

- From the REGISTRAR-GENERAL of New Zealand.—Statistics of the Colony of New Zealand for 1873.
- From the ASSOCIATION.—Journal of the East India Association.
- From the SOCIETY.—Proceedings of the Royal Society. Vol. XXIII. No. 158.
- From the SOCIETY.—Journal of the Royal Geological Society of Ireland. Vol. XIV. Part 1.
- From JAMES BURNS, Esq.—Human Nature, Nos. 88, 93, 94, and 95.
- From the EDITOR.—Materiaux pour l'Histoire Primitive et Naturelle de l'Homme. Vol. V. No. 10.
- From the SOCIETY.—Journal of the Asiatic Society of Bengal. Parts 1 and 2, No. 3.
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The following paper was read by the author :

ULTRA-CENTENARIAN LONGEVITY. By Sir G. DUNCAN GIBB, Bart., M.A., M.D., LL.D., Physician to Westminster Hospital.

It has been my good fortune to bring before the notice of the British Association at Edinburgh, in 1871, and at Bradford, in 1873, nine examples in which I had examined persons who had attained the golden age of one hundred years,* who furnished information of the highest physiological and social interest. As doubts have been thrown of late years upon the actual possibility, or, at least, probability of reaching to such a great age, special care was taken to ascertain the correctness of the date of the births of the persons submitted to the notice of the Association, so that their value could not be called in question. If that were necessary for centenarians who had overstepped the century by from two to four years, it became doubly so in an instance now to be brought forward, where the truly exceptional age of 111 years was reached. At first sight this might seem to be extraordinary, but to show that it is not so, my excellent friend, Mr. Henry Rance, of Cambridge, has furnished me with some tables, which he has been at great pains to compile, in which even that age is shown to be by no means uncommon, and has been occasionally exceeded. If these tables are analysed, we find they represent eighty-four examples of persons who have lived to reach an age between 107 and 175. These, again, are divided into three series, and form three distinct tables—Nos. 1, 2, and 3.

* See also "Journal of Anthropological Institute" for April, 1872, and *Medical Times* of 20th June, 1874.

ULTRA-CENTENARIAN LONGEVITY.

TABLE I.—INSTANCES SELECTED FROM VARIOUS SOURCES PRIOR TO 1800.

YEAR.	NAME.	AGE.	YEAR.	NAME.	AGE.
1759	Don Cameron	130	1772	Mrs. Clum	138
1766	Jno. Deiasomer	130	1766	Thomas Dobson	139
1766	George King	130	1785	Mary Cameron	139
1767	John Taylor	130	1732	William Leyland	140
1774	William Beattie	130		Countess of Desmond	140
1778	John Watson	130	1770	James Jands	140
1780	Robert M'Bride	130	1778	Swarling (a monk)	142
1780	William Ellis	130	1773	Chas. M'Finlay	143
1764	Eliza Taylor	131	1757	John Effingham	144
1775	Peter Garden	131	1782	Evan Williams	145
1761	Eliza Merchant	133	1766	Thomas Winsloe	146
1772	Mrs. Keith	133	1772	J. C. Drakenberg	146
1767	Francis Ange	134	1652	William Mead	148
1777	John Brookey	134	1768	Francis Confi	150
1714	Jane Harrison	135	1542	Thomas Newman	152
1759	James Sheile	136	1656	James Bowels	152
1768	Catherine Noon	136		Henry West	152
1771	Margaret Foster	136	1648	Thomas Damme	149
1776	John Mariat	136	1670	Henry Jenkins	169
1772	J. Richardson	137	1635	Thomas Parr	152
1793	— Robertson	137	1762	A Polish peasant	157
1757	William Sharpley	138	1797	Joseph Surrington	160
1768	J. M'Donough	138	1668	William Edwards	168
1770	— Fairbrother	138	1780	Louisa Truxo	175

TABLE II.—PERSONS WHO HAVE DIED OF LATE YEARS.

