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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*An Inquiry into the Natural History of the Menstrual Function.* By JOHN ROBERTON, Surgeon to the Manchester Lying-in Hospital and Dispensary for the Diseases of Women and Children.

1st. *Of the Age at which Menstruation first takes place.**

THE age of puberty, as indicated by the eruption of the menstrual secretion, or the age at which the aptitude for generation commences (for the two phenomena are regarded as occurring at the same period) is a point concerning which there exists little or no difference of opinion. Physiologists concur in teaching that the period is not uniform, but that it is influenced by many circumstances, as climate, constitution, and mode of living; that in warm climates it occurs often as early as the eighth or ninth year; in temperate climates is usually postponed to the thirteenth or fourteenth year; and in arctic regions to the nineteenth or twentieth.

This opinion, which is general, appears to me to be in a great measure, if not entirely, erroneous. As the inquiry con-

* A paper, entitled "An Inquiry respecting the age of Puberty in Women," containing views mostly similar to those maintained in this section of the present contribution, was published by me in two successive numbers of the North of England Medical and Surgical Journal—a periodical which ceased on the completion of one volume. In the present paper the subject of female puberty has been carefully re-considered, and, I trust, satisfactorily discussed.

cerning the age of puberty is, for many reasons, of importance, I offer no apology for entering upon it. Besides, so precarious and unsettled is that department of physiology denominated *experimental*, that any attempt to place the little of the science which depends merely upon *observation* on a surer basis, deserves, even if it prove a failure, to be received with indulgence.

In exhibiting the sentiments of such as have written on female puberty, I begin with those of Haller, because they have been generally adopted, and also because the notions of the most eminent of his predecessors, on this topic, are so blended with fable as to merit little notice. Even the illustrious Boerhaave has assured us that there are whole nations whose women are destitute of the *catamenia*; and that the Scythian women approach nearly to the nature of the male!* Haller's opinion is, that in the warm regions of Asia, the *menses* appear from the eighth to the tenth year; in Switzerland, Britain, and other equally temperate regions, at the age of twelve or thirteen; and later, the further we ascend towards the north.† The same view is taken by Dr Denman, which he expresses thus, "The early or late appearance of the *menses* may depend upon the climate, the constitution, the delicacy or hardness of living, and upon the manners of those with whom young persons converse. There seems to be some analogy between the effects of heat upon fruits and the female constitution with respect to menstruation, for in general the warmer the climate the sooner the *menses* appear. In Greece and other hot countries, girls begin to menstruate at eight, nine, and ten years of age; but advancing to the northern climates, there is a gradual protraction of the time, till we come to Lapland, where women do not menstruate till they become of maturer age, and then in small quantities, at long intervals, and sometimes only in the summer."‡ According to Professor Burns, "the age at which menstruation begins, varies in individuals, and also in different climates. It is a general law, that the warmer the climate the earlier does the discharge take place, and the sooner cease. In Asia, for instance, the *menses* begin about nine years of age, while in the north a woman does not arrive at puberty till she is eighteen or twenty years of age."§ According to Dr Herbert Mayo, "women reach the period of puberty one or two years before men; the inhabitants of southern before those of northern climates. In the hottest regions of Africa, Asia, and America, girls arrive at puberty at ten or even at nine years of age. In France, not

* Academical Lectures, Vol. v. page 117.

† *Elementa Physiol.* Tom. vii. pars ii. p. 140.

‡ Denman's *Midwifery*, 6th edit. p. 83. 1824.

§ *The Principles of Midwifery*, by John Burns, M. D. 7th edit. p. 463. 1828.

till thirteen, fourteen, or fifteen, whilst in Sweden, Russia, and Denmark, this period is not attained till from two to three years later.*—"Puberty," says Dr Dewees, the American writer, "must vary, as it may be influenced by climate, constitution, and modes of life, always being earlier in hot than in cold climates," &c. Again, "the average period of the first appearance of the menses may be between the fourteenth and fifteenth year in this country," (North America.) †

We see how unanimous these writers are in asserting, that the warmer the climate the earlier the appearance of the menses, and *vice versa*. This doctrine naturally suggests questions, the solution of which they have not, so far as I know, attempted. It might be asked, for example, whether, in countries where the *catamenia* flow, as they allege, at the age of nine years, this *sexual* precocity is manifested by the mind equally as by the body? or whether the mind remains, till a later period, infantine? or whether the female, in all her faculties, mental and bodily, exhibits this early developement? What physiologists have declined attempting, Montesquieu has fearlessly performed. "Women in hot climates," says this great philosopher, "are marriageable at eight, nine, or ten years of age. Thus, in these countries, infancy and marriage almost always go together. They are old at twenty. Their reason, therefore, never accompanies their beauty. When beauty demands the empire, the want of reason forbids the claim. When reason is obtained, beauty is no more. The women ought then to be in a state of dependence, for reason cannot procure in old age that empire which even youth and beauty could not give. It is therefore extremely natural that, in these places, a man, where no law opposes it, should leave one wife to take another; and that polygamy should be introduced."‡

If these premises be only granted, that the women of warm climates are generally "marriageable at eight, nine, or ten years of age," and the writer has undoubtedly the authority of physiologists for the fact, it is not easy to perceive, on grounds merely philosophical, what objection can be taken either to the reasoning or the conclusions. One other inference his hypothesis necessarily involves. It is one that cannot fail to be highly encouraging to the friends of arctic civilization, (if they admit its correctness,) as it generously promises the ultimate supremacy in rank, among their sex, to the women of the frigid cli-

* Outlines of Human Physiology, by H. Mayo, 2d edit. p. 463. 1829.

† A System of Midwifery, by W. P. Dewees, M. D. p. 46. and 131. See also Bostock's Physiology, Vol. iii. p. 46. and Skinner's Compend of Midwifery, by the late Dr Gooch, p. 6. 1831, where the same opinions are fully and explicitly stated.

‡ Montesquieu's Spirit of Laws, (E. T.) Vol. i. Book 16th.

mate of Labrador and Greenland. Instead of arriving at maturity at the infantile age of tropical, or the somewhat more mature age of European girls, *they* of course are not even marriageable till nineteen or twenty,—a period when the mind and body are both fully expanded,—and therefore sure, when they become civilized, to possess, in the most eminent degree, all those elegant and solid accomplishments which southern women never attain, till long after puberty, when beauty is already on the wane.

Having thus presented the opinions of our standard writers concerning female puberty, of those at least whose works are most frequently appealed to, I forbear to multiply quotations. It now remains for me to state the views (differing essentially from these) which I have been led to entertain on this subject.

Many years ago I was consulted in the case of two sisters, the one seventeen and the other eighteen years of age, who, though apparently in health, were supposed to be suffering from retention of the *catamenia*, for which they had been taking some popular herb medicine. They were both tall, more than commonly muscular, of a blooming healthy hue, and without any sign of enlargement of the *mammæ*. In other respects, their appearance was perfectly feminine. Finding they had no symptom of disease, I recommended that they should desist from medicine; on the ground that, in all probability, they had not yet arrived at puberty, although in age they had certainly passed what is considered to be its usual period. Instances of an opposite kind afterwards came under my notice. In one, where a girl menstruated at twelve, her mother and grandmother had, I found, become regular at the same age. In another, five sisters in one family menstruated at the age of eleven. These and similar cases, in no respect morbid, but perfectly in the order of nature, led me to doubt whether the period of puberty was nearly so *uniform* as we are taught in books to consider it. This doubt induced me to institute an investigation of the subject at the Board of the Manchester Lying-in Hospital. The result appears in the following table. The question as to the age of menstruation was put, indiscriminately, to a certain number of pregnant married women on their coming to the hospital, to deliver in their letters of recommendation, as home-patients. These women are generally in health, as appears by their walking, in an advanced stage of gestation, from considerable distances to the hospital; the greater number being inhabitants of our widely extended and scattered suburbs. The circumstance of pregnancy is a proof, as regards the whole of the cases examined, of exemption from serious disease of the generative system. Owing to the very great number of females who resort thither weekly, affording an abundant field for inquiry, no hesi-

tation was felt at rejecting the evidence of all who evinced either a doubtful recollection of the fact in question, or answered with reluctance.* I may therefore affirm, that this table furnishes as accurate data as the nature of such an inquiry allows; and it is to be remembered, that, concerning the catamenial sign of puberty, the word of the woman is, on any extended scale of investigation, the only testimony to be obtained. Should any be of opinion that the facts ought to have been verified by inquiries made in a class of patients more respectable, and hence perhaps more credible, than that which furnishes the applicants to a public hospital,—I am able to say that such has actually been the case.

