparatively clean.

In concluding this long and tedious discourse on the importation of the yellow fever into Spain, in the year 1821, I confidently hope that I have proved, at least to the satisfaction of the unprejudiced, that nothing can be more ridiculous, nothing more absurd and contradictory to common sense, than the frightful tales of importation which have been so ingeniously portrayed by the physicians of Spain, particularly by those of Cadiz, who are the authors of the *Periodico de la Sociedad Medico Quirurgica de Cadiz*. Those gentlemen, *viz.* Don Rafael Ameller, Don Jose Benjumada, Don Francisco Puga, Don Francisco Javier Laso, Don Leonardo Perez, Don Bartolome Mellado, and Don Teodoro Madrazo, have surpassed all bounds, in giving credit to all sorts of fooleries and falsehoods. In order to follow up the system which they have hitherto persevered in, they adduce idle and unfounded reports, and rest on mar-

point of the bayonet perhaps, to wash the copper farthing, the silver sixpence, and the golden doubloon, in a tub of vinegar, lest those hard coins might have the magical power of introducing the pestilential poison.

vellous assumptions and improbable conjectures, as arguments with which to combat the opinions of those who think differently from themselves. The Cadiz Society seem to adopt reports without inquiry into their authenticity; and seem to be so prepossessed by self-love and the love of delusion, as an engine of other purposes, that matter of fact cannot find a way to their minds, nor the most solid argument act upon their reason.

CHAPTER XI.

DISSECTIONS.

*Dissection the First, examined three hours
after Death.*

JOSEPH Jaber, admitted 24th November, died
2d December, 1821.

Thorax. Adhesions in the left cavity of the
thorax, more particularly in the superior anterior
part. The lung collapsed, slightly inflamed,
unusually small. Some extravasated blood in
the right cavity of the thorax. The heart na-
tural internally, externally yellow—unusually
so.

Abdomen. The liver extremely yellow exter-
nally, hard and dense when cut into; the flow
of blood inconsiderable. The gall bladder en-
larged, the contents jet black—in consistence
like molasses. The stomach small, pale exter-
nally, internally inflamed to a high degree; the
villous coat brittle, and brown for the greater
part. The small intestines brown externally,
internally inflamed, and covered with a gluti-
nous brown matter; the inflammation great.

The cœcum unusually contracted, inflamed internally, the contents greyish and liquid. The colon and rectum much contracted; exteriorly pale, inflamed internally. The urinary bladder considerably enlarged—filled with urine; no marks of inflammation. The kidneys healthy. The pancreas natural. The fat and cellular membrane all over the body extremely yellow.

Dissection the Second, examined two hours after Death.

Juan Davisa, admitted 28th November, died 3d December 1821.

On exposing the dorsal and lumbar vertebræ, the muscles appeared of a deep red colour, heavily injected with blood. When the vertebræ were exposed, about a pint and a half of blood flowed from the surrounding parts. On removing the spinous processes, for the purpose of examining the vertebral canal and spinal marrow, the external surface of the spinal sheath exhibited marks of inflammation, at least some of the vessels upon it were gorged with blood: the sheath internally was without inflammation, as was the spinal marrow. A quantity of serum flowed freely when the sheath was cut into.

Thorax. The lungs small, the right healthy, the left inflamed, more particularly so at the superior posterior part; slight adhesions to the

pleura. The pericardium contained the natural quantity of yellowish fluid. The heart yellow.

Abdomen. The liver yellow, hard, deficient in blood, of the natural size. The gall bladder distended with bile of natural colour and consistence. The pancreas healthy. The omentum extremely yellow. The stomach unusually small, the villous coat highly inflamed. Slight marks of inflammation in the small intestines. The cæcum distended with air. The colon contracted in parts, distended with scybala in others. The rectum filled with scybala of different dimensions, and so extremely hard as to be broken with difficulty. The urinary bladder distended with urine, rather inflamed internally. The kidneys healthy. The fat and cellular substance throughout the body either of a brown or yellow colour.

*Dissection the Third, examined four hours
after Death.*

Carme Jerran, admitted 3d December, died 4th December, 1821: four days ill.

The body, immediately after death, was placed on a table, the belly downwards, the head and shoulders depending. The muscular parts surrounding the vertebral ridge, which, in the foregoing dissection, were gorged with blood, were, in this case, deficient. A few of the vessels

on the sheath were distended with blood; the internal surface was darker than usual. The spinal marrow seemed discoloured, but not inflamed. In the depending position, when the sheath was opened, there was no flow of serum; but when the body was placed in the horizontal position, the head rather elevated, the serum flowed freely from the base of the cranium.

