ON THE

P E L L A G R A,

A DISEASE PREVAILING IN LOMBARDY.

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A SHORT residence in the north of Italy, at two successive periods, has given me the opportunity of making some observations on the singular variety of disease, which forms the subject of the following paper. The extensive and destructive progress of the Pellagra in Lombardy during the last twenty or thirty years, has rendered it an object of equal interest to the physicians and governments of the country, and has led even to the suggestion of legislative means for controuling the evils which it has inflicted on this portion of Italy. Many of the remarks on the subject which I shall take the liberty of offering to the Society, are founded on my own observations in the hospitals at Milan and elsewhere. The remainder have been furnished me, either by conversation with different Italian

physicians; or by the perusal of two or three of the several treatises, which have been composed upon the pellagra. From the latter I have derived, in particular, much of what I shall have to say, as to the locality, progress, and causes of the disease; these being the points, which, for obvious reasons, are least accessible to the observation of the traveller.

The Pellagra has derived its name from an affection of the skin, which is one of the earliest and most conspicuous symptoms of the disorder. Though there has been some controversy on the subject, yet I do not hesitate in classing the disease amongst the Impetigines, and perhaps even a generic distinction under this class might be warranted by the difference between its symptoms, and those of the leprosy or scurvy, to which it seems to be most nearly allied. Alibert, in his valuable work on the Diseases of the Skin, has described it under the name of the Ichthyosis Pellagra * ; but from my own observation of the disorder, I do not feel entirely satisfied with this name or classification. The account I am about to give of its appearances may afford some means of judging as to this point; and I may remark, meanwhile, that the question of nosological arrangement, is one of comparatively small importance, either to the diagnosis or treatment of the malady.

* Alibert, Description des Maladies de la Peau ; page 175.

The pellagra, as an endemic disease, prevails chiefly in the provinces of Lombardy, lying between the Alps and the Po. This country may be briefly described as a vast surface of alluvial plain, little elevated above the sea; but rising on its northern side into chains of hills, which intermediately connect it with the Swiss and Tyrolese Alps. From the long, narrow, and profound lakes among these hills, the numerous rivers issue, which flowing southwards to the Po, and giving their waters into a number of artificial channels for the purposes of irrigation, maintain that extraordinary fertility of soil, for which the plains of Lombardy have long been celebrated. The principal objects of cultivation on these plains, besides the vineyards extensively spread over their surface, are maize, rice, and millet. In some districts, and particularly between the rivers Adda and Ticino, the pastures are extensive, and yield a considerable produce of milk, from which the Parmesan cheeses are made. The hilly country just noticed, on the northern side of Lombardy, is less productive, and cultivated on a more limited scale. The vallies, however, intervening amongst these hills are of great fertility, yield a considerable quantity of grain, and much wine from the numerous vineyards to which they give shelter.

The district, which appears to have suffered most from the ravages of the pellagra, is that which formerly constituted the Duchy of Milan, and par-

ticularly the Alto-Milanese, or that portion of country lying up towards the hills between the Lago Maggiore and the Lago di Como. It was in this part of Lombardy that the disease first became an object of medical attention; and some time elapsed before it was described as appearing in the Venetian provinces, and near the shores of the Adriatic Sea. At the present time it has unhappily been recognized as increasing in every part of Lombardy; as well on the plains, as among the hills which rise on their northern border towards the Alps. I have had the opportunity of observing it also in the province of Friuli, the district which intervenes between the foot of the Carinthian Alps, and the northern shore of the Adriatic Sea.

Before alluding to the probable causes which determine this locality and extension of the disease, it will be desirable to relate the symptoms which characterize it in the most ordinary forms of its occurrence; though these, I may remark in the outset, display frequent varieties, and are often complicated with other characters of disease. The pellagra is a malady confined almost exclusively to the lower classes of the people, and chiefly to the peasants, and those occupied in the labours of agriculture. Though there are doubtless exceptions to this statement, yet the facts it includes are so general, as to render it of importance in the history of the disease. The first distinct appearance