The following are the ages at which 450 women began to menstruate :

In their eleventh year,	-	10	In their sixteenth year,	-	76
twelfth,	-	19	seventeenth,	-	57
thirteenth,	-	53	eighteenth,	-	26
fourteenth,	-	85	nineteenth,	-	23
fifteenth,	-	97	twentieth,	-	4

One very obvious corollary I would draw from this table, namely, that the natural period of puberty in women of this country, instead of being the fourteenth or fifteenth year, occurs in a *much more extended range of ages, and is much more equally distributed throughout that range*, than authors have alleged. And another, which claims particular attention, is, that, did religion and our social institutions permit and encourage, in England, that early and unrestrained intercourse between the sexes which, with the sanction of both, obtains in many other countries, it is to be presumed that we should occasionally witness instances amongst us of women becoming mothers at as early ages as twelve, thirteen, and fourteen years. That pregnancy may actually take place *even* before the earliest of these periods, the following case, which happened in the practice of Mr Robert Thorpe, serves to prove. Having that gentleman's permission to state the facts, I give them with implicit confidence in their correctness. The case is this,—a girl who worked in a cotton factory became pregnant, as was represented, in her eleventh year. When in labour she was seized with convulsions; but ultimately, without unusual difficulty, was delivered of a full-grown, still-born child. Her recovery was perfectly favourable. I am assured by Mr Thorpe, that he and the late Dr Hardie were at the trouble of examining the registers

* Perhaps it ought to be stated, that the question relating to the period of puberty was put to each of the women along with other questions usual on the occasion; as concerning the age, the occupation, the number of children, &c. so that it did not appear as if put out of curiosity or for a private end, but as one of the queries necessary to be answered in order to her admission as a patient.

of this girl's birth and christening, and fully satisfied themselves that she had really conceived in the eleventh year of her age, and that at the time of her delivery she was only a few months advanced in her twelfth year. Mr Thorpe likewise ascertained that she had menstruated before she was pregnant.

We have seen the geographical scale devised by Baron Haller, and adopted by succeeding writers, for determining the period of female puberty in the torrid, the temperate, and the frigid zones. We have also had evidence how indifferently the scale applies in our own country, which may stand for the temperate zone. We have now to examine if it apply truly in reference to the other two; and first in the Frigid.

It is a common, and, reasoning from analogy, a plausible opinion, that animals and vegetables are in a considerable degree similarly influenced by climate. That in cold regions, where even the pine, that citizen of the world, dwindles to a feathery shrub, man and the other animated beings will be meagre and stunted; that where the hardiest of our fruits and esculents ripen slowly or never ripen, the maturation of animals will be tardy; and that, if we advance higher still, to the *ultima Thule* of modern geography, Melville Island, and to the shores of East Greenland, where the hardiest plants with difficulty find soil and nourishment, there man will exhibit the last degree of imperfect developement, his body scarcely ripening in time to procreate his species before its feeble sensibility ceases in death, if death it may be called, which terminates a torpid existence almost unworthy the name of vital. Thus do we reason from analogy,—a mode of arriving at a conclusion which is a general favourite, and well may be, since, besides carrying with it a fair show of philosophy, it requires little appeal to facts. We shall find, that though cold greatly affects, and in a manner nearly similar, certain animals and vegetables, the same kind of influence from it by no means extends to man and certain other animals and vegetables. A partial view of the phenomena has alone given rise to so much false reasoning on this subject. It is true that within the arctic circle the horse and the cow are mimicked in pigmy forms; * and the same may be said of our esculents, and of our forest trees, the oak, the ash, the elm, and even the pine and the birch. The climate at the very margin of this zone causes them to be stunted, and farther northward, wars successfully against their very existence. But we shall err if we imagine, that even *here* nature is without evidence of her power and exhaustless bounty. Many flowers of brilliant hues and stately forms are to be seen which languish under a milder sky. It is

* Clarke's Travels in Scandinavia, Vol. i. p. 309.

here the *Epilobium angustifolium* spreads its magnificent purple blossoms, and the *Pedicularis sceptrum Carolinum* still more loftily displays, tier above tier, its bright and golden flowers. And of fruits, among many which might be enumerated, the cloud-berry, *Rubus Chamamorus*, affords the Laplander as plentiful and delicious a dessert as could be furnished by any of those indigenous to our climate. *

In regard to other productions, barley, rye, the rein-deer moss, and the tall arctic grasses thrive luxuriantly. Instead of the horse and the cow, the Laplander has the rein-deer, more than a substitute for both ; and in the place of our poultry and game, the splendid cock of the woods, the beautiful ptarmigan, the white partridge, and innumerable water-fowl. In tracts still more inhospitable than Lapland, the northern regions of Greenland and America, where the larger vegetables wholly disappear, enough of shrubs and grasses remain to attract several of the graminivorous quadrupeds, and, so far are these, and the carnivorous animals from appearing stunted and feeble, that the rein-deer, the moose, and the musk ox, the wolf, the white bear, and the dog, in size, strength, and spirit, equal or surpass the animals of other regions. And where the shores are heaped with icebergs forming, as might seem, the last refuge of sterility, amphibious animals people every slope and furnish sustenance for man and the other *carnivora*. Hence it is evident, that geniality, as applied to climate, has a relative meaning only, and that plenty of food is all which is absolutely necessary, even in the polar islands, to the perfection of, at least, the fiercest and largest quadrupeds.

That this remark applies equally with reference to man will be disputed. The most northerly Finlanders, Swedes, and Norwegians, are confessedly of large stature : about these, therefore, there is no dispute. It is the Laplanders, the Esquimaux, and the tribes of northern Asia, which are generally supposed to illustrate the influence of cold on the sensibility and expansion of the human frame. Admitting the comparatively diminutive forms of these races, it may first of all be observed, that some of them, the Esquimaux on the Labrador coast, for example, belong to a more temperate and southerly climate than many of the taller Indians ; and the same remark applies to the inhabitants of the higher parts of West Bothnia, where the gigantic Swede and the pigmy Laplander are found in the same latitude. If, therefore, cold affect the stature, it must operate in two diametrically opposite ways, in producing both giants and

* See Linnæus's Tour in Lapland, his *Flora Lapon.* and Clarke's Travels in Scandinavia, *passim*.

dwarfs. In the second place, it is not true that the Esquimaux are the puny race they have often been represented. On the contrary, their average stature is greater than that of most of the intertropical nations. Those with whom Captain Parry associated at Igloodik and Winter island, who roam as high as the 72d degree north, measured for the men, five feet five inches and a half; and for the women, five feet and half an inch. One man stood five feet ten inches high, and several of them were elegantly proportioned. * With this admeasurement may be contrasted that of the millions who people the Indian Archipelago. According to Crawford, the average male stature for the brown races is five feet two inches, and the height of the women four feet eleven; while of the Papuas few are found to exceed five feet. † And were the comparison extended to the peasantry of Egypt and Arabia, and even to those of many parts of France, their average stature would still be exceeded by that of the natives of Igloodik. ‡ It is obvious, therefore, that the diminutive forms of a portion of the northern tribes ought not to be attributed to cold. §

We have now to inquire how far there is truth in the analogy said to exist between the influence of heat upon fruits and the female constitution; the fruit and the female maturing, as is alleged, the more rapidly the warmer the climate, and *vice versa*. Here I must repeat that the general parallel between fruits and women does not hold good. The latter come to maturity in every climate; but this is not the case with any one kind of fruit. To preserve a correct analogy, we must take the *native* fruits and women of the same climate. In regard to the arctic regions, I do not find that the indigenous productions of Lapland, for example, are longer in ripening than those of southern climates. At the confluence of the Muonis and the Tornea, barley is sown, reaped, and harvested in seven weeks; || indeed, the rapid evolution and maturation of arctic fruits and flowers is proverbial. It may almost be compared to that primeval burst of vegetable being which followed the creative word, springing from the naked earth, and clothing it at once in the hues and luxuriance of summer. Nor can I discover that arctic quadrupeds commence the work of procreation at a later period of life than quadrupeds in our own country. If Hearne is to be credited, the polar white bear brings forth very early, “for,” says

* Parry's Second Voyage, 4to, p. 492.