Thorax. Considerable serous effusion in the right side of the chest. The right lung somewhat inflamed. Adhesions in the left cavity of the thorax—the lung collapsed. The heart larger than natural, yellow, apparently healthy internally. The liquor pericardic unusually abundant, the colour yellow.

Abdomen. The stomach enlarged, pale externally, internally inflamed, and filled with black vomit. The small intestines brown externally, the villous coats inflamed, and abraded in parts. The cœcum brown, distended, and filled with matters resembling black vomit. The colon contracted. The rectum thick and contracted. The omentum brown in parts, yellow in others, diseased in all. The pancreas healthy. The kidneys healthy. The urinary bladder, being small and contracted, contained no urine; it exhibited no marks of inflammation. The liver hard and yellow, without blood. The gall bladder distended with thick and black bile.

The popliteal nerve extremely brown. The muscles of the inferior extremities, more particularly the gastrocnemii, dry and brittle, resembling parboiled beef. The fat and cellular substance, in all parts of the body, yellow.

Dissection the Fourth, examined an hour and a half after Death.

Josefa Mayoral, admitted 1st December, died 6th December, 1821.

Head. The vessels of the surface of the brain gorged with grumous black blood. The lateral ventricles destitute of fluid. An effusion of serum at the basis cranii. The medulla oblongata darker than natural. The spinal marrow not diseased.

Thorax. The lungs small, collapsed, dark in parts, inflamed in others. Slight effusion in the cavities of the thorax. The heart large, yellow, and seemingly distended with air—contained but little blood. The liquor pericardic yellow and copious.

Abdomen. The stomach large, distended with black fluid; the internal surface slightly inflamed, and somewhat abraded. The liver thick, hard, compacted, dry and pale, no flow of blood when cut into, crumbled between the fingers. The gall bladder distended with matter resembling pure blood; the internal coat showed

evident marks of inflammation. The duodenum, jejunum, and ilium inflamed to an extraordinary degree, both externally and internally; the redness and appearance resembled, in some degree, a raspberry. A portion has been preserved, as exhibiting very unusual marks of inflammation. The cœcum, colon, and rectum were inflamed internally. The pancreas healthy. The kidneys healthy. The urinary bladder distended with urine, and highly inflamed. The omentum of a yellow colour.

N. B. Retention of urine for seventy hours previous to death; black vomiting, subsultus tendinum.

Dissection the Fifth, examined three hours after Death.

Maria Gouch, admitted 1st December, died 6th December, 1821.

The antrum highmorii exhibited marks of inflammation. The lining membrane dry, and detached in parts from the bone. The nasal cartilages enlarged; the lining membrane, which appeared inflamed, thickened.

Thorax. An effusion of serum in the thorax. Both lungs inflamed. The heart large, thick, yellow, and filled with a quantity of straw-coloured coagulum. Several small lumps, about the size of a pea, of coagulated lymph adhered to

the sides of the ventricles. The liquor pericardic unusually abundant and yellow.

Abdomen. The stomach pale externally, internally much diseased. The villous coat brown in parts, inflamed in others, and somewhat abraded towards the cardiac orifice; the contents consisted of a curdy-white matter, intermixed with black vomit. The liver pale externally, hard to the feel; internally destitute of blood and gritty, so as to be easily crumbled into small pieces. The gall bladder large, and distended with black bile. The large and small intestines showed no marks of disease. The kidneys, inflamed internally, contained some small abscesses. On examining the ureters, when cut through as they approach the bladder, and applying pressure from the kidney downwards, pus flowed from them. The urinary bladder, which was distended with urine, exhibited no marks of inflammation. The omentum yellow. The gastrocnemii muscles similar to what has been described in dissection No. 3.

*Dissection the Sixth, examined five hours
after Death.*

Mariana Venca, admitted 29th November, died 8th December, 1821.

This woman was admitted into the hospital, labouring under slight febrile irritation; she

continued slightly indisposed until the termination of the third day, when high febrile excitement set in, indicated by flushing of the face, inflamed eyes, contracted or knit eyebrows, and intolerable pain of the head. On the fourth day the symptoms were urgent; and the eye, which before was red and painful, increased so considerably in size, as scarcely to be covered when the lids were closed. On the fifth, the eye appeared larger, but the pain, which was scarcely sufferable on the preceding day, had entirely subsided; the head-ache was removed, the knit or contracted state of the eyebrows still continued, and the patient screamed incessantly. From this period she gradually declined; but the supernatural enlargement of the eye continued until death.

Head. The eye, when removed from the orbit, extremely firm and hard. On making a small incision into the posterior chamber, the whole of the vitreous humour, which was converted into a thin fluid, resembling muddy water, flowed in an uninterrupted stream, until the whole was evacuated. The sheath of the optic nerve was yellow; but the nerve itself appeared natural. The aqueous humour had undergone no change. The dura and pia mater bore unequivocal marks of acute inflammation. The vessels on the surface of the brain were extremely

turgid. The lateral ventricles contained more than the usual quantity of fluid.