YEAR.	NAME.	AGE.	YEAR.	NAME.	AGE.
1821	Cato Overing (a Black)	110	1823	A woman in Finland...	115
1823	Ellen Tate	110	1818	Ann Smallwood	116
1823	Mrs. Ormsby	110		Alex. Campbell	117
1823	Mr. J. Larling*	110	1822	A female slave (Jamaica)	120
1808	Col. J. Stewart	111	1822	T. Gilbert	120
1820	Bridget Byrne	111	1822	J. Woods	122
1822	Joseph Mills	111	1818	David Ferguson	124
1823	J. Mackensie	111	1822	Thady Doorley †	
1821	Ann M'Rae	112	1821	Marg. Darby (a Black)	130
1822	Samuel Welch (an American) †	112	1822	Lucretia Stewart	130
1818	Thomas Botwell	113	1819	Roger Hope Elliston (a Negro)	140
	William Napier	113	1820	Solomon Nibet	143

* He left 130 children and grandchildren.

† His father was near 90, his mother 100, a sister 100, and brother upwards of 90.

‡ This person was married, when 107 years of age, to a woman aged 31.

TABLE III.—PERSONS LIVING IN THE SEVERAL YEARS SET AGAINST THEIR RESPECTIVE NAMES.

YEAR.	NAME.	AGE.	YEAR.	NAME.	AGE.
1821	A widow, named Miller, at Lynn	107	1822	Felix Buckley, Esq. ...	113
1823	John Macdonald	108	1818	At Charleston, a Negro	118
1818	John Dorman, Stra- bane, Ireland	109	1823	A female in Calabria...	125
1820	At Adria, in Lombardy, a Catholic priest ...	110	1819	Henry Francisco (an American)	130
1823	Peter Grant (a High- lander)	110	1819	At Lake Champlain, a German †	135
1821	At Ballyragget, Michael Brennan *	112	1821	At Freesneen, Wœvre Verdem, a female ...	155

No. 1 gives forty-eight instances of ultra-centenarian longevity which have been selected from various sources prior to the year 1800, including some well-known names, and, with the exception of nine, all occurred in the eighteenth century; whilst of the nine, one occurred in the sixteenth and eight in the seventeenth century. No. 2 gives twenty-four instances of ultra-centenarian longevity in persons who have died of late years, that is, from 1808 to 1823. Whilst No. 3 gives twelve examples of ultra-centenarians who were living in the several years set against their respective names between 1818 and 1823. In this last table, although the date or year of death is not given, the number must be included in the general analysis of the ages in the whole eighty-four cases. Of these we find

between 107 and 110 (but including the latter date),	10
„ 110 „ 120 16
„ 120 „ 130 14
„ 130 „ 140 24
„ 140 „ 150 10
„ 150 „ 160 7

Then, after the last-named year, occurs one of each—168, 169, and 175.

Now, I do not profess to give all these instances as correct, but there are fair and reasonable grounds for believing that a certain proportion actually did reach the great age after their respective names, and every one was recorded or noticed in some way or the other in print.‡ According to the Thomsian

* His father was 117 years of age, his mother 109, and his wife 105. He was the father of fifteen children.

† He had several wives, and his youngest child was 28 years old at his death, making him 107 when she was born.

‡ Hugh Miller, in his “Scenes and Legends of the North of Scotland,” refers to Elspat Hood, a native of Cromarty, who died in the year 1701. It is said that she attained to the extraordinary age of 120 years (p. 28, 2nd edition, 1850).

doctrine of the present day, every one is open to doubt, but I feel satisfied that, in three-fourths at any rate, the age stated may be looked upon as correct; and my reason for saying so is, that a comparatively small percentage of recorded, or rather reputed, centenarianism is found to be incorrect. The balance of testimony is altogether in favour of centenarianism, and this cannot be gainsaid by anyone who chooses to investigate the subject for himself, as I have done. Indeed, as I started for the purpose of physiological investigation, wherein it was *absolutely necessary* there should be no possible source of error, I found that, of the nine cases that came under my notice, in one only was there any reason to doubt the correctness of the age, and that has been solely because the parish register in which the baptism occurred was unknown, although the spot or locality of the birth was clear enough. But if any argument were needed to prove that the age is, for the most part, correct in these tables, I am, fortunately, in a position to supply it.