† Crawford's Indian Archipelago, Vol. i. p. 19—24.

‡ Volney's Travels in Egypt, &c. Vol. i. p. 75—393.

§ For an explanation of the causes of the diminutive size of many of the Hindoo women, see Heber's Journal, Vol. ii. p. 509.

|| See Clarke, and Linnæus's Flora Lapponica.

he, "I have killed young females not larger than a London calf, with milk in their teats." * Equally unfounded is the notion that cold impairs the procreative appetite. It probably originated from its being observed, that animals pair in spring or in the beginning of summer, and not in the winter,—a circumstance not to be imputed to the influence of heat, as it commonly is, but solely to the instinctive choice of *that* period for propagation which insures the birth of the young taking place at the season of the year when either their food is abundant, or will be at the time of weaning. A fact recorded of the Esquimaux dogs illustrates this point. Having shelter and food for their young provided for them, these dogs breed indifferently at all seasons. "In the month of December," says Captain Lyon, "with the thermometer 40° below Zero, the females were in several instances in heat." †

The next step in our inquiry, relates to the period of pubescence in Arctic women; and first, in the Northern Canadian Indians. This race,—for there is reason to regard the various tribes as of one origin,—is composed of the great families of the Knistenaux on the east, and for the more westerly regions of numerous tribes, each known by its own barbarous but significant appellation, included in the Chepewyan family.

These traverse the vast, and generally inhospitable regions, which extend from about the 55th degree of north latitude to the borders of the polar sea in the 70th degree, and in breadth from Labrador on the east to the Pacific and Behring's Straits on the west. Though differing slightly among themselves, in a few traits of physical character, they are upon the whole remarkably alike, being of moderate stature, of a bright copper colour, with black lank hair, dark eyes, and a fine agile form. The women are somewhat less tall than those of Europe. ‡ As these Indians are hunters and fishers their food is almost exclusively animal. In affairs of love they manifest no want of ardour, though the contrary has been often asserted, as any one will be convinced who studies their manners in the writings of Charlevoix, Carver, and Hearne. § Of the period for the eruption of the *menses* in their women, little is to be learnt from books of travels; nor ought we perhaps to expect much, since, besides other impediments to such an inquiry, the Indians, like other barbarous nations, keep no reckoning of their ages. In general, therefore, when a writer pretends to fix the precise pe-

* Sam. Hearne's Journey to the Northern Ocean, 4to, p. 368.

† Lyon's Private Journal, p. 334.

‡ See the respective Travels of Carver, Mackenzie, and Hearne; and the more recent works in illustration of Captain Franklin's Expedition.

§ Carver's Travels, p. 246; and Charlevoix Hist. de Nouv. France, Tom. iii. p. 288.

riod of female puberty for any uncivilized race, it is to be regarded as at best but a probable conjecture. This remark does not of course apply in the same degree to authors who have resided long among those of whom they write. Of this class no one had better opportunities of studying the physical character of the northern Indians than Hearne; and from him we have the following specific information on the subject of female puberty. "The girls among the northern Indians, after the first menstruation, wear a small veil for some time, as they are now considered marriageable, though some at the time are *not more than thirteen*; while others, at the age of fifteen or sixteen, are reckoned children though apparently full-grown." * In Franklin's Journal, this account of Hearne is indirectly corroborated. "Among the Cree Indians," Dr Richardson remarks, "the women marry very young;"—and Mr Back relates the case of a Coppermine girl under sixteen, who had already belonged to two husbands in succession. † Again, these writers tell us, that the Indian girls at the forts, particularly the daughters of Canadians, are frequently wives at twelve, and *mothers at fourteen years of age*. More than one instance came under their notice of voyagers "taking to wife a poor child scarcely ten years old." ‡

From the Indians we proceed to the Esquimaux,—a singular people, whose country the reader may trace in imagination, if, when he has adverted to the shores of East and West Greenland, he will cross from Cape Farewell to the American continent, and skim along the vast shores of Labrador and Hudson's Bay; then northward to the inlets and islands described by Parry, and again westward, keeping the line of the polar sea, and crossing the mouths of the Coppermine and Mackenzie rivers to Behring's Straits and Norton's Sound. The whole of this tract is peopled or traversed by Esquimaux.

Their physical character is strikingly uniform. According to Captain Parry, who has given a minute description of those with whom he associated at Winter Island and Igloodik, they are rather well-formed, and by no means an ill-looking people. "There were three or four grown up persons," says he, "of each sex, who, when divested of their skin dresses, tatooing and dirt, would have been considered pleasing looking, if not handsome, people in any town in Europe." § A party of the same nation, encountered by Franklin's people near the mouth of the Mac-

* Hearne's Journey, p. 314.

† Franklin's First Journey, p. 60—254.

‡ Franklin, p. 86.

§ Parry's Second Voyage, p. 493.

kenzie river, were equally good-looking and very robust.* Their gross and indiscriminate gluttony is scarcely to be credited; and their food being exclusively animal, they become extremely plethoric, and bleed at the nose on the least exertion. Indeed, this is an accident so very common that it may be said to be characteristic of the Esquimaux.† In the intercourse between the sexes, no people are more libidinous and dissolute.‡

In the absence of almost all *direct* allusion to the period of female pubescence among this race, our only resource is indirect testimony,—a species of proof which, when it can be elicited, is doubtless highly valuable. In Captain Lyon's *Private Journal*, where the manners of the Esquimaux are pourtrayed with singular spirit and humour, mention is made incidentally of a pretty well-grown Esquimaux girl about fourteen years of age, already a wife. § Of another girl it is said, "this matron, who we found was actually married to, and lived with, Kongolik, a fine young man of eighteen, was thirteen years of age only." Captain Parry has mentioned a similar case, that of a couple where the husband was from seventeen to eighteen, and the wife not more than sixteen. "These youthful marriages," continues the writer, "are quite common among the Esquimaux of Igloodik."|| In addition to this evidence, that of Baron Humboldt ought not to be withheld. After commenting on the very early puberty of the copper-coloured race of females, he says, that the same is equally true of the Koriacs, the Esquimaux, and the tribes of Northern Asia, "where girls of ten years are often found mothers."¶

I now direct the reader's attention to the northern tribes of Europe and Asia. The Laplanders are the inhabitants of a vast triangular-shaped region, whose base, in about the 65th degree of north latitude, rests on Norway, Sweden, and Russia; while its apex, ten degrees higher, in the arctic ocean, receives the name of North Cape. The Laplanders, a Christian people, are divided into the stationary, who fish on the shores and rivers, and the nomadic, whose wealth is chiefly in rein-deer. They are characterized as being swarthy, short, of fair bodily strength, and exceedingly pliant and agile. Their food is chiefly fish, and the flesh and milk of rein-deer variously prepared.** According

* Franklin's *Second Journey*, p. 117.

† Edwards in Parry's *Second Voyage*, p. 544. West's *Residence at the Red River Colony*, p. 174. Chappell's *Voyage to Hudson's Bay*, p. 74. Also Crantz's *History of Greenland*, Vol. i. p. 214.

‡ See Parry, Crantz, and Egede.

§ Lyon's *Journal*, p. 230.

|| Parry's *Second Voyage*, p. 378.

¶ Personal Narrative, Vol. iii. p. 335.