Thorax. The lungs small, rather inflamed. Effusion of serum into the left cavity of the thorax; adhesions in the right cavity. The heart large and extremely yellow. The coronary arteries and veins distended with blood. The left ventricle lined with a thin, bloody membrane, apparently of recent formation. The auricles and ventricles contained coagulated straw-coloured lymph, similar to what is seen in the hearts of persons who die of inflammation of the lungs. The liquor pericardic, which was increased in quantity, was very yellow.

Abdomen. The liver, which was extremely large and hard, nearly in a cancerous state, caused a disfiguration of the chest, and crumbled between the fingers; —this state of the liver was not entirely the effect of recent disease. The gall bladder contained only a small quantity of yellowish matter, resembling bilious liquid fæces. The stomach was distended, and inflamed internally, more particularly towards the cardiac orifice, the contents black. The small and large intestines, with the exception of the cœcum, which was inflamed, exhibited no marks of disease; they contained worms, called lumbrici, in considerable numbers. The omentum was of a dark brown colour. The kidneys were in-

flamed; blood was contained in the pelvis, and small serous pustules adhered to the sides. On a minute examination, several very small abscesses were discovered,—the papillæ were the seats of the abscesses. The ureters, as in the foregoing dissection, contained matter. The urinary bladder was inflamed slightly, contracted, and filled with orange-coloured urine, with sediment.

Dissection the Seventh, examined two hours after Death.

Joanna Calvo, admitted 6th of December, died the 8th; three days ill previous to admission.

Head. The eye swollen hard. The vitreous humour natural. Considerable hæmorrhage on detaching the cranium from the dura mater, owing to a rupture of the longitudinal sinus (half a pint at least). The dura and pia mater showed unequivocal marks of inflammation. The vessels on the surface of the cerebrum distended with blood. The lateral ventricles contained more than the usual quantity of fluid. The vessels of the medulla oblongata were unusually gorged with blood. In short, there were unequivocal marks of inflammation of the brain, more so than is usually seen in the yellow fever.

The abdominal viscera were not diseased. Lum-

brici in the small intestines. Some yellow-coloured coagulum surrounded the kidneys.

Dissection the Eighth, examined two hours after Death.

Teresa Malat, admitted 3d December, died 8th December, 1821.

On laying open the vertebral canal, there appeared some coagulated blood on the sheath of the spinal marrow; the sheath was brown for four inches in length, as it passes the lumbar vertebræ. The intervertebral substance, which connects the lumbar vertebræ, was black and blue, as if from the effects of a contusion previous to death. The parts surrounding the lumbar vertebræ and the vertebræ themselves contained a very considerable quantity of blood.

Thorax. The lungs small, somewhat inflamed. An effusion of serum in the thorax. The right lung adhered to the pleura. The adhesions of recent formation. The heart contained a small quantity of coagulated yellowish lymph, similar to what we see in persons who die of acute inflammation of the lungs. An aneurismal affection of the aorta and the arch. The liquor pericardic of a yellow colour, and more abundant than natural. The veins on the convex, or thoracic side of the diaphragm, considerably distended with dark coloured blood.

Abdomen. The liver of a pale yellow colour externally, internally hard, destitute of blood, and easily broken into small pieces. The gall bladder small, contained a very trifling quantity of black thin bile. The stomach distended, pale externally, internally inflamed, and abraded towards the cardiac orifice, where marks of inflammation were not evident; it was unusually brown, the contents black. The small intestines externally exhibited but trifling marks of inflammation, internally they were highly diseased, more so than I have hitherto seen; the villous coat as red as blood. Portions have been preserved. The colon and cœcum were not inflamed; the former, much contracted, contained some hardened fæces. The rectum, which seemed distended with air, formed a large sack in the pelvis. The kidneys contained some small abscesses; the ureters contained pus. The urinary bladder contained a small quantity of yellowish turbid urine. The omentum and cellular substance extremely yellow.

The following dissections took place when preparations were making for closing the Seminario hospital, in consequence of which, and the unfortunate fate of my zealous and attentive assistant Bila, I could not procure the names of the following persons, who were the subjects of

post mortem examinations. I shall, however, detail the appearances.

Dissection the Ninth.

Head. The eyes, hard and yellow externally, showed no marks of disease internally. Considerable hæmorrhage from the longitudinal sinus, on detaching the superior portion of the cranium from the dura mater. The dura and pia mater exhibited marks of high inflammation. The vessels of the surface of the cerebrum were distended with blood. Some straw-coloured coagulum on the surface of the cerebrum; the effects of recent inflammation. The lateral ventricles contained more than the usual quantity of fluid. Some bloody serum on the base of the cranium. The medulla oblongata and spinal marrow were healthy.