of the malady is under a local cutaneous form; preceded, however, occasionally by languor, debility, and other indications of a general cachectic state of body. The local symptoms very generally shew themselves in the first instance early in the spring, at the period when the mid-day heat is rapidly increasing, and when the peasants are most actively engaged in their labours in the fields. The patient perceives on the back of his hands, on his feet, and sometimes, but more rarely, on other parts of the body exposed to the sun, certain red spots or blotches; which gradually extend themselves, with a slight elevation of the cuticle, and a shining surface, not unlike that of lepra in its early stage. The colour of this eruption is a somewhat more obscure and dusky red than that of erysipelas: it is attended with no other uneasy sensation than a slight pricking or itching, and some tension in the part. After a short continuance in this state, small tubercles are frequently observed to arise on the inflamed surface; the skin almost always becomes dry and scaly, forming rough patches, which are excoriated and divided by furrows and rhagades. Desquamation gradually takes place, which, though it leaves behind a shining, unhealthy surface in the parts affected, yet in the first year of the disease, is rarely followed by a repetition of the appearances just described. Towards the close of the summer, or occasionally still earlier, the skin has resumed nearly its natural appearance; and but that the further progress of the

disease is familiar to every inhabitant of the country, the patient might be led to flatter himself that the evil was gone by, and that there was no particular reason to dread its recurrence.

As the persons who are affected by the pellagra in this incipient stage, are rarely brought into an hospital, I have had few opportunities of observing the complaint thus early in its progress. From the instances I have seen, however, I should consider the description just given of the local eruption, as being accurate in all material points. With this local affection are connected, even in the first period of the disease, certain general symptoms, which are important in as much as they indicate the constitutional nature of the malady. Debility of the whole body; vague and irregular pains of the trunk and limbs, but especially following the track of the spine and dorsal muscles; headache, with occasional vertigo; irregular appetite, and general depression of spirits; these are the more ordinary symptoms which attend the early part of its progress. The bowels are for the most part relaxed; and usually continue so in the further course of the disease. There are no febrile symptoms; and in females the menstruation is generally continued without irregularity.

The remission which the patient obtains during the autumn and winter of the first year, is almost universally followed by a recurrence of his symp-

toms in the ensuing spring, under a more severe form, and with much greater disorder of the constitution. The cutaneous disorder is removed, and spreads itself more extensively ; though still affecting chiefly the hands, neck, feet, and other exposed parts of the body. The skin becomes callous and deeply furrowed ; and large rhagades shew themselves, especially among the articulations of the fingers. From the cases I have seen of the cutaneous affection in this stage, I should speak of it as most resembling the inveterate degree of Psoriasis, or of the *Lepra vulgaris*, with some affinity certainly to the *Ichthyosis*, under which, as I have already mentioned, Alibert has classed it *. The debility is greatly increased in the second year of the complaint ; frequently depriving the patient of all power of pursuing his active labours, and rendering him peculiarly susceptible of all changes of temperature. Partial sweats frequently break out without any obvious cause. All the nervous symptoms of the first year are renewed in more severe degree ; there is a general tendency to cramp and spasmodic affections ; the mind begins to suffer under the disorder ; and the feeling of anxiety and despondence is very strongly marked. I find the symptom of *libido inextinguibilis* noticed by one or

* As Alibert's plate gives but a very partial view of the appearances of the pellagrous eruption, I have written to the north of Italy, to endeavour to obtain some drawings which may illustrate this part of the disease. Should I succeed in procuring such drawings, I shall not fail to lay them before the Society.

two writers ; but I did not learn this as the result of my own inquiries ; and I am rather disposed to attribute the opinion to the credulity common upon this topic ; or perhaps to a desire of associating the pellagra more closely with the leprosy, as described by ancient writers. The other symptoms already noticed, make progress as the heat of summer advances ; and with greatest rapidity in those patients who are much exposed to the sun. As in the preceding year, they begin to decline towards the middle or end of the autumn ; but the remission, as well of the local affection, as of the general disorder, is much less complete than before, and the patient continues to suffer during the winter from the debility, and other effects consequent upon the disease.

In the third year every symptom is renewed at an earlier period, and in an aggravated degree. The constitutional malady shews itself under a variety of forms ; some of the symptoms having considerable analogy to those of scorbutus ; all of them indicating a general cachexy of habit, and more particularly a lesion of all the voluntary functions. The debility now becomes extreme : the patient is scarcely able to support himself ; and the limbs, besides their feebleness, are affected with pains, which still further impede the power of motion. The diarrhœa continues, and tends of course to augment this debility. Frequently a dysenteric state of the bowels comes on in the latter stages

of the disease. The breath is generally fetid ; and the odour of the matter perspired often extremely offensive. The appetite and digestion are irregular, yet on the whole, perhaps less affected than most of the other functions. Dropsical effusions now frequently come on ; occasionally ascites, but more commonly anasarca. Vertigo, *tinnitus aurium*, and double vision, are almost universally concomitants of this stage of the disorder, and all the senses become exceedingly impaired. Some spasmodic affections are very general, and these not unfrequently take a very decided epileptic form.