A short letter appeared in the *London Times* of August 16th, 1873, from the Rev. Arthur Loxley, of Norcott Court, Northchurch, Berkhamstead, Hertfordshire, relative to a feat he had witnessed on the morning of the 14th (the date of his letter) of the reaping of two sheaves of wheat belonging to Mr. John Mead, of Tring, Herts, by Mrs. Elizabeth Leatherlund, aged 110 years, and that her baptismal certificate could be seen at Mr. Tompkins', Tring. Now, if this were correct, so far as the age was concerned—and I had no reason to doubt it myself—then it would readily occur to one that the ages given in Mr. Rance's tables were by no means improbable, more especially as I had seen persons who had reached 105 and 106. As I left for Scotland the morning that the letter appeared in the *Times*, I had no opportunity of investigating the matter until my return at the end of September, when I corresponded with the parties mentioned in the letter. The result was, I received a photograph of the old lady from Mr. Tompkins; and on the 15th October I went to Tring, called on Mr. Tompkins, and was taken by him to see her. Of what occurred during my visit, and a description of her appearance and condition, I shall speak presently; but what I will now do is to prove the correctness of her age, and that, fortunately for the interests of both physiological and anthropological science, can be done most satisfactorily.

Her maiden name is Herne, and her parents were gipsies, her father's family of Herne, or Horam, being very well known in the counties of Herts, Bucks, and Oxon, as belonging to the wandering tribes before their encampments were disturbed by law. She was born at Chinnor, near Tetsworth, Oxfordshire,

and baptised in the parish church there on April 24th, 1763, which is confirmed by this entry in the register of baptisms in the parish there for the year 1763, in charge of the Rev. Sir William Augustus Musgrave, Bart., Rector of Chinnor:—“Elizabeth, daughter of Thomas Horam, Travailer, Apr. 24.” With regard to this entry, which was discovered through information furnished by herself relating to her birthplace and great age, and giving beforehand the Christian names of her father and herself, together with his occupation, which were all found to tally, it is necessary to state that she must have been a few days old when she was baptised, as is the custom with the gipsies the same as ourselves, and the name is spelt Horam, instead of Herne; but of that she herself can give no explanation. Her father’s Christian name, she said, was Thomas, and the name may have been pronounced Horam, or entered as the word was caught by the parish clerk or the rector. The two names, therefore, may be taken as identical, and the gipsies consider them as synonymous. They usually give the name of their occupation as travellers or wanderers. All this, therefore, is confirmatory of the accuracy of the entry and identification of the person. Her mother’s name does not appear in the register, but that was not an uncommon circumstance, at the date given, among the humbler classes; in a higher position of life both names generally appear. Her mother, she stated in reply to a question, died in childbed at Chinnor, and this may have been a reason for its omission. There is no register of her death there, and she told the Rev. Mr. Walford that her father would not tell her where she was buried; but as a gipsy, says the *Bucks Advertiser* and the Rev. Mr. Walford, she might be buried, gipsy fashion, under a hedge in a wood or common, under cover of the night, to save expense, far away from any recording agency.

In reply to a letter from the Rev. W. Walford, curate of Tring, the rector of Chinnor stated that a careful search in the register of Chinnor failed to find any similar entry with the name of Herne for thirty-seven years after—*i.e.* between 1763 and 1800—which, therefore, disposes of the only objection of any importance to her age that was brought forward in the *Times*—namely, that the register of an older person had been mistaken for hers.