Thorax. The lungs collapsed, slightly inflamed: some serous effusion in the chest. The heart and liquor pericardic yellow.

Abdomen. The liver considerably enlarged, hard and yellow externally, internally destitute of blood, and easily crumbled. The gall bladder small, contained some thin bile, which, on pressure, flowed freely into the duodenum. The spleen unusually large. The small intestines slightly inflamed in various parts externally, internally inflamed, and abraded in many parts.

The stomach slightly inflamed near the cardiac orifice,—contents black. The large intestines contracted in parts, distended in others. The kidneys healthy. The bladder distended with urine, no marks of inflammation. The omentum, as usual, yellow. Lumbrici in numbers in the large and small intestines, some of them black and mortified.

Dissection the Tenth.

Head. The eye hard and yellow, the internal parts apparently natural. Some effusion of serum within the sheath of the spinal marrow, the sheath healthy externally and internally. Some black vessels on the spinal marrow. The spinal marrow healthy.

Thorax. The heart, as usual, yellow. The lungs inflamed at the superior posterior portions. Slight effusion in the thorax.

Abdomen. The stomach slightly inflamed externally. The liver healthy. The small intestines pale. The large intestines healthy. The right kidney nearly removed; a few small sacs filled with urine remained; a small stone in one of the sacs. The left kidney healthy. A large stone in the gall bladder. The urinary bladder distended with urine; no marks of inflammation.

Dissection the Eleventh.

Head. The eye yellow externally, and hard.

The vitreous humour somewhat more liquid than natural, and highly inflamed; red vessels intersected each other in all directions, and in such numbers, that the humour, when evacuated on the hand, was extremely red.

The lungs were slightly inflamed. The abdominal contents generally exhibited marks of inflammation.

There are two points, particularly, in the foregoing dissections, which claim the attention of the reader. They unequivocally prove the highly inflammatory nature of the malady, and the cause of its unusual destruction. I believe that the internal state of the eye has rarely been the subject of post mortem researches; and as I am of opinion, that its contents are more or less deranged by the effects of inflammation, when that organ is the seat of pain, accompanied with external redness; I also think, that the discovery is important, as proving to a demonstration the almost utter impossibility of removing the disease without the rigorous employment of the lancet, and other means of depletion.

The state of the kidney, next to that of the eye, claims our attention. It is the general opinion, that this viscus is not liable to suffer from inflammation and its consequences in the yellow fever, even where suppression of urine is a fatal and prominent symptom for days. I have seen more than two hundred dissections, but I

do not recollect having seen the kidney examined minutely, a single incision through the pelvis satisfied the examiner, who pronounced it healthy. In all the post mortem examinations which took place previous to my arrival at Barcelona, if I can credit the report of persons who assisted at them, little attention was paid to the kidney,—a single cut and no more. In my four first dissections I was equally careless with regard to its state, having been informed, that in no one instance did it exhibit marks of disease, although suppression of urine was a prominent symptom in almost all the fatal cases. In the case of Maria Gouch, I accidentally discovered abscesses: the existence of abscesses in the papillæ of the kidneys led to the examination of the ureters, which also contained pus. I cannot say that abscesses of the kidneys are common in the yellow fever of Andalusia, having only performed a few dissections there; but, as the symptoms of the disease in Barcelona (where I am disposed to think, from what I witnessed, that abscesses of the kidneys were common) bore considerable analogy to the inflammatory form of the Andalusian fever, I am inclined to believe that the same appearances exist, and will be found on dissection; and as it is a most important point, as connected with the treatment, to ascertain whether or not the suppression of urine arises from inflammation of the

kidneys and its consequences, I must take the liberty of calling the particular attention of anatomists to this important subject. Every atom of the viscus ought to be examined; the abscesses are extremely small, and difficultly discovered. The liver in most cases exhibited unequivocal marks of recent disease, more so than I before witnessed. The post mortem examination of subjects, who die of the yellow fever, should take place as soon as possible; for the different organs, viscera, &c., more particularly those that have recently suffered from diseased action, undergo changes in a few hours, so as to become brown, black, and apparently gangrened, while the appearances of other parts, that were comparatively healthy, are also changed after a given time. I am disposed to think, that if the body be not examined in five hours after death, little information can be obtained of the actual state; and that this, in a great measure, accounts for the extensive gangrenous appearances which anatomists have described, and which, in my opinion, rarely take place during life as the effect of disease; but as the vitality of parts, upon which a prominent morbid action exercises its injurious influence, is more or less in a state of debility from the effects of inflammation, when dissolution takes place, they more readily undergo changes and assume gangrenous appearances than healthy parts. This may be proved by ex-

posing the abdominal contents as soon as possible after death. Then the changes are evident; for the parts, which have suffered from recent disease, change colour and become black in a very short time, whilst those, that have sustained no injury, retain the natural colour for a much longer period.