Connected with these latter symptoms is the effect which the pellagra produces upon the minds of those suffering under the malady, which effect forms one of the most striking circumstances in the history of the disease. The anxiety, watchfulness, and moral depression of the patient, are rapidly augmented. In the hospitals appropriated to the reception of such cases, the *Pellagrosi* afford a melancholy spectacle of physical and moral suffering, such as I have rarely had occasion to witness elsewhere. These unhappy objects seem under the influence of an invincible despondency ; they seek to be alone ; scarcely answer the questions put to them ; and often shed tears without any obvious cause. Their faculties and senses become alike impaired ; and the progress of the disease, where it does not carry them off from debility and exhaustion of the vital powers, generally leaves

them incurable ideots, or produces occasionally maniacal affections, which terminate eventually in the same state. As a striking proof of this tendency of the disease, I may mention the fact, that at the time I visited the Lunatic Hospital at Milan, there were very nearly 500 patients of both sexes confined there; of which number, more than one-third were *Pellagrosi*; people brought thither by the termination of their disorder, either in ideotcy or mania. Even this statement gives little adequate idea of the ravages of the disease, in this mode of its termination. The public hospitals of the country are wholly incompetent to receive the vast number of persons affected with the pellagra; and the greater proportion of these unfortunate people perish in their own habitations, or linger there a wretched spectacle of fatuity and decay. Where debility, as generally happens, is the cause of death, it manifests itself in the latter stage, with the usual concomitants of colliquative diarrhœa, spasmodic affections, and coma; and produces a degree of emaciation, scarcely to be surpassed in any other disease.

The mania consequent upon pellagra is often of a very violent kind, of which I have seen some remarkable instances in the Lunatic Hospital at Milan. Where such affections occur, the progress of the disease appears to be in some degree retarded, and the strength less rapidly declines. Attempts at suicide are frequent among *Pellagrosi*;

and particularly, it is said, by throwing themselves into the water. Strambi has thought it worth while to characterize this tendency by the name of Hydromania.

Though, for the sake of brevity, I have described this train of symptoms as going on from the third year, yet I may remark that the pellagra is generally of longer duration; and that other intermissions usually occur in its progress, giving the patient a certain relief in the degree of his sufferings, though little hope as to the event of the disease. In some instances the cutaneous affection forms the principal indication of the complaint for several successive years; being renewed every spring, and disappearing again in the autumn. In other cases, where it has been found possible to remove the patient to a new situation and mode of life, the disease is still further arrested in its progress. It rarely happens, however, that these means can be practically adopted; and the constitutional malady is generally so far established in the third or fourth year, that little hope remains of benefiting the patient, either by medicine, or change in the mode of life.

I cannot learn that morbid dissections have thrown any light on the pathology of this disease. In some patients the liver, in others the spleen, have been found enlarged and indurated: marks of disease are also occasionally seen in the intestines

and mesenteric glands, but these appearances are by no means constant ; and may more reasonably be considered as effects, than as causes of the malady.

I have already stated the fact, that the pellagra is almost exclusively confined to the lower classes, and chiefly to the peasants who cultivate the soil ; the disease being rarely seen in the cities of Lombardy, except in the instance of patients who have been brought thither from the country. I may now add to these facts, that persons of each sex, and of every age, are liable to be affected by it ; and that the hereditary tendency of the disorder is proved by the circumstance of the symptoms frequently appearing in infants at the earliest period of life. This fact is particularly noticed to me by my friend Dr. Sacco of Milan, who in his frequent journies through the country, as Director of the Vaccine Establishment in this part of Italy, has had the best opportunities of observation on the subject. The authors who have written on pellagra, as far as I have had the opportunity of seeing them, all concur as to this point, and cite the numerous instances in which the disease continues in families, with an evident predisposition derived from parents who have suffered under it. The symptoms of the disorder, as it appears in infants, are not materially different from those attending it in more advanced life. The cutaneous affection of the hands, arms, and feet, is that which first shews itself ; renewed and augmented in succes-

sive years, and attended with the various symptoms which indicate a cachectic state of the body, and which in the greater number of instances have a fatal termination.