** Linnæus's *Tour in Lapland*, Vol. i. p. 168. Canute Leems in Acerbi's *Travels in Sweden*, p. 187.

to Clarke, the women are extremely ugly, many not exceeding three feet and a half in height, with features like those of the Chinese and Kalmucks, and skins of a uniformly bright yellow colour.* There is reason for thinking them a branch of the Esquimaux family.† Their sexual propensities, if we may credit writers who have visited them, do not partake of the frigidity of their climate.‡ I regret that I can collect little to determine with precision the age when their women begin menstruating. According to Dr Denman, as we have already seen, the catamenia in them do not flow till late, and then in small quantities, at long intervals, and sometimes only in the summer. This he asserts on the authority of Linnæus. On turning to the passage in the *Flora Lapponica*, to which Denman refers, I find nothing whatever said of *the age at which the menses appear*; but as the passage is curious, it is inserted below. § Their age of marrying is given circumstantially by Clarke. The Swedes, it seems, prohibit early marriages among themselves, but do not in this particular interfere with the Laplanders. They marry, he assures us, very early, the men seldom later than eighteen, nor the women than fifteen. || In the same work he remarks, that it is rare to see an unmarried Laplander at twenty. ¶ It cannot be reckoned otherwise than strange, that, if the women, as Denman and others assert, are really the latest of the species in acquiring the aptitude for marriage, they should of all Europeans be the earliest to enter that state. Their presumed late pubescence is in all probability a mere fable.

The Sclavonians, or native Russians, are next to be considered. They people a great country, a considerable portion of which is beyond the 60th degree of north latitude. The women are generally brunettes, plump, robust and vigorous. Many have brown or light hair, and not a few are to be reckoned beautiful. Tooke, in his account of the Russian Empire, has furnished a luminous history of their physical peculiarities, and fortunately his intimate knowledge of the Russians, owing to his long residence among them, renders him a valuable authority. "The

* Clarke's *Scandinavia*, Vol. i. p. 406. And Brooke's *Winter in Lapland*, p. 43.

† Clarke, Vol. i. p. 313.

‡ Scheffer's *Lapland*, folio, p. 120, and Linnæus's *Tour in Lap.*

§ MUSCUS ALBUS. Hoc etiam musco catamenia excipere abstergereque feminas Lapponicas mihi relatum fuit. Naturam æque hic ac alibi sibi similem esse feminasque in Lapponia ac alibi legibus menstrualibus obedire, dubium nullum est, licet hæ cruoris minorem fundant copiam innocentissimæ. Fuere et feminæ plures hic, quas vidi per totam suæ vitæ perodiam ab hac lege exceptæ, licet hæ maritatæ steriles persistant. Novi et juvenculas, quæ non hyeme, sed sola modo æstate hæ observabant crises; imo et alias quæ semel in anno purgabantur, et hæ, quotquot vidi pedes oedematosos habebant.

|| Clarke, Vol. i. p. 401.

¶ Ib. Vol. i. p. 322.

girls," he tells us, "arrive early at maturity, numbers in their twelfth or thirteenth year: but many of them lose their beauty after being married a couple of years. The frequent use of the bath promotes an early developement and an early decay."*

The Samoides are a tawny, squat, miserable race of pagan savages, subjects of the Russian empire. They are found along the Frozen sea, on the European side of the Jugorian mountains, east of these on the river Oby, and elsewhere on the vast shores of Siberia. According to Tooke, they are mature at a very early age. "Most of the girls are mothers in the eleventh or twelfth year, but their marriages are rarely prolific; and before thirty they have already done bearing."†

Eastward from the Oby, many a league, we come to the great northern promontory of Asia, inhabited by the Tschuktschi. Their country extends from the Katirka, a river flowing from the west into the sea of Anadir, to Behring's Straits. South of this people, on the banks of the Katirka, are the Koriacks, a rude nomadic race.‡ The Tschuktschi and Koriacks speak the same language, and, according to Lesseps and Cochrane, are the same people. In physical character and customs they are allied to the Esquimaux.§ It is of these tribes that Humboldt says (as already quoted) their females are often mothers at the age of ten years.

South of the Koriacks are the Kamtschadales, inhabitants of the peninsula from which they take their name, a swarthy, uncivilized race, of short stature; allowed to be a distinct people from the more northern tribes. In no author have I found any thing said to indicate the age at which their women arrive at maturity, excepting a remark of the French traveller Lesseps. He tells us, after descanting on the amorous behaviour both of the native and Russian ladies, that "the precocity of the girls is astonishing, and seems not to be at all affected by the coldness of the climate."||

Having thus briefly stated all the credible evidence I have been able to collect concerning the age of female puberty in the arctic regions, and shown that puberty is attained there as early at least (considerably earlier it might seem) as in the temperate zone, I will now pursue a similar course in reference to the same physiological trait in the women of warm climates. As the writers who treat of southern countries are numberless, and this inquiry is too extensive to be pursued in all its details in a

* Russian Empire, Vol. i. p. 333.

† Tooke's Russian Empire, Vol. ii. p. 286.

‡ Simeon Navikoff's Voyage, in Coxe's Russian Discoveries, p. 43.

§ Pritchard's Physical History of Mankind, Vol. ii. p. 309.

|| M. de Lesseps, Travels in Kamtschatka, Vol. i. p. 102.

short essay, I must of necessity confine my remarks to a few well known races. I begin with those of Tropical Asia.

The islands of the Indian Archipelago support many millions of inhabitants in every grade of civilization, from the polished Malay to the cannibal of Borneo and the wretched Papua. These islands, whose soil and climate are generally fertile and delightful, extend with their connecting sea through 30 degrees of latitude from the parallel of 11° south to 19° north. The natives are divided into the brown, of moderate stature, but muscular and robust, and the black, who are said to be dwarfish and feeble. Their diet compared with that of Europeans is extremely frugal. "Under all circumstances," says Crawford, "a pound and a quarter of rice, a few spiceries, and a meagre portion of animal food, most frequently fish, is an ample daily allowance for an adult."* The same author has expressed himself in explicit terms respecting the age of puberty in these Islands. Owing to his profession, his literary talents, and long residence among the natives, his authority is peculiarly valuable. "Their minds," he remarks, "from the moral agency under which they are formed, certainly acquire a kind of premature ripeness earlier than in Europe, but *their bodies do not*. Puberty comes on at the same age as in Europe; the body continues to grow as long; women bear children to as late a period of life; and longevity, as a proof of all the rest, I believe to be just as frequent as here."† Other authors, it must be confessed, represent the matter differently; but it is quite obvious that they have regarded early marriages, which obtain universally in Pagan and Mahomedan countries, and even among Christian nations in a low state of civilization, as identical with early puberty; an assumption which, however natural, we show to be erroneous. Of the Javanese, Sir Stamford Raffles has asserted, that "both sexes arrive at puberty very early, and the customs of the country, as well as the nature of the climate, impel them to marry young; the males at sixteen and the females at thirteen or fourteen years of age; though frequently the females form connections at nine or ten, and, as Montesquieu expresses it, infancy and marriage go together."‡ This passage,§ though evidently written under the influence of the profound author of the *Esprit de Lois*, is extremely valuable, when taken in conjunction with the following admissions of an opposite character, both as corroborating the opinion of Crawford, and as showing the risk a writer must always incur of falling into palpable errors and inconsistencies when he ventures to mix up preconceived notions with

* Crawford's *Indian Archipelago*, Vol. i. p. 40.

† *Ibid.* Vol. i. p. 30.

‡ Raffles's *Java*, Vol. i. p. 70.

observed facts. "Though women," says Sir Stamford, "soon arrive at maturity, and enter early into the married state, they continue to *bear children to an advanced age*, and it is no uncommon thing to see a grandmother still make an addition to her family." * Again, "the term of life is not much shorter than in the hot climates of Europe. A very considerable number of persons of both sexes attain the advanced age of seventy and eighty, and some even live a hundred and upwards." † It is hardly necessary for me to observe, that, since women bear children so late as sometimes till they are grandmothers, and the inhabitants in general attain the European longevity, their presumed very early maturity is improbable, and not to be admitted without clear and ample proofs, and these, if they exist, have never yet been adduced. ‡

The tribes of Polynesia, or to employ a more modern appellation, Eastern Oceanica, are of the same race as the brown natives of the Indian Archipelago. Inhabiting islands at once salubrious, fertile, and picturesque, of which it may be said without poetic exaggeration that in them "all, save the *spirit* of man, is divine," the Polynesians present specimens of graceful and vigorous beauty, unequalled, perhaps, in any other portion of the human family. Although so much has been written concerning their manners and appearance, little or nothing has been made known of their physiology.