She spent much of her early life encamped near Chinnor and other places in the three counties named, migrating with her tribe to other places in the south of England. She married Joseph Leatherlund, a private in the Bucks Militia, at St. James’s Church, Dover, in 1785; and both remained in that town for several years. A search in the register of St. James’s,

and also of the parish of St. Mary's, failed to discover any entry of the marriage, nor has she her marriage lines; but, as the *Bucks Advertiser* again says, this event may have been as much in the gipsy fashion as that of her mother's burial.* It must be observed, however, that the non-discovery of the record of the marriage does not affect the question of her age, as shall be presently shown.

According to her own account, she moved about to various military stations with her husband's regiment, visiting Exeter, Liverpool, and Northampton. She bare him five children, three sons and two daughters. Her first child, Samuel, was born some years after her marriage, when she was 29 years old. This she stated herself, in reply to a direct question by me, and we shall see its importance presently. The next were twins, William and Thomas; then Elizabeth; and, lastly, Saborah. The last is the only one alive, and has a perfect recollection of her brother and sister, and furnished Mr. Francis Craig, of Ripon Street, Aylesbury, with most of the information relating to them. They all lived on Buckland Common, William marrying Lydia Norwood, who also lived there, about 1848, and died without any family about 1862 or 1864. Thomas, his twin brother, never married, died at Charteridge, and was buried at Chesham twenty years ago, whilst working for Mr. Lasenby, a farmer of the former place. Elizabeth married a gipsy of the name of Herne, or Hearn, and did not live to a great age. Samuel, the eldest, with his wife and five children, were drowned many years ago in the hop country in Kent, and were buried at Hadlow, between Tunbridge and Maidstone. The date of this the old dame could not recollect when I saw her in October, 1873; I was told that there was a notice of the catastrophe in the papers at the time. Joseph Leatherlund, the old dame's husband, died at his native town of Carrick-on-Shannon, in Ireland, and was buried February 4th, 1814, when Elizabeth, his widow, returned from Ireland to her own kin, living with a relative until 1830. Saborah, the youngest daughter, who is alive, I shall speak of further on.

I learnt from Mr. Tompkins that the Rev. Ed. Owen, of the Rectory, Bradwell-on-Sea, Maldon, Essex, knew her as an old woman for forty-five years, and I believe his father did before him. But it appears, according to Mr. Francis Craig, in the *Bucks Advertiser*, that there were living lately some old men in Tring, themselves about 90 years of age, who always said they thought that "Betty," as they called her, was much older than they were; and there was one patriarch, who would have been 95

* She stated to Mr. Walford that she was living, when married, at Dover, in a certain alley, which he found was the haunt of the lowest people of the place.

this year, who bore similar testimony. Mr. Bird, the bookseller, and other inhabitants of Tring, state that forty or fifty years ago, as early as they can recollect, Betty—who was still “Old” Betty—was then quite an old woman. The people of Hertfordshire and Buckinghamshire have been generally familiar with her stooping figure, red cloak, and stick, for the last fifty years, particularly in harvest time, when this tough old gipsy was very handy with the sickle. Her last effort of this description, in the field, was witnessed by large numbers of persons, a photograph of her, with a sheaf of wheat on her knees, being taken by Mr. Piggott, of Leighton Buzzard. She used to make nets, and plod about the country selling them. For the last twelve years she lodged at Mr. Saw’s, Frogmore Street, Tring, where she was known to be a centenarian all that time, and she subsisted upon the little sums which were given her by visitors. An old man, buried in Tring churchyard, whose tombstone bears the age of 93, used to state that “Old Betty” was eight or ten years his senior, and he had known her since she was a girl.