The question whether the pellagra be contagious or otherwise, has of course attracted the attention of all, who have had opportunities of observing the disease. This point, as I believe, on the best authority, has been decidedly settled in the negative. Setting aside particular instances, the general facts may be mentioned, that the disease is almost exclusively confined to the lower classes; that of people living together in the same habitation, some have the disorder, others not; and that in the case of married people, it frequently happens that the husband or the wife is pellagrous, while the other remains wholly unaffected.

From the preceding history of pellagra, in its ordinary form of occurrence, it will be seen that the disease has in some points a certain degree of affinity to the leprosy of the middle and early ages; and this relation has been noticed by most of the authors who have written upon it. The differences, however, in other points are so distinctly marked, as not to admit of the diseases being classified under the same name; and this remark may be further applied to the scurvy, with which the pellagra is connected by several common symptoms. By some authors, indeed, it has been described under

the name of the scorbutus alpinus ; but the greater number have considered it (and apparently with more reason) as a separate disease ; though occasionally complicated with the genuine scurvy, which prevails as a frequent disorder in the same districts of country. Titius, one of the writers upon the pellagra, has defined it *Erysipelas, periodicum, nervosum, chronicum* ; taking as the basis of this definition, the appearance of the eruption as it first occurs on the skin *. Its after progress, however, and the concomitant constitutional symptoms, are so different from those of erysipelas, in the common understanding of the term, that it would be difficult to admit such a definition, as giving the nosological arrangement of the disease.

With regard to the origin and causes of this singular endemic malady, though a good deal has been written both by Italian and German physicians, yet I do not find any thing which can be regarded as perfectly decisive or satisfactory. The antiquity of the pellagra has been, in particular, a subject of doubt and controversy. Moscati, a Milanese of considerable eminence in science, has stated it as his opinion, that the disease has not been known in Lombardy more than fifty years ; and other writers have held the same belief on the subject. A greater antiquity is assigned to it by

* Salom. Constant. Titii Oratio de Pellagræ Pathologia. Viteberg, 1792.

Strambi; who being appointed by Joseph II. the director of a hospital established at Legnano, near Milan, for the reception of pellagrosi, had the best opportunities of making himself acquainted with the disease. In his Treatises on the Pellagra, published in three successive years, from 1784 to 1787*, he mentions the fact of his having seen many pellagrosi in the hospital, who gave him distinct assurances of their fathers and grandfathers having had the disorder; and from some particular instances, he thinks himself entitled to believe that the pellagra must have been known in Lombardy at least sixty or seventy years before the time when he wrote. Francisco Frapolli, physician to the hospital of Milan, who published a short description of the disease in 1771†, contends also for its antiquity; and supposes it possible that it may be the same disorder as one called *Pellarella*, which is casually noticed among the records of the Milan Hospital for the year 1578. This supposition, however, stands without any other proof than the bare analogy of name; and on the whole there is sufficient ground for concluding, from the silence of all preceding Italian medical writers as to this disease, that it cannot have existed under

* De Pellagra Observationis, quas in Regio Pellagrosorum Nosocomio collegit Caietanus Strambio, Regius ejusdem Director. 1784-89. Mediol.

† Francisci Frapolli, Mediolanensis Nosocomii majoris Medici Animadversiones in Morbum vulgò Pellagram. Mediol. 1771.

any well-defined form for more than a century, perhaps not even for so long a period.

However this may be, it is certain from the concurrent observation of all who have attended to the subject, that the pellagra has been rapidly spreading itself during the last fifty years; and with greatest rapidity during the latter part of this period. At the time when Strambi wrote, in 1784, he calculated that the pellagrosi formed about a twentieth part of the population in the districts principally suffering under the disorder. It now appears that there are districts in the Milanese territory, where the proportion of pellagrosi is one out of five or six in the whole population; and from the intercourse I have had with the medical men in this part of Italy, I am led to believe that the evil is augmenting at this moment in a very alarming degree. I may repeat here the fact I before stated, that the districts thus particularly affected are in the Alto-Milanese, where the country rises towards the Alps, which form its northern boundary. Soler, one of the writers who have treated of the pellagra*, has proposed a division of the disease into the sicca and humida, founded upon some difference of symptoms, which he believes to exist in the disorder, according as it appears in dry and elevated situations, or on the flat