By the great kindness of Mr Ellis, the eminent and devoted South Sea missionary, I am enabled in some respects to supply this deficiency. For the sake of brevity, I proceed to give certain of a series of questions which I took the liberty of proposing to Mr Ellis on this and other subjects of a similar nature, together with the literal answers to them furnished at his request by Mr Bourne, likewise a missionary, who resided nearly eleven years in the islands. In addition to the answers of Mr Bourne I am favoured with many valuable remarks by Mr Ellis himself. §

* Raffles's Java, Vol. i. p. 71.

† Ibid. p. 69.

‡ Crawford's explicit declaration concerning the period of puberty in the Indian Archipelago, we have seen. He is little less decided in what he says of the same circumstance among the Burmans. "As to the continuance of child-bearing," he remarks "it is just the same as in other parts of the world, beginning with the age of puberty, and *ending between forty and fifty*." Journal of an Embassy to Ava, p. 467. To the period of this physical change in the girls of China the following law of the celestial empire may be considered to have pretty clear reference. "Criminal intercourse under twelve years of age shall be punished as a rape in all cases." Ta Tsing Leu Lee. By Sir Geo. Staunton, p. 404. This law must certainly be taken to imply that no Chinese girl can *naturally desire* such intercourse under twelve. Our own law is nearly the same, making it felony to have intercourse with a child under ten,—a misdemeanour if she is above that age, and under twelve.

§ It is to be remembered that the missionary residing among simple barbarians has to officiate as the mediciner of the body as well as of the mind. I am assured by Mr Ellis that after a knowledge of the Christian faith, the most important accomplish-

Query 1st. What is the age of puberty in South Sea females in general, as evinced by the usual signs, and particularly by the eruption of the catamenia? *Ans.* The age of puberty amongst Tahitians is about ten or eleven. The women have such early connection with the other sex that the catamenia *never*, that I have heard of, appeared before such connection.

Query 2d. Does the age of puberty vary in different islands or groups of islands? *Ans.* The age of puberty is alike in all the islands.

Query 3d. Does puberty appear earlier in the families of chiefs than in those of the common people? *Ans.* The chiefs and common people are alike in this respect. By Mr Ellis. "The age of puberty appears to be the same as shown by the ordinary signs, especially the catamenia, in all the islands of the same latitude, or where the climate is equal: excepting that I think in those islands where the productions are more abundant, and the mode of living consequently more luxurious, the signs appear earlier than in the same climate where the inhabitants live in a state of greater poverty. I think the Society Islanders arrive at puberty rather earlier than the Sandwich Islanders and New Zealanders. I am not aware that it does appear earlier in the families of chiefs than in others."

Query 4th. What is the earliest age at which you have known a woman become a mother? *Ans.* *As far as I could form an opinion of the age of females*, I should think about sixteen years of age. By Mr Ellis. "I think I have known mothers who have not been more than fourteen or fifteen years of age."

Query 5th. What is the average age of marriage for females? *Ans.* Some marry as young as ten; but the average age is about fourteen or fifteen. By Mr Ellis. "Marriage takes place from the age of twelve to sixteen years; but formerly sexual intercourse began much earlier, and was often practised when the parties could not be more than six or seven. I am quite confident that I am stating fact on this point. In marriages there is often the greatest disparity in age, the male being thirty or upwards, and the female perhaps twelve or thirteen."

Query 6th. Have you observed that early marriages (giving the ages at which they occur) are generally soon productive? *Ans.* In very early marriages, several years elapse before child-bearing. By Mr Ellis. "Some years usually elapse in early marriages before child-bearing."

Query 7th. To how late a period in life have you known

ment of the missionary is a practical acquaintance with medicine and surgery. Aid even of an obstetrical kind is occasionally demanded of him, and with too much urgency to be refused. This double capacity which he sustains, of religious teacher and physician, renders the testimony of the enlightened missionary of great weight on many subjects connected with the natural history of man.

child-bearing continued? *Ans.* To about forty-five years, as near as I could judge.

Query 8th. Have you observed this period to vary according to such circumstances as climate and degree of civilization?

Ans. A hot climate causes women to have children faster than a cold one; but child-bearing ceases also earlier than in a cold one.—By Mr Ellis. “I should think child-bearing ceased at forty. Although I have seen many young mothers, I never saw any woman have a child who *I should suppose* was above thirty-five.”

These answers and observations require few comments. Were it even indisputably proved, that tropical women seldom bear children after the age of thirty-five or forty, such a fact would not prove that their pubescence is earlier than that of Europeans. It would perfectly coincide with, and tend to illustrate, an admitted physiological principle, with reference to our own countrywomen, that child-bearing commenced at a premature age, for example, under sixteen or eighteen, rarely continues throughout the whole of the natural period of female fertility.* Taken altogether, these answers certainly corroborate the doctrine of Crawford, already stated in regard to the tribes of the Indian sea, of which the Polynesians may be considered a mere extension. Although the age of puberty in Polynesian women is said by these intelligent missionaries to be about ten or eleven, yet fourteen or fifteen is the earliest age of child-bearing, and forty according to Mr Ellis, and forty-five in the opinion of Mr Bourne, is the period for the cessation of that function. When along with these statements, I consider the hesitation which both gentlemen evince in their manner of giving the age, at which, as they believe, each of the circumstances takes place,—a hesitation arising from the difficulty of becoming acquainted with the ages of individuals in such a condition of Society,—I confess the impression on my mind is, that, although sexual intercourse and marriage are so much earlier in Polynesia than in Europe, the period of puberty is really not earlier.

We now pass on to consider the African Negress. The orang-outang breeds at three years old, *therefore*, as Mr Long, the historian of Jamaica, would have said, the negress will be mature about the same age or a little later.† Fortunately we

* “When a woman begins to breed at an early period, as at fifteen, and has her children fast, she seldom breeds longer than thirty or thirty-five; hence we may suppose either that the parts are then worn out, or that the breeding constitution is over. If a woman begins older, as at twenty or twenty-five, she may continue to breed to the age of forty or more; and there are now and then instances of women who, not having conceived before, have had children as late in life as fifty and upwards.”—John Hunter, *Phil. Trans.* Vol. lxxvii. p. 238.

† In advocating the cause of the orang-outang against the pretensions of the negro, this historian goes on to say, “nor, for what hitherto appears, do they (the large apes) seem at all inferior, in the intellectual faculties, to many of the negro race; with some of whom it is credible that they have the most intimate connexion and

possess extremely valuable information concerning the age of puberty in the negro,—information which rebuts *this*, one of the numberless calumnies which the abettors of negro slavery have heaped upon this devoted race; I allude to that which is contained in Dr Winterbottom's *Natural History of Sierra Leone*. It would have been well for both science and humanity, had our intelligent medical practitioners on foreign stations oftener taken this admirable performance as their model for works of local history. After commenting on the small number of children generally to be found in the families of the negroes, Dr Winterbottom remarks, "although women are betrothed at a very early age, even before they are born, the marriage seldom if ever takes place before the fourteenth year; and, judging from appearances, no women in this part of Africa bear children before this age. There is no doubt women in hot climates arrive at maturity somewhat sooner than in more temperate and colder ones; and that child-bearing sooner terminates. But we may doubt if this be so early or so generally the case in these countries as authors assert, it being extremely difficult to ascertain ages where a few revolutions of the moon comprehend the greatest space of time they retain in their memories."* Again, "the catamenia appear at an early age, but, to judge from appearances, probably not before the twelfth year."† Further, in commenting on what White has asserted of negroes, namely, their being ripe for marriage at eight years of age, he says "the period of puberty is fixed in both sexes much too early. As far as my experience goes, there is little difference in this respect between the African and the European."‡ Elsewhere he states, that the negress bears children to a late period of life, and that negro longevity is no way different from ours. It is pretty clear that Dr Winterbottom, who wrote in the latter end of the last century, was not free from the influence of the prevailing opinion, that fervour of climate promotes early puberty. It is therefore much to the credit of his candour, that he should have yielded himself to the guidance of facts, though militating against his prepossessions.