The following extract of a letter, as it relates more or less to the appearances on dissection, may not be misplaced here. The writer of it had charge of the lazaretto, and having, in common with the others, been impressed on the first appearance of the disease with ideas of its contagious nature, he commenced the care of sick wrapped up in an oil-cloth dress.

“ Hospital called Virreina, Barcelona,

November 2, 1822.

“ MY DEAR SIR;

“ The liver presented a saffron colour, sometimes with obscure stains in its concave part, and almost always some gangrenous stripes in the gall bladder, with some portion of black bile. The mucous membrane of the stomach was inflamed, and the bottom of it contained a great portion of black liquor. Part of the intestines, and in particular the jejunum, contained the same humour; and there were bodies which contained more than three pounds of the same black liquor.

“ In the spleen and kidneys no particular alteration was observable; but the urine in almost all the cases was very much of the colour of saffron. In many cases, adhesion of the lungs to the pleura were met with. Nothing particular was observed in the heart, nor in its large vessels: the liquor pericardic was always of a straw colour.

“ The above sketch does not afford grounds for argument, as to the contagious or non-contagious nature of the disease. I shall only state, that out of thirty persons of all descriptions, who were destined to assist the sick, not one took the disorder. The nurses continually communicated with the sick. When delirious patients escaped from their beds, the assistants had to take them on their shoulders, and replace them in their respective quarters. On the opening of the bodies, the anatomists, in my presence, involuntarily cut their fingers and hands, and not one was inoculated with the yellow fever. When the grave-diggers carried the dead bodies to the churchyard, they had to handle them a great deal before throwing them into the pit, and not one suffered in his health. In short, not an individual employed in the lazaretto either took the disorder, or was infected by those who were sick of the yellow fever.

(Signed) “ DR. SALVADOR CAMPANY.”

“ Dr. John Leymerie.”

Estado exacto de los Cadáveres que han salido por las puertas de la Ciudad de Barcelona y por la de D. Carlos, desde el 1° de Septiembre de 1821, hasta el último dia en que se dieron partes en dichas puertas que fué el 21 de Diciembre del mismo individualizando los meses y dias en que han salido y los en que han fallecido en el Lazareto y en la Torre de la Virreina.

MES DE SEPTIEMBRE.

Días.	Puerta del Angel.	Puerta Nueva.	Puerta de D. Carlos.	Total de Cadáveres.
1	Se ignora	Se ignora	5	5
2	id.	id.	6	6
3	id.	id.	8	8
4	id.	id.	7	7
5	id.	id.	8	8
6	id.	id.	11	11
7	id.	id.	11	11
8	id.	id.	25	25
9	id.	id.	14	14
10	id.	id.	14	14
11	id.	id.	3	3
12	id.	13	17	30
13	1	2	12	15
14	4	25	25	54
15	4	30	17	51
16	11	30	31	72
17	3	15	30	48
18	0	22	26	48
19	0	23	26	49
20	5	37	38	80
21	0	41	46	87
22	0	50	42	92
23	0	66	38	104
24	12	50	30	92
25	23	45	61	129
26	21	58	42	121
27	7	73	42	122
28	1	77	33	111
29	0	114	52	166
30	8	106	33	147
Total	100	877	753	1730

MES DE OCTUBRE.

Dias.	Puerta del Angel.	Puerta Nueva.	Puerta de D. Carlos.	Total de Cadáveres.
1	25	90	30	145
2	23	112	31	166
3	28	87	26	141
4	36	88	25	149
5	82	47	25	154
6	77	99	26	202
7	63	115	22	200
8	54	112	28	194
9	66	107	20	193
10	68	110	17	195
11	58	122	24	204
12	74	133	20	227
13	35	126	14	175
14	48	109	13	170
15	75	105	21	201
16	52	102	13	167
17	49	89	11	149
18	82	116	16	214
19	76	155	15	246
20	86	98	8	192
21	60	79	8	147
22	48	72	3	123
23	72	87	8	167
24	45	97	3	145
25	56	85	2	143
26	48	84	1	133
27	38	66	2	106
28	39	81	3	123
29	38	70	5	113
30	50	74	4	128
31	41	87	3	131
Total	1692	3,004	447	5,143

MES DE NOVIEMBRE.