* Osservazioni medico-pratiche sulla Pellagra, del Luigi Soler. Venezia, 1791.

and moist surface of the plains. As I do not find, however, that this division or difference of symptoms is recognized by other authors, it is sufficient to mention the opinion, without entering into further details respecting it. At the same time it seems certain that the disease prevails in some districts much more than in others; that it appeared first in the higher parts of the Milanese territory; and that in this tract of country its ravages are still more extensive than in any other part of Lombardy.

The question regarding the causes of the pellagra I have already alluded to, as involved in much obscurity; and though the current opinions on the subject are certainly on the whole the most plausible, yet they must still be admitted to want something to render them satisfactory. In reference to the remote causes, the most important facts in evidence undoubtedly are, the limited period during which the disease appears to have existed in the country; its being confined almost exclusively to the lower classes, and its rare appearance in the towns or cities of Lombardy. These several circumstances may be admitted to prove, that the disease depends upon some present peculiarities in the mode of life of the peasants of this country. The climate is obviously not the cause concerned; since this, as far as it is known, has been unchanged for a much longer period, than that which includes the history of the pellagra; or had it been changed,

would have affected alike both the higher and lower classes of the population. The same objections may be made to the opinion that any circumstances of mere locality are concerned in producing the disease. It may possibly be true that the plains of Lombardy are more frequently and irregularly flooded than formerly, and that the general surface is more marshy and unwholesome ; but this does little to explain the causes of a disorder, which is chiefly prevalent in the higher lands, where such changes have not equally taken place.

The point then to which we are almost necessarily conducted, is the mode of life and subsistence among the peasantry of the country. All those with whom I have conversed on the subject, and almost all the writers on the pellagra, concur in assigning this as the principal cause of the disease. Though I have spoken of Lombardy as one of the most fertile portions of Europe, yet to those who consider the little certain relation between mere productiveness of soil, and the prosperity or comforts of the population dwelling upon it, it will not appear very extraordinary that the peasants of this district should be subject to various physical privations, unknown to the people of countries which are much less favoured by nature. The fact unquestionably is, whatever be our speculations as to the cause, that the peasants of Lombardy do for the most part live in much wretchedness ; both as regards the quantity and quality of their diet, and

the other various comforts of life. It further seems probable, if not certain, that this evil has been progressively augmenting within the last fifty years ; partly, perhaps, an effect of the wars which have so often devastated the country by marches and military contributions ; partly a consequence of the frequent changes of political state ; together with the insecurity, the variable system of government, and the heavy taxes and imposts attending such changes. To these causes may be added, a decaying state of commerce, and a faulty system of arrangement between the landlords and the cultivators of the soil ; all tending to depress agriculture, and to reduce the peasantry at large to a state of much misery and privation.

The ordinary diet of these people contains chiefly of maize, prepared in various ways ; of rice, millet, beans, and some other articles of vegetable food. Their bread, which is principally made from maize, is for the most part of bad quality ; ill fermented, and not unfrequently deficient in salt. Animal food rarely forms a part of their diet ; and though living on a soil which produces wine, their poverty almost precludes the use of it, even when sickness and debility render it most needful. The same condition of poverty is evident in their clothing, in their habitations, and in the want of all the minor necessities and comforts of life. The immediate effect of these privations is obvious in the aspect of squalid wretchedness and emaciation,

which forms so striking a spectacle at the present time throughout the greater part of Lombardy. I say particularly *at the present time*; because whatever may have been the progress of misery among the peasants of this country during the last half century, it appears to have increased in a tenfold ratio, during the last two years; the effect of bad harvests added to the preceding wars and political changes which have distressed this part of Italy.