This testimony is very good, as far as it goes, but I felt that the point of proof—the crucial point—depended upon finding the record of the drowning of her son, Samuel, and his family, at Hadlow, in Kent; and accordingly on 27th April, 1874, I wrote to my friend, Dr. Edward Miles Coverdale Hooker, of Hadlow, on the subject, asking him to make inquiries of the sexton of the burying-ground, or to refer to the register of burials. To my agreeable surprise, I received an answer on the 30th, telling me he had that morning taken a photograph of the tombstone (or really a monument) raised to the memory of the victims of the catastrophe referred to in my letter, which he kindly sent me the next day. From it I learnt the date of the catastrophe was 20th October, 1853, just twenty-one and a half years ago, and the monument gave a list of the names of all the family who were buried beneath it, as well as their respective ages, which, it appears, were accurately given by the only surviving child—a daughter—of Samuel Leatherlund himself, who was miraculously saved. Samuel Leatherlund, the father, was 59 years old, his wife, Charlotte, 56, whilst their daughter, Comfort, was 24, Selina, 22, and Alice, 18. Then there was John Herne, his nephew, aged 28, Luina, aged 26, his wife, whom Dr. Hooker wrote me was a daughter of Samuel Leatherlund, who had married a cousin, and their children, Centine, aged 4, and another child, aged 2.

When Samuel Leatherlund was born, his mother, the old dame, would have been 29 or nearly 30 years old. Had he been alive now his age would have been 81, or perhaps 82, *i.e.* twenty-nine

years younger than his mother. This fact of the age settles the question, beyond the possibility of any doubt, that old Mrs. Leatherlund is really of the very great age of 111 years, for if she was 29 years old when she says Samuel was born, then his age now would be, if he was alive, 82, because there is the calculation of some odd months not taken into account. With the humbler classes the rule is more invariable than with the wealthy, that almost every mother recollects what her age was when her first-born child came into the world.

What now was to be done was to refer to the newspapers of the time for an account of the catastrophe. And this was readily accomplished in that invaluable repository, the library of the British Museum. There I referred to the *Times*, the *Illustrated London News*, *Kentish Observer*, *Rochester Gazette*, and the *Maidstone and Kentish Journal*.

In the *Times* of Saturday, October 22nd, 1853 (p. 7), was an account of what was described as "A Fearful Accident on the River Medway." A party, consisting of men, women, and children, were drowned by the overturning of a waggon, containing nearly forty persons, into the river Medway, then swollen with recent rains, when crossing a wooden bridge, and that nearly all were missing. In the same paper of Monday, 24th October (p. 10), was a column and a quarter, giving an account of the accident, and the particulars of the coroner's inquest. Among the names of the drowned were Charlotte Leatherlund, aged 55, and her daughter Comfort, aged 24. Then among the survivors were Fanny Leatherlund, who said that Charlotte Leatherlund was her mother, and that her father and mother and sisters were all drowned. She had three sisters, a brother-in-law, and a little baby, who had not been found. A little girl, Herne, belonged to her sister. When the waggon containing the people, about forty, was descending the opposite side of the bridge, one of the horses tripped or stumbled, the hind wheel broke the rotten fence of the bridge, and the earth next to it giving way, the waggon with its contents was dashed into the water, and thirty-seven persons had perished. The river had overflowed from late heavy rains; the current, therefore, was very rapid, and the loss of life great.

In the *Times* of October 25th (p. 17), some further particulars were given, and the mention of other bodies recovered. There was an account of the burial of some of the bodies at Hadlow, giving the names, particularly, of Samuel, Charlotte, Comfort, and Selina Leatherlund, with others of a family who belonged to the gipsy tribe. All these people were in the employ of Mr. Cox, hop-grower, and had been engaged in hop-picking.

In the *Illustrated London News* of October 29th, 1853 (p. 367),

is an account of what is there called a "Frightful Accident on the Medway," which gives the same particulars as in the *Times*. It states that the lamentable result of the drowning of some thirty-two persons was chiefly due to the struggling of the mass of human beings with one another in the water. On the next page of the same paper is an engraving of the "Upper Great Hartlake Bridge over the Medway, Hadlow, the scene of the late Accident." It mentions that all were interred in Hadlow churchyard, and the list included the following persons, who were the children, grandchildren, and kinsfolk of the old dame recently alive:—Samuel and Charlotte Leatherlund and their children, Comfort, Selina, and Alice; also John Herne and his wife, Centine, and their two young children.