The Arabian peninsula extends from the Torrid Zone to about

consanguinity. The amorous intercourse between them may be frequent, &c. &c. Vol. ii. 4to, p. 370. Again, "Ludicrous as the opinion may seem, I do not think that an orang-outang husband would be any dishonour to an Hottentot female; for what are these Hottentots! they are ignorant, brutal," &c. Vol. ii. p. 364. According to this singular hypothesis, the Mulatto son of a West Indian planter may be the grandson of a monkey.

* *Natural History of Sierra Leone*, Vol. i. p. 150.

† *Ib.* Vol. ii. p. 205.

‡ *Ib.* Vol. ii. p. 263.

the 30th degree north. The legend, that Mahommed took to wife a girl of nine years old, is often repeated, as tending to prove the early maturity of Arab women. Be this legend true or false, there cannot be a doubt that the prophet was excellently acquainted both with the physical and mental peculiarities of women. For this reason the Koran, and perhaps also the writings of its faithful commentators, may, as far as they illustrate the present inquiry, be referred to as veritable authority. The information they furnish is little in amount, but it is perfectly satisfactory. In chapter the fourth, "On Woman," there is this command in reference to the duty of a guardian: "Examine the orphans (in religious matters) until they attain the age of marriage." In a note by Sale it is added, that the age of marriage, or maturity, is "reckoned to be fifteen,—a decision supported by a tradition of the prophet, although Abu Hanifah thinks eighteen the proper age."* In chapter the second, entitled "Cow," which, among other matters, treats of divorce, it is said, "a woman, before she is dismissed, must wait to have her courses thrice, in order to discover if she be with child." Sale adds, that in the case of those who are too young, and those who are too old, to have children, (which a woman is reckoned to be after her courses cease, and she is fifty-five lunar years, or about fifty-three solar years old,) they wait only three months.† From this law two facts are elicited, first, that in Arabia, women may be married before puberty; and, second, that women are not considered to be past child-bearing till fully as late an age as is determined for the women of Europe. This latter circumstance is of much weight in deciding the question at issue; for, *if it be true* that Arab women bring forth children as late in life as women with us, it is vain to assert that they are ready for child-bearing earlier. The value of the other fact will be afterwards adverted to. In addition to so much presumptive testimony, I am able to add that of the celebrated traveller Madden. In answer to one of several queries which I took the liberty of addressing to him on some points concerning the Bedouins, he says, "the age of puberty in Arab women is fourteen years. The average age of marriage is from *eleven* to fifteen." What Dr Russell reports of the females of Aleppo may be mentioned here, as the climate of Aleppo differs little from that of Arabia: He does not state the period of puberty; but his observations are otherwise relevant, as tending to show that the women are not sufficiently mature for the office of mother, at the preposterously early ages at which they become wives. "The women," he writes, "when married extremely young, that is, about twelve

* Sale's Koran, Vol. i. p. 93.

† Koran, Vol. i. p. 41.

or thirteen, are subject to frequent abortions; in consequence of which, their constitutions are so much impaired that they either cease breeding altogether about the age of twenty-one, or they remain barren for an interval of several years. Even those who marry at the more usual age, between fourteen and seventeen, though less subject to abortion, are yet, in like manner, when they happen to have brought two or three children before their twenty-third year, liable to cease child-bearing for a long succeeding interval.”*

It now remains to exhibit very briefly the various circumstances which have led travellers to form erroneous conclusions concerning the PERIOD OF PUBERTY in warm climates. They are,

FIRST,—*Early marriages so general in the east, and in other fertile tropical countries, where the simple means of life are easily obtained; and wives, procured by purchase, are viewed as the goods and chattels, rather than as the companions and equals of the men.* It is doubtless strange that a man should marry a child, but it is nevertheless true; and, moreover, is not the only strange and unnatural practice into which men fall in states of society where the mind, debased by superstition and tyranny, finds its chief gratification in the indulgence of the sensual passions. Nowhere are there earlier marriages than among the Hindus; of this we have many curious illustrations in Buchanan’s minute and intelligent account of a “Journey through Mysore, Canara, and Malabar.” Among the Comatigas, a high caste of Hindus, the women are no longer marriageable after the signs of puberty have appeared.† Of the Bheri he reports the same custom, and says, “where polygamy prevails love is little known; or if it does possess a man, he is generally captivated by some artful dancing girl, and not by any of his wives, all of whom were married before they could either excite or feel that passion.”‡ Among the Waddara, the girls continue marriageable from seven years of age till their death.§ Again the Pacanat Jogies, and some of the other sects, “do not marry their girls till after the age of puberty;”|| while among the Ladas, a high caste, “a girl after ten years of age is no longer marriageable.”¶ In Sumatra, as well as in the east generally, female children, owing to the custom of purchasing wives, are a valuable part of the property of parents. Hence, all marry, and very young.** Speaking of the entire Indian

* Russel’s Natural History of Aleppo, Vol. i. p. 196.

† Buchanan, Vol. i. p. 257.

‡ Ibid. p. 260.

§ Ibid. p. 311.

|| Ibid. p. 336.

¶ Ibid. p. 424.

** Marsden’s History of Sumatra, p. 218.

Archipelago, Crawford assures us that it is a point of honour with parents to get their daughters married at the age of puberty, and that he never saw a woman at the age of twenty-two who was not or had not been married.* It would be easy to multiply illustrations to the same effect.†

SECONDLY,—*Universal licentiousness, leading to sexual intercourse in childhood, or as soon as desire is felt.* This occasions instances of pregnancy, sometimes, at a very early age, which coming under the notice of travellers are readily, and with some show of reason, attributed to general early pubescence. "In Bengal," says Mr Dunlop, "I have seen many girls come to the age of puberty at eleven, and sometimes a mother at the age of twelve."‡ The former circumstance is far from being uncommon in our own country; and the latter would oftener be witnessed, as I before remarked, did the same sexual licence prevail as among the Hindus. In reflecting on this trait of eastern society, it is impossible not to feel that the devoted student of human nature, had need not to possess a fastidious taste. His subject, it is true, is the most enticing and most profitable in which he can engage,—yet in its pursuit he must be content with a fate somewhat resembling that of the humbler chemist. As the latter has to deal, at one time, with precious gems, and sweet perfumes, and at another with putridity and fetor,—so he who would become acquainted with man as he is, must submit to investigate the very lees of his nature (how large a proportion of the whole!) as well as the purer and nobler ingredients. In Asiatic manners there is much that is odious and feculent, and of this, unquestionably the most disgusting part is, the precocious acquaintance with the sexual passion which almost universally obtains. In allusion to the way in which the Hindus train their children, the Abbé Du Bois informs us, that from their earliest age they are accustomed to scenes of impropriety; that it is not uncommon to see children of five or six years, become familiar with discourse and action which would make modesty turn aside. The nudity in which they live for the first seven or eight years; the loose conversation, tales, and songs to which they have to listen; the stories of the dissolute lives of their gods; the solemn festivals,

* Crawford's Ind. Arch. Vol. i. p. 86.

† It is not easy to define, with precision, the circumstances which regulate the age of marriage in different states of society. Even in the east there is considerable diversity in this particular, as the reader will find by consulting the following authorities. Crawford's Siam, p. 521. Elphinstone's Cabul, p. 179. Golownin's Recollections of Japan, p. 100. Volney's Travels in Syria, &c. Vol. ii. p. 486. Wittman's Greece, p. 26. Goodisson's Ionian Islands, p. 222.