This general condition of the peasants of Lombardy seems to be the cause to which we may most reasonably attribute the prevalence of the pellagra amongst them. Their bad and deficient diet may be presumed to produce a cachectic habit of body; manifesting itself progressively in the cutaneous eruption, in muscular debility, and in a general lesion of the nervous system; including the senses, and the mental faculties. I am aware, that I am here using very general phrases; but it will be readily admitted, I believe, that the state of our knowledge as to the causes of disease, does not often admit of others more definite; and though I might cite various speculations which the writers on pellagra have adopted, founded chiefly on the doctrines of the humoral pathology, yet I refrain from this, under the conviction that they have added little or nothing to our real knowledge of the subject. The general fact that a deficiency of good nourishment and other means of comfortable subsistence, is capable of producing constitutional

disease, is attested by numerous analogous instances. The scurvy may be mentioned as one closely allied in several respects, though differing from the pellagra, as well in its symptoms, as in the particular nature of the diet, which appears to have effect in producing the disorder. Other forms of disease, more closely akin to the pellagra, I have observed in Iceland; connected apparently with the diet and mode of life of the inhabitants of that island. Some of these I have described in a Thesis, on the diseases prevailing among the Icelanders, published in 1811. Here too it may be remarked, that the peculiarity of diet is of different kind; and that the points of similarity of condition are chiefly such as relate to general privation and want of cleanliness; causes which appear to have more effect in producing the diseases of this class, scurvy perhaps not excepted, than any of those peculiarities of animal or vegetable food, which are usually alleged and insisted upon by medical authors.

The pellagrous habit of body, however produced among the peasants of Lombardy, is certainly continued and extended by the hereditary tendency of the disease. I have already mentioned the fact of its occasionally appearing in infants at the breast; and though this, perhaps, is comparatively rare, yet it seldom happens that the children of pellagrosi escape the disorder as they proceed in life, and are exposed to what appear to be the exciting causes of the complaint. The early occurrence of the

Pellagra, if the disease depends upon bad and deficient diet, might indeed very reasonably be expected. The mother, sickly and emaciated from poverty, is often unable to nurse her offspring; and the substitute for her milk is generally a pulse, prepared from maize and water; the effect of which is very obvious, in disordering the bowels of the infant, impeding nutrition, and preparing the way for future disease. The same circumstances of defective nourishment are continued during childhood, and with similar effect upon the constitution.

Assuming, however, the physical condition of the peasants of Lombardy as the most probable cause of the prevalence of the pellagra in this district, it may still be asked, why the disease does not equally appear in other countries, where the state of the inhabitants is not less miserable? Though there be some difficulty in answering this question, yet on the whole it will probably not be thought inconsistent with medical experience, to suppose that one form of hereditary disease may be accidentally produced in a particular district, and afterwards continued and extended under the influence of the same general causes, which produce other, though analogous maladies elsewhere. Or if this reasoning be thought vague or improbable, it may perhaps be better to plead ignorance of the local peculiarity; still not relinquishing the opinion before given as to the general causes of the disease, which can scarcely be doubted, consider-

ing the evidence derived from the different circumstances already described.

I may mention here, that several Italian physicians have conceived the increasing use of maize as an article of food, to be much concerned with the extension of the pellagra in this part of Italy, and have thought it probable that the peculiar nature of the disorder might be derived in a great degree from this particular diet. It is a strong objection to this opinion, that the disease, as far as I know, is not observed in other parts of the south of Europe, where the same diet is as generally in use among the lower classes. I have never seen it in the northern parts of Greece, though here the same grain forms a principal article of food with the peasantry of the country ; and though I shall afterwards notice a disease occurring in the Asturias, which has some resemblance to the pellagra, yet with this exception, I do not know of its existence in Spain or Portugal, where the maize is very extensively used. The same objection may be made to the idea suggested by some physicians that the increasing use of rice in Lombardy has been a principal cause of the disorder. It is true that quotations might be obtained from different medical writers stating the noxious effects of warm rice, as an article of food, in producing nervous affections, blindness, &c. ; but even were we to admit much of this, there would still remain a wide disproportion between the alleged cause, and the

extent of the effects as they appear in the pellagra of Lombardy. It may further be noticed that the use of rice was common in Italy in former times as we find from the testimony of Horace and Pliny, without the production, as far as we know, of any malady corresponding to that now under consideration. If the cultivation of rice in Lombardy has any connection with the pellagra, it is probably much less from its effects as an article of food, than from the swampy nature of the districts in which it is most successfully grown. In allusion to this circumstance, however, I have already noticed the fact, which seems to be established, that the pellagra is most frequent in some of the higher parts of Lombardy, and though the unhealthy influence of a marshy surface in this climate, is well understood from experience, yet it would seem that the diseases depending specifically on this cause, are very different in character, from the one I have just been describing.