In the *Kentish Observer* of Thursday, October 27th, 1853, is an account of the accident, with the inquest, occupying a column and a half; it is described as occurring at Tudeley, near Tunbridge. In the *Rochester Gazette* of Tuesday, October 25th, 1853, is likewise a column and a half about the accident, and the mention of thirty-seven persons drowned. Whilst in the *Maidstone and Kentish Journal* of the same date, in which three columns are devoted to the subject, the number is stated to be thirty-five. This last paper gave the names and ages of all those lost, as near as could be ascertained, including Samuel and Charlotte Leatherlund, and their three grown-up daughters, Comfort, Selina, and Alice, and Looney (for Lavinia) Hearn, and Centena her child.

I have been particular in giving the references to the names of the family, to clearly establish their identification and relationship with the old dame recently alive, and upon that point there can be no dispute. In my conversation with her in October, 1873, she told me that her son *Hiram* and his family were drowned, but she meant Samuel, and it appears she had a descendant of that name. Mr. Tompkins ascertained from her that her two sons, Thomas and Samuel, were born and baptised at Dover, where her husband then was as a soldier. Two other children, daughters, were baptised at Welford, in Northamptonshire. Her youngest and only surviving child, a daughter named Saborah, as I said before, is alive, and her baptism occurred at Bovingdon Church, Hemel Hempstead, Herts, as the Rev. W. Walford kindly informed me. In the register she is called Sibirah, daughter of Joseph and Elizabeth Leatherlund, soldier. She was baptised May 21st, 1815, and born, the register says, March 28th, 1815. As Joseph Leatherlund was buried Feb. 4th, 1814, she was born $13\frac{1}{2}$ months after that date. She is married to a Mr. Wright, a well-to-do agricultural labourer, residing eight miles from Tring, employed

by Mr. Thomas Gee, of Bellingdon, and is the mother of nine children, all now living, the eldest 37 years old, a son, and the youngest 16; six of them are married, who have twenty children among them. These last are the great grandchildren of the old dame. When Saborah was born, her mother, the old dame, had turned 51, and was, indeed, close upon 52, an age that is sometimes, though not commonly, fruitful; yet of my own knowledge, in the early part of my medical life, I have seen that age exceeded several times in persons who bore children. And if this fact were overlooked here, it would be laid hold of by the Thomsians as an argument against the correctness of the age of the old dame her mother. But to show that women do bear children much over 50, the following is given from the *Cork Advertiser*:—"Oct. 2nd, 1830, at Loughtamoneen, county Clare, aged 63 years, the wife of Mr. James Lysaght, of a daughter. Her husband is in his 73rd year. This happy couple had had no increase to their family for the last twenty years."

Having now considered all the facts bearing upon the extreme age of Mrs. Leatherlund, which, it seems to me, would be considered proved in any court of law, I shall now proceed to speak of my interview with the old dame herself, and will finally give the views I arrived at concerning her physical condition, being the result of my careful examination of her.

It was on the 15th October, 1873, that I went to Tring, and was taken to see her by Mr. Tompkins, of that place, who, I am bound to acknowledge here, has not only taken a deep interest in her welfare himself, but has spared neither trouble nor inconvenience to introduce the old dame to visitors possessing an interest in persons of such an advanced age. The day was fine and beautiful, though showery, and on getting to Tring early in the afternoon and calling on Mr. Tompkins, he took me to a lodging-house known as the Red Lion Inn, back of the church, where the old dame was living. In a few minutes she toddled into the room, with the aid of a stick, being partly supported at the same time. She was of short stature, a little bent with age; her complexion was brownish, for she was of gipsy descent; her countenance was a series of thick folds, not wrinkles, and she was most unmistakably many years older in appearance than any of the nine other centenarians I had examined thus far. She shook hands with me, conversing and chatting away continually in a good, clear, and distinct voice, not tremulous nor cracked, saying she was glad to see me and Mr. Tompkins. Her sight was not now very good, although she could distinguish things tolerably well, and even knitted twine bags, two of which she gave me; yet it was becoming