Dias.	Puerta del Angel.	Puerta Nueva.	Puerta de D. Carlos.	Total de Cadaveres.
1	33	74	0	107
2	33	65	0	98
3	23	61	3	87
4	30	52	2	84
5	26	58	1	85
6	32	44	1	77
7	22	39	0	61
8	34	38	2	74
9	29	40	2	71
10	18	33	1	52
11	19	29	3	51
12	22	33	0	55
13	18	35	3	56
14	14	25	3	42
15	24	13	1	38
16	14	26	1	41
17	14	14	0	28
18	11	22	1	34
19	8	14	0	22
20	17	17	0	34
21	8	21	1	30
22	9	14	0	23
23	12	18	0	30
24	8	12	0	20
25	8	11	0	19
26	6	14	0	20
27	6	16	0	22
28	14	10	0	24
29	9	19	0	28
30	13	10	1	24
Total	534	877	26	1,437

MES DE DICIEMBRE.

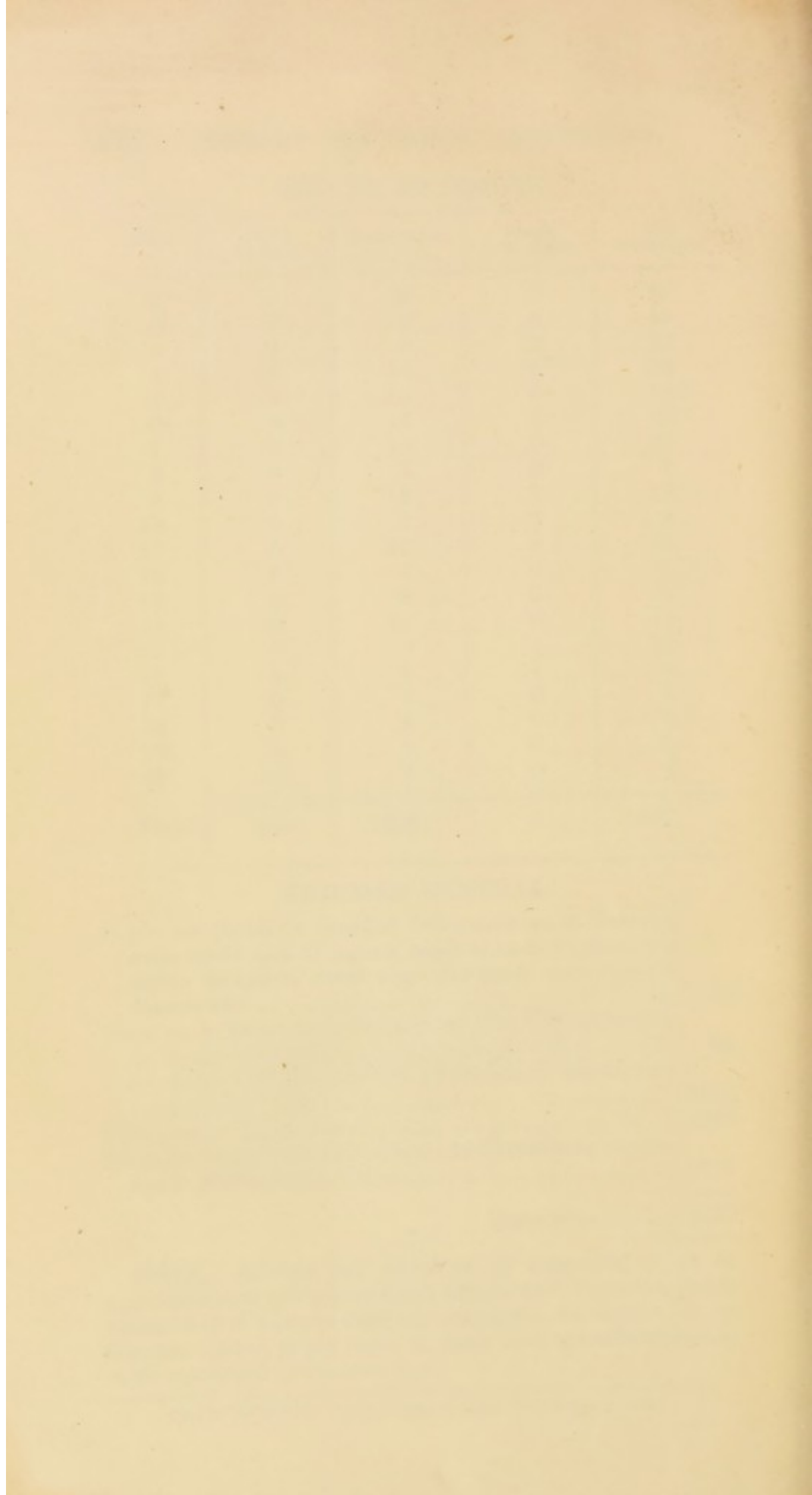
Días.	Puerta del Angel.	Puerta Nueva.	Puerta de D. Carlos.	Total de Cadaveres.
1	10	17	0	27
2	4	9	0	13
3	5	8	0	13
4	6	16	0	22
5	0	14	0	14
6	0	16	1	17
7	0	13	0	13
8	0	7	0	7
9	0	16	1	17
10	0	5	0	5
11	0	12	1	13
12	0	7	0	7
13	0	8	0	8
14	0	11	0	11
15	0	9	1	10
16	0	7	1	8
17	0	7	0	7
18	0	8	0	8
19	0	8	0	8
20	0	4	0	4
Total	25	202	5	232