On the whole, it is certainly to the leprosy or elephantiasis of the middle or dark ages, that we are to look for the nearest resemblance to the pellagra, both in the character and probable causes of the disease. Whatever be the doubt as to the correct application of these terms, and however various the disorders that were admitted into lazarettoes, it is clear that certain diseases were very prevalent in Europe at that period, attended with scaly or tubercular eruptions, or occasionally

with both; and bringing on great debility, defect of the senses, and other constitutional symptoms. It appears equally probable that these diseases had their origin, and were continued, by the condition of the European nations at the time in question; when bad governments, imperfect agriculture and numerous internal wars, had the effect of producing occasional famine and much habitual distress among the lower classes. It is true that we do not find the description of any of these forms of disease exactly corresponding with the Pellagra; but the analogy is nevertheless sufficiently close, to warrant us in presuming the same general causes, where the circumstances and effects are so far alike.

I must not quit the subject of the causes of the Pellagra, without alluding again to a remarkable fact in the history of the disease; viz. the first appearance of the symptoms in the spring of the year; their partial disappearance in the autumn; their renewal in the ensuing spring; and the continuance of this alternation for successive years, whenever the disease is protracted thus long, without reaching its latter stages. The generality of this fact, and the further circumstance of the eruption chiefly appearing on those parts of the body which are exposed to the sun, have led some physicians to suppose that *insolation* was the actual cause of the disease. Albera, one of the writers on the Pellagra, describes it in the title of his

work, as *malattia dell insolato di primavera, volgarmente detta la Pellagra*. Frapolli, after stating various arguments in support of this opinion, asks the question “*Nonne satis evidens et unica causa insolatio ?*” and proceeds to give a laborious hypothesis, illustrating its mode of action upon the body. It is obvious from his reasoning on the subject, that he does not sufficiently distinguish between remote and exciting causes. It may be admitted as very probable that insolation is one of the exciting causes of the Pellagra, and that in part at least it determines the appearance and violence of the disease during the spring and summer. But it is certain that exposure to the sun cannot produce the disease, or bring it to its termination, when produced ; the obvious proof of which is that the same, or a greater exposure, is incurred by the peasants in every part of Italy, without any similar effects resulting from it ; to say nothing of the still more extensive negative evidence to this effect derived from other countries. It may further be presumed that insolation is by no means the sole exciting cause, which determines the appearance of the symptoms in the spring. It seems probable that something of this effect is owing to the increased labours of the peasantry at this season ; which cause, though it seems slight and ordinary, yet may reasonably be supposed to have some influence, where the disease is already in the habit, and prepared to manifest itself. Perhaps also it might be surmised, that the perio-

dical returns of the Pellagra, during its early stages, depend in part on the natural periodical changes of the body itself, independently of the external causes just alluded to ; but this is a topic too extensive, as well as too obscure, to admit of my entering upon it here*.

With respect to the medical treatment of the Pellagra, I have much less to say than might perhaps be expected from the preceding history of the disease. The truth is, that in a malady, thus extensively prevalent among the lower classes, and depending chiefly, as it would seem, on their diet and mode of life, no ordinary methods of cure can be adopted with a reasonable prospect of success ; the evil requiring those more general preventive means, which it is out of the power of medicine to afford. By far the greater proportion of patients affected with Pellagra are unable to obtain admission into the hospital of the country ; the number and finances of which are wholly inadequate to the demands from this source. Their poverty equally precludes medical assistance in their own habitations, or the changes in diet, &c. which are essen-

* It may be noticed that Alibert describes a variety of the disease, which he calls *Ichthyosis, Pellagra orbicularis*, from the desquamation taking place in circular patches ; in which the pellagrous eruption does not appear to take place precisely on parts of the body exposed to the sun, and occurs indifferently at any time of the year. It is very likely that such a variety may exist, though it does not happen that I have heard it described.