impaired. One eye, I was told, had little or no sight. She could not see to read, but she could distinguish persons and things. She was remarkably intelligent and communicative, though her memory was now becoming a little impaired. Unless she was asked questions she was continually talking, indeed, I might say was garrulous, like many old people. The subject of our conversation was at first bearing upon her age and family history, in which most of the facts already related were gone over, and especially her age when her first child was born. Then it related to her health and physical condition, and her replies to my questions, when clearly put and made easy to her mind, were such as I had every reason to be satisfied with. She heard pretty well, on the whole, but was a *little* deaf; yet the faculty of hearing was tolerably perfect, as she heard almost every question put to her. The sense of smell was perfect; she took snuff in moderate quantity, which she greatly enjoyed. So was the sense of taste. She had never smoked, and had always been regular and temperate in her habits. The skin was generally dark, her hands particularly so, yet it was as soft as velvet—indeed, I never felt a softer, and it was thin on the backs of the hands. Mr. Lipscombe, who attended her when necessary, told me it was in great folds about the body, as on the face. Her hair was quite grey; she was not bald. The forehead was not a broad one—indeed, the head was narrow, and looked as if laterally compressed. The muscles of the neck stood out in prominent relief, particularly the sterno-cleido-mastoid, with great hollows in front and behind it, especially at its lower part, from the entire absence of any adipose or fatty tissues. As concerned her physical condition, she breathed wholly by the chest, and not the abdomen—that is to say, the chest expanded during inspiration readily, owing to the resiliency of the costal cartilages, which were not ossified, as is usually the case in persons approaching 70. The breathing was slow, regular, and uniform, not at all hurried, even during our conversation. The lungs themselves were in a perfectly normal condition, the breathing being clear and distinct all over the chest. The heart's action was regular and natural, with a feeble impulse, but not an abnormal sound was heard. The pulse at both wrists was free from any induration, and was quite soft, as in a girl; it beat regular and uniform, about 68 per minute. No calcification nor hardness of any kind was to be felt in the arteries of the arm, the neck, or the temples. The heart and the lungs, therefore, were perfectly free from any of the changes of advanced life, so far as could be made out by careful examination. After some little difficulty, when her intelligence was appealed to—for at first she

became frightened, lest she should be choked—she permitted me to introduce the laryngeal mirror into the back of the fauces, and there a splendid view was obtained of a vertical or erect epiglottis, of a leaf-like form, and a perfect larynx, with short vocal cords, normal in colour, with a triangular glottis. Indeed, all these organs were those of a young person. Externally the thyroid cartilage, small in size, felt quite soft and flexible, and could be compressed laterally, and gave a cartilaginous, gliding sensation over the cricoid; and the trachea could be flattened either laterally or anteriorly, all showing the absence of senile changes.

With the perfection of the respiration and the circulation we should naturally expect a good digestion, and so there was, for the organs concerned in it were healthy. She had, however, only three teeth in front, in the lower jaw, with two or three molars, and several in the upper jaw, especially of molars; not one was decayed in the least. The tongue was large and healthy, and the faucial mucous membrane of a pale pink. On the whole, her appetite was fairly good, although now and then a little indigestion occurred after her tea, which, no doubt, was the cause of some itching of the skin at night on going to bed; at least, that was when I saw her, but probably there was nothing of the kind afterwards.

After a long conversation and the conclusion of my examination, I bid her farewell, receiving a bunch of the wheat she had helped to reap, besides the two bags of twine, which I venture to produce at this meeting. I thought at first she was supported whilst reaping, but it appears not; she managed to do it without assistance.

The result of my examination of her, which was longer and more elaborately conducted than in most of my other examples, went to prove the same facts, that there was an absence of those changes of old age so commonly met with in persons of from 70 to 80. She was more like a girl, constitutionally, than an aged person; yet there was the indication of feebleness necessarily to be expected, which, *cæteris paribus*, did not prevent her reaching to her present exceptionally great age.