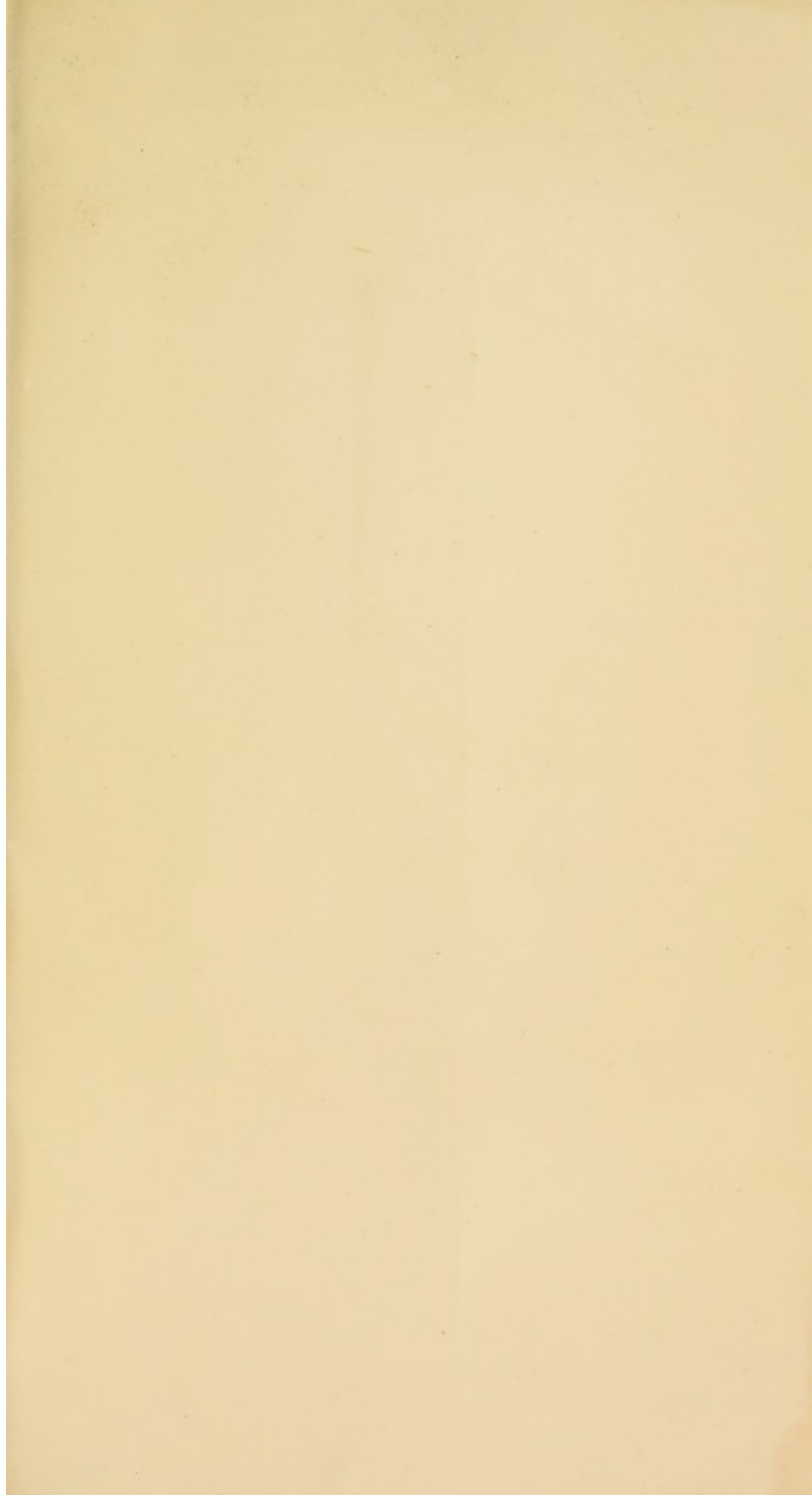
RESUMEN GENERAL.