‡ Dunlop's edition of Beck's Med. Jurisp. p. 83.

so often celebrated, where modesty is wholly excluded; the abominable allusions which many of their daily practices always recal; their public and private monuments, on which nothing is ever represented but the most revolting obscenities, and their worship, in which prostitutes act the principal part; these are some, and but some, of the polluted sources from which the youthful imagination of the Hindu draws its imagery!*

THIRDLY,—*The early decline of beauty and of youthful appearance, where the women begin, while very young, to bear and suckle children.* This we see even in our own climate, in almost all cases of early prolific marriage, and still more remarkably when there happens to be, superadded, a life of toil, anxiety, and poverty. Frequent as such an adverse condition of the female sex is in Europe, it is in a far more aggravated degree their almost invariable lot in Mahomedan and Pagan countries, and unquestionably contributes greatly to induce premature decay. To these causes, which affect more particularly the symmetry of the figure, are joined certain rites, practised with the view of improving the complexion, which, however, very soon produce the contrary effect. The simple manners of savage and semi-barbarous life have been the theme of much eulogy; but it is nearer the truth to affirm, that the love of personal adornment is greater in proportion as we descend the scale of civilization. At the bottom, are tatooing, the employment of cow-dung and paint; and an endless variety of modes of disfiguring the features. But in almost every degree of the scale, the use of paint is retained; by some to improve or to create beauty; and by others for the purpose of lengthening the period of its duration. With whatever view pigments are applied to the face, their effects, from their being generally composed of metallic oxides, are the loss of the natural hue, and the rapid production of wrinkles, the skin, even in the meridian of youth, soon presenting the dull roughened appearance that it assumes in unhealthy old age. Such are some of the circumstances which led the intelligent Marsden to remark of the Sumatran women, and that have led nearly all other writers in similar circumstances, to affirm of the women of other tropical races, that “they are like the fruits of the country,—soon ripe and soon decayed.”†

* For a singular and *illustrative* trait of barbarian manners the reader may see J. R. Forster's *Observations made in a voyage round the world*, p. 472.

† The strange propensity to paint their faces is remarked by travellers, of the women of every race that have skins not absolutely black. Kempfer informs us that the ladies of Japan paint themselves till they look like so many babies. *Hist. of Japan*, Vol. ii. p. 455; and the tawny females of the Indian Archipelago file and blacken their teeth, paint their faces, and pluck the hair from about their eyes, till their natural beauty, in the opinion of a European, entirely vanishes. To confine our observations to Europe and Barbary; the Crim Tartar ladies paint their faces

FOURTHLY,—*The difficulty of ascertaining the ages of individuals in countries little advanced in civilisation.* We have already heard from Dr Winterbottom of the impossibility of becoming acquainted with the ages of the negroes from any reckoning of theirs. Marsden affirms the same of the Sumatrans. "Not one in ten," says he, "can pronounce in what year he was born. After a few harvests have elapsed, they are bewildered in regard to the date of an event, and only guess at it from some contemporary circumstance of notoriety."* The same is reported by Crawford of the natives of the Indian Archipelago.† Among the American Indian tribes, the difficulty is still greater. James assures us that superstitious notions prevent the Indians from taking any note of their ages.‡

FIFTHLY,—*The influence of Montesquieu.* The celebrity of this writer's great work,—the Spirit of Laws,—has now passed away; but no production was so much studied, admired, and quoted, during the latter half of the last century. Weighty as the opinions it maintains were esteemed to be on many topics of high concernment to mankind, none were more unhesitatingly received and adopted than those contained in the extract already given, relating to the condition of eastern women. The greater proportion of females than of males, in the east, the infantile pubescence of the former, (for it would seem that this philosopher considered sexual prematurity as confined to the women,) polygamy, arbitrary divorce, and the degradation of the sex to a state of seclusion and slavery, were all held, on his authority, to be inseparable from the constitution of Asiatic Society. With such blind ardour were these notions embraced, that we find almost all our travellers preferring to receive, as incontrovertible truths, the bold assertions of Montesquieu, rather than incur the trouble of observing and investigating for themselves. The consequence has been what was to be anticipated. Their views of the manners and physical character of the races they describe are often vague and contradictory; and their reasoning altogether unsatisfactory. Raffles and Marsden, (particularly the latter,) are

both white and red. Holderness on the C. Tartars, p. 14. The early decay of the Greek ladies has been often remarked. Clarke says they begin to look old soon after twenty, while the Albanian women long retain their good looks. The Greeks are profuse of paint, while the Albanians trust to the hues of nature. Trav. in Greece, &c. Part 2, sect. 3; and Wittman's Trav. in Turkey, &c. p. 25-443. The Moorish and Bedouin ladies are still more given to rouge, so much so, as almost to mask themselves with it. Tully's Tripoli, p. 22, and Lyon's Africa, p. 40. Of these, and of the women of all the races where paint is in general use, the prematurity of their decay has been noted by travellers. On the continent of Europe, the same practice, it is well known, entails a similar consequence.

* History of Sumatra, p. 248.

† Indian Archip. Vol. i. p. 46.

‡ Expedition to the Rocky Mountains, Vol. i. p. 214..

the undisguised disciples of Montequieu,—a circumstance which, perhaps, on some points, detracts from the value of their excellent histories. *

SIXTHLY,—*Drawing conclusions from a few data only.* Even in our own country, physiologists have fallen into error concerning female puberty, from this very cause. They, as we have seen, have limited the time for the appearing of the *catamenia* to the thirteenth, fourteenth, or fifteenth year, when, in fact, it has a range of nine or ten years, instead of three. It ought not, therefore, to excite surprise, when the traveller, or the local historian of a foreign region, reports erroneously, since his opportunity for obtaining accurate information on so delicate a subject must be very inferior to those of professional inquirers at home. That the inaccuracy of the reports of travellers, however, corresponds with the slender means of information within their reach, is well illustrated by what we learn of the period of puberty among the American Indians. Setting aside the marvellous assertion, so long credited, that the Squaws have no *catamenia*, Dr Rush says they do not begin to menstruate “till they are about eighteen or twenty years of age.” † James, in the Account of the Expedition to the Rocky Mountains, writes thus of the same race: “We were informed that the *catamenia*, and consequent capability of child-bearing, take place about the twelfth or thirteenth year.” ‡ Among the Potowatomis,—a tribe on the southern margin of lake Michigan, Keating reports that the *catamenia* appear about fourteen; and, among the Dacotas,—another people north of the former,—at fifteen or sixteen. § The women of California and Chili, according to M. Rollin, surgeon in the expedition of La Perouse, menstruate about the age of eleven or twelve. || While, to add the climax to this tissue of contradictory statements, Humboldt

* It is surprising how uniformly, unhesitating, and yet how vaguely, under the influence of a preconceived and popular theory, early pubescence is ascribed by our voyagers and travellers to the women of almost every country out of the bounds of Europe. Of the Otaheiteans, Forster observes, “the call of nature is heard at an early age in this happy climate.” *Voyage round the World*, p. 216. Of the aborigines of New Holland, Collins says, “the union of the sexes takes place at an earlier period than is usual in colder climates.” *New South Wales*, Vol. i. p. 563. And the New Zealand women, Captain Cook tells us, “are marriageable at a very early age.” *2d Voyage*, Vol. i. p. 140. What are we to understand by such indefinite phrases as “early age,”—“earlier than in cold climates,” and “very early age?” Yet in perhaps a hundred massive volumes of voyages and travels, we shall search in vain for as much information on the period of puberty, as these extracts contain.

† Pritchard on Man, Vol. i. p. 112.

‡ James, Vol. i. p. 214.

§ Keating's Expedition, Vol. i. p. 131-232.

|| The Voyage of La Perouse, Vol. iii. p. 206.

assures us, when treating of the Chaymans of New Andalusia, who are often married at the age of twelve, that early puberty is common to all the copper-coloured tribes, and is a peculiarity of the race, without respect to climate. * Perhaps a reference to the table, illustrating the period of puberty in our own country-women, in a former page, may enable the reader easily to reconcile these and the other discrepant accounts before-mentioned, with reference to the very early maturity of Arctic females, by showing that each of the writers named was in all probability correct, as far as the observation of a few facts went, and only wrong in venturing to generalize from too limited premises.