tial to their relief. Those who obtain admission into the hospitals, generally come there after the disease has already made much progress in the constitution ; and even in the cases where benefit has been derived from this change in the mode of life, it is speedily lost again by the necessity of returning to their own houses and former occupations. The only considerable establishment, as far as I know, set on foot expressly for the reception of *Pellagrosi*, was that, before alluded to, at Legnano, in the Milanese territory. It was abolished, however, five years after its institution, by the Emperor Joseph II. ; and in lieu of it, a provision was made for receiving a certain number of *Pellagrosi* into each one of the principal hospitals throughout the duchy of Milan ; the funds of the former establishment being applied to this object. Only sixty patients could be received into the hospital at Legnano. The present plan of distribution supports a great number ; but nevertheless appears to have done little in mitigating the evil, either by cures actually performed, or by suggesting any more extensive and radical means of obviating the disease. In 1786 the Patriotic Society of Milan proposed a premium for the best treatise on the history, prevention and treatment of the Pellagra ; but equally without obtaining any results of the least practical value. It is not a light task to remove causes which affect a whole community of people ; and rarely can such object be accomplished by any sudden or artificial means ;

even though governments engage themselves in pursuing it.

The actual medical treatment of the cases of Pellagra brought into the hospital, may be very briefly described. A nutritious diet is immediately adopted for the patient, unless contra-indicated by some local affection, and wine and tonic medicines are given with the same view. A decoction of the lichen islandicus is in common use in the hospital of Milan, as a part of this plan of diet. The warm bath is very generally employed at the same time; a favourite remedy among the peasantry afflicted with the Pellagra, probably in consequence of its comparative cheapness; and esteemed also by most of the medical practitioners, who are concerned in treating the disease. Diaphoretics, and especially antimonials, are in considerable use; under the idea of correcting the state of the skin, and getting rid of the morbid humours through this channel. Depletion by blood-letting is very rarely employed, except where some local inflammation happens to occur, or in the mania which sometimes supervenes upon the disease. Attention is of course paid to the bowels; in correcting the diarrhoea, and bringing them as far as possible to a natural state. Anti-scorbutic medicines are occasionally used; but I did not find reason to believe, from the inquiries I made, that they were of much avail. In short, it appears

certain, that mere medicine has done very little for the relief of Pellagra; and Strambi, whom I have before mentioned as the inspector of the hospital at Legnano, frankly confesses that he never saw a case distinctly cured by the remedies that were employed. It is true that Frapolli speaks of numerous cures that have been obtained by the conjoint use of the warm bath, fictions, and sudorific medicines; but this assertion does not seem to have acquired much credit with succeeding physicians; and the general acknowledgment is one of inability and failure.

In the course of this paper I have already noticed several authors who have written upon the Pellagra during the last half century. To these I may now add the names of Gherardini, Zanetti, Odoardi, Fanzago, and Jansen; the titles of whose respective treatises are given in the subjoined note*. Those of Fanzago, the professor

* Della Pellagra Descrizione di Michelle Gherardini. Milano 1780.

Francisci Zanetti, de morbo, vulgo Pellagra, dissertatio. Nov. Act. Nat. Curios. Tom. VI. Norimb. 1778.

D'una specie particolare di Scorbuto; dissertazione di Jacop. Odoardi; Nuova Raccolta d'Opuscoli Scient. &c. Vinezia, 1776.

Memoria sopra la Pellagra del Territorio Padovano, da Francisco Fanzago, Padova, 1789.

Paralleli

of medicine at Padua, published successively in 1789 and 1792, may perhaps be considered the most valuable documents as to the history of the Pellagra. I have not had the opportunity of consulting these works, since I left Italy; but should I be enabled to procure them thence, which I have some expectation of doing, I shall have the honour to present them to the library of the Society.

Before concluding this paper, I may notice briefly the existence of a disease in the Asturias, which has been described by Thiery*; and which, from its analogy to the Pellagra in many of its symptoms, has been alluded to by several of the writers on the latter disease. The description of Thiery, however, would make it appear, that this malady much more closely resembles the *Lepra Arabum* or elephantiasis; the general relation of which to the Pellagra, I have already had occasion to point out. I am not aware of the peculiar circumstances which produce or maintain this disease in the Asturias; but it is

Paralleli fra la Pellagra ed alcune malattie, che più lo rassomigliano, del F. Fanzago. Padova, 1792.

W. X. Jansen de Pellagra, morbo in Mediolanensi Ducatu Endemio. Lugduni, 1787.

* Observations de Physique et de Médecine, faites en différens Lieux d'Espagne. Par M. Thiery. Paris, 1791.

not unlikely that they resemble those which have been already mentioned as the probable causes of the Pellagra of Lombardy; and which appear capable of producing several different forms of constitutional disease, attended with cutaneous eruptions.