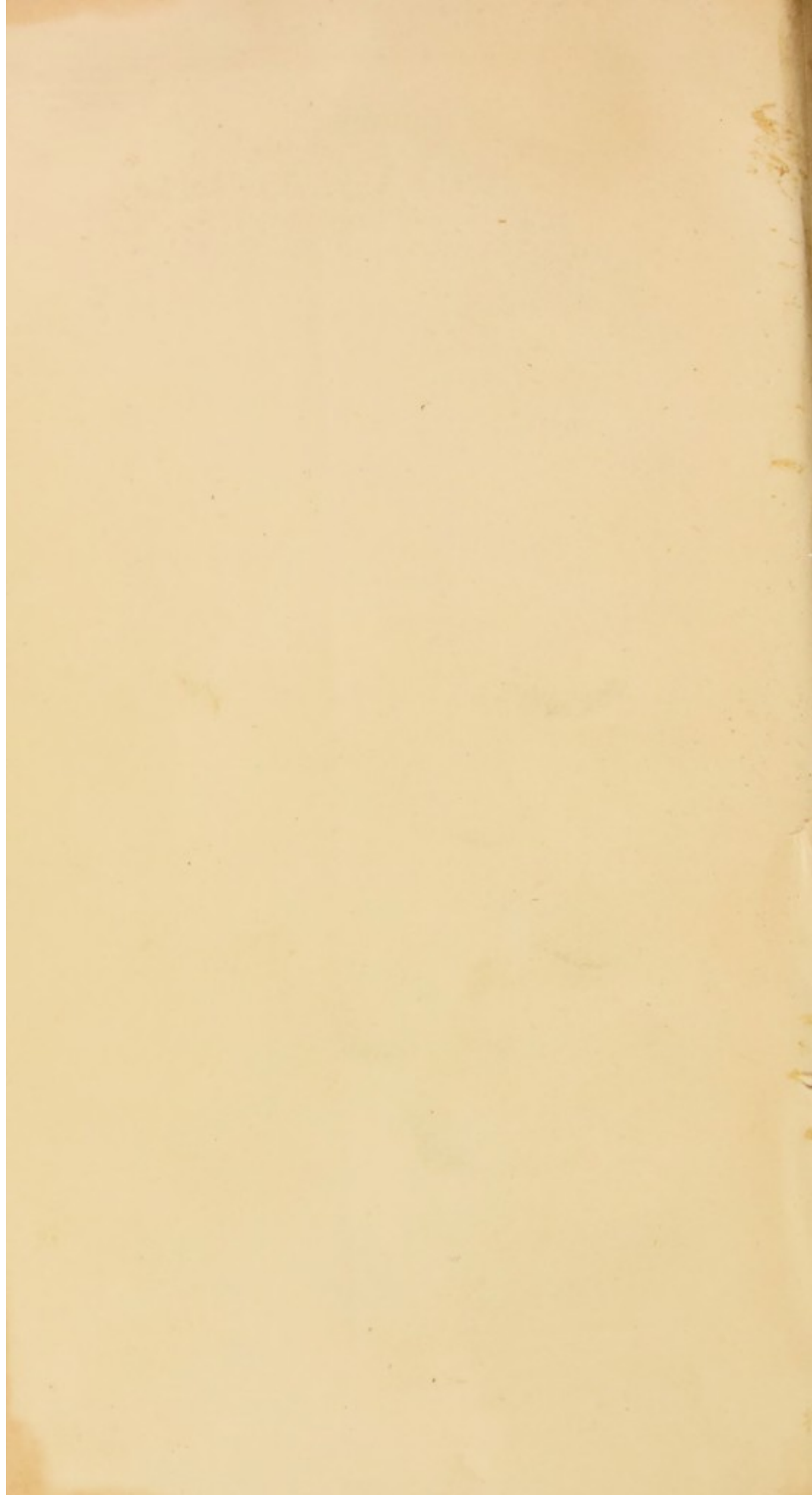
Segun los partes de Sanidad fallecieron en el lazareto sucio desde el 6 de Agosto hasta el 13 de Septiembre ambos inclusive, desde cuyo dia quedó enteramente desocupado	59
Idem en la Torre de la Virreina en todo el tiempo que ha estado ocupada.....	48
Total de los que han fallecido en la ciudad salidos por la puerta del Angel	2351
Idem por la Puerta nueva.....	4960
Idem de los que han fallecido en la Barceloneta salidos por la puerta de D. Carlos.....	1231
Suma total.....	<u>8649</u>

NOTA. Además por razon ya de descuidos, ó ya de equivocaciones que puede haber habido en el recuento, puede aumentarse el número total sin escrúpulo de engaño de un diez por ciento, y por tanto la suma será aproximadamente la de nueve mil quinientos trece.









28. R. 1977.