In conclusion, it is perhaps scarcely necessary for me to observe, that we are still, in a great measure, ignorant of the causes which diversify the period of puberty in women in our own country. If, besides this diversity in individuals, there is really a difference of a more general kind, depending on the influence of climate, I can only remark, that such an opinion appears to me to be unsupported by satisfactory proofs,—to be, indeed, rather a vulgar hypothesis than a physiological truth. If it be true that a tropical climate develops the sexual passions long before the expiration of childhood, such a fact must for ever militate against the benevolent hopes cherished by many of the best of mankind, that a bright day of moral renovation awaits the degraded myriads of the equinoctial world.

2d, Of the Periodical Recurrence of the Menses.

The terms *menses* and *catamenia*, (*Καταμήνιος*; monthly) which have been employed from the earliest ages to designate this secretion, show that it has been usual to regard it as of monthly recurrence. In looking into our standard English writers on midwifery and physiology, I do not find (with one exception†) that they have noticed the existence of any deviations from this law, except such as are of the nature of disease. Dr Gooch, whose sentiments on this subject have been recently given to the public, remarks, that menstruation recurs “with almost mechanical regularity every month, unless pregnancy, nursing, or certain diseases interrupt the natural functions.”‡ And Alison briefly expresses the same opinion thus: “The menstrual discharge takes place from the inner surface of the uterus, in the healthy state, every four weeks.”§

* Personal Narrative, Vol. iii. p. 233.

† In the article “Generation” in Rees’s Encyclopædia, said to be the production of Mr Lawrence, certain natural deviations, from what is regarded as the *menstrual* law, are alluded to. The entire article is well worthy of perusal. See also *Traité d’Accouchements, &c.* par M. Gardien, T. i. 229.

‡ A Practical Comp. by Dr Gooch, p. 2.

§ Alison’s Physiology, p. 377.

It is unquestionably true that in a considerable majority of instances the *catamenia* recur monthly, *i. e.* from the cessation of the secretion at one period to its reappearance at the next, there elapses an interval of twenty-eight days. But, as I shall be able to show, there is a certain proportion of women in whom the interval is not four but three weeks; another smaller proportion in whom the interval (apparently in no degree owing to disease) is irregular; being, in the same woman, at one time three, at another time four, or six, or eight, or even twelve weeks. And in another, but much smaller, proportion in whom the *catamenia* return regularly every fortnight. In all these varieties, I may remark, the secretion continues to flow from about two to six days in general, (in some three or four days longer) varying in different women according to natural difference of constitution; and varying, even in the same person, both in duration and quantity, from causes no way affecting the health. Indeed I am convinced that the *catamenia*, in perhaps the majority of women, deviate not unfrequently from exact periods; and vary, both with reference to the quantity secreted and the continuance of the flux, without there being the slightest symptoms of disease, either assignable as the *cause*, or appearing as the consequence of such irregularity.

The statement which follows is the result of inquiries made in one hundred instances. Although the majority of the women were patients of the Lying-in Hospital, yet a very considerable number belonged to a different rank of life. The care and caution, moreover, bestowed on the investigation leave no doubt on my mind in regard to its correctness. I am aware that, in drawing a conclusion which is opposed to perhaps the general belief of the profession, a wider induction of facts would have been desirable; but the nature of the inquiry renders its pursuit neither pleasant nor generally convenient. I must, therefore, be permitted to say respecting the data, that, although I regard them as satisfactory, I leave it to the reader to estimate them at what he considers to be their proper value.

Of 100 women, there were 61 in whom the menstrua recurred monthly; 28 in whom they recurred after an interval of three weeks; 10 in whom they recurred after intervals of varying and uncertain duration; and 1 (a healthy woman of twenty-three years of age) in whom they recurred regularly every fortnight.

In these 100 instances, which were taken consecutively without selection, only *one* occurs in which the *catamenia* returned every fortnight. Such cases, however, are far from uncommon; and, what is remarkable, this variety of menstruation generally exists as a family peculiarity. I happen to be acquainted with two families in which this is the case; and in one of these fami-

lies the peculiarity extends into collateral branches. Through the kindness of several professional friends, I have received information of other instances precisely similar.

3d, Of the Age at which the Menses finally cease.

The circumstances which attend the final cessation of the menstrua bear some analogy to those which attend their commencement; chiefly in respect to the different ages at which they cease to appear in different persons; and also in their frequent irregularity, both with reference to periods and to the quantity secreted,—during several of the latter years of the menstrual epoch.

I have already observed that it is an admitted physiological principle, that child-bearing, begun at an early age, at sixteen or eighteen for example, rarely goes on throughout the whole of what is usually regarded as its natural period. The earlier or later termination of child-bearing, therefore, in any country, will depend on the average age of marriage which there obtains. In our own country I am led to believe, from facts which I have collected, that the average age of marriage for women is about twenty-one years. Assuming this as correct, the following table may be regarded as possessing some interest; rather, however, as tending in some degree to illustrate the opinion of Hunter, mentioned in a former page, than as bearing on the question as to the age at which the menstrua cease. It is drawn up from the Registers of the Manchester Lying-in Hospital, and shows, on the average of 10,000 instances of pregnancy at all ages, the *proportion* which conceive when above the age of forty. These registers, voluminous though they be, are, I am sorry to say, not to be relied upon for data illustrative of the results of midwifery practice, except for a few particulars; one of which, however, is the ages of those women admitted as home-patients.

Of 10,000 pregnant women 436 or $4\frac{3}{4}$ per 1000 were upwards of forty years of age. Of these 436 women.

101	or $10\frac{1}{10}$	per 1000,	were in their 41st year.
113	$11\frac{1}{10}$	.	42
70	7	.	43
58	$5\frac{1}{2}$	.	44
43	$4\frac{1}{10}$	.	45
12	$1\frac{1}{2}$	.	46
13	$1\frac{3}{10}$	.	47
8	$\frac{2}{5}$	.	48
6	$\frac{3}{5}$	.	49
9	$\frac{9}{10}$	.	50
1	$\frac{1}{10}$	.	52
1	$\frac{1}{10}$	.	53
1	$\frac{1}{10}$	.	54

Here it will be observed by the reader that the number of

pregnancies suddenly and greatly diminishes after the age of forty-five. From the age of forty-six to fifty both inclusive the numbers are nearly equal for each year: indicating, I am disposed to think, that those who conceive above forty-five, *e. g.* at forty-six or forty-seven, probably possess a peculiar constitution fitted for child-bearing even to the age of fifty. Above the latter age the proportion dwindles to one instance of pregnancy in 3333.

An examination of the table naturally suggests to the mind two questions: first, have women, bearing children above the age of forty-five, generally been married late in life? And second, do the catamenia, in such instances, always continue as long as the generative faculty? To the first question I can give only an imperfect but, perhaps, a sufficient answer: Of eleven women, three of whom had a child each in her forty-ninth year; and the other eight had each a child above that age, I ascertained that the aggregate number of their children was 114, *i. e.* 10 and a fraction for each woman; a fact indicating that they must have married rather early in life. Concerning the age of marriage in two out of the eleven I possess some information; the one married at eighteen years old, had two children before she was twenty-one, and brought forth her fourteenth child in her fiftieth year; the other was married from a boarding-school at a very early age; in her fifty-third year she was delivered of her twelfth child. In regard to the second question, as to whether the menstrua always continue as late as the power of conception, all the facts which have come under my observation favour a reply in the affirmative. I am able to speak confidently concerning three women who had children at advanced ages;—one in her fiftieth year, another in her fifty-first year, and the third in her fifty-third year. In each of these instances the menstrua continued up to the period of conception.

These facts do not of course exhibit the ages at which this secretion finally ceases. The following table, which I have been enabled to present chiefly by the kind assistance of my intelligent friend Mr Harrison, House Surgeon to the Manchester Work-House, shows this circumstance, as far at least as the number of the facts affords a general conclusion. In 77 women the catamenia finally ceased at the following ages:

In 1 at the age of 35 years.			In 26 at the age of 50 years		
4	.	40	2	.	51
1	.	42	7	.	52
1	.	43	2	.	53
3	.	44	2	.	54
4	.	45	1	.	57
3	.	47	2	.	60
10	.	48	1	.	70*
7	.	49			

* This woman ceased menstruating for twelve months about the fiftieth year.