Such, then, were the physical conditions presented by the old dame, and a consideration of such an extreme instance of longevity teaches us two practical facts: one is, the absence of senile changes, as commonly understood by the physiologist, and which, I maintain, is the chief reason of centenarians attaining to such a great age; and the other is, that if a person like the old dame reaches to the age of five and a half score years, others may do the same, and therefore it will not do to ignore what must be apparent to common sense—namely, the

occurrence, now and then, of instances where even the great age of six score is reached.

As a practical and conscientious physiologist and physician, I have only one object to serve, independently of any theory to uphold, and that is the propagation of truth and, of course, the correction of previous errors. But at the present day it would be preposterous to ignore cases or instances of exceptional longevity of former years because we cannot discover the proofs of their age in our time. There can be no doubt in times past there were men as conscientious and painstaking as exist now, and to ignore their facts and upset their reasoning, without just cause, is unjustifiable, unscientific, and unphilosophical. In saying this, I allude to the doubts cast upon many cases of ultracentenarianism of a remarkable nature, that are historically known to almost everybody. A great deal was made of such examples in the times of their occurrence, and they were under personal observation for a long period of time, and it may be considered certain that there existed a strong desire then, as now, to arrive at the truth, and not to have any imposture palmed off upon the people. I trust, however, that the example of extreme longevity now brought before the Institute will do some good, for its authenticity has not only been proved by evidence of a recorded character, but it has been confirmed by an examination in which comparison with other centenarians has declared it to be older than any that has personally come under my notice.

In conclusion, it may be said that no one can converse upon the subject of centenarian longevity, write upon it, or discuss it in any way, without having the English Thomsian doctrine thrust before one, even by persons who acknowledge its fallibility. Such an instance as Mrs. Leatherlund wholly explodes it, and it will scarcely live as long as did its American Thomsian brother, that must be known to the medical practitioner of at least 25 years' standing. The logic of the Thomsians at first was that no person ever reached the age of 100 years, and when their premises were found to be untenable, from the number of genuine instances brought forward, the not less ridiculous ground was taken up that at any rate none overstepped the century. My argument is, if clearly authenticated instances occur of the age of 105, 107, and 109 years, there can be no reason against the assumption that persons whose organism is free from the changes of old age, as in centenarians, can and do live much farther still, and it explains the occurrence now and then of the truly exceptional ages reached of 120, 130, 140, and even higher.

Since this paper was written, the old dame, after a very slight

illness, so slight that it merely confined her indoors for two or three days, passed away from this life. On the 19th of January, 1875, a letter from my friend Mr. R. N. Lipscomb, surgeon, of Tring, who had occasionally seen her during life, informed me of her death the preceding night. He stated that in the certificate of death he had filled in her age as 112. Next morning I proceeded to Tring by an early train, to meet him, for the purpose of examining her. Unfortunately he was called away to a distance, but he left instructions with his assistant to aid me in his absence, and we proceeded together to Mr. Saw's, the Red Lion Inn, Frogmore Street, where I made the autopsy myself, the assistant recording the appearances as they were described to him. The particulars of this are given here, as they add greatly to the value and interest of such a well authenticated example of ultra-centenarian longevity as was the old dame's, which is sure to be consulted hereafter by everyone interested in the subject.

Autopsy at 12.30, about thirty-six hours after death.—Height during life was four feet nine or ten inches; the body, therefore, was small, and proportionate to her height. The rigor mortis was slight, and no odour was exhaled from the body. The integuments generally were of a yellow colour, with a shade of brown, but not darker than they appeared during life. They were a little loose over certain parts of the body, but the attenuation of the muscles, especially about the neck, did not seem to be so great as when she was seen by me in October, 1873. The muscular development generally was fairly good, and no decided emaciation to speak of existed. The mammæ were firm and well developed, though small, with no dark areolæ around the nipples. Over the abdomen were the usual marks seen in persons who have borne children. In sewing up the body afterwards, the skin was so tough that the needle would scarcely penetrate it. On reflecting the integuments over the chest and abdomen, a little adipose tissue was found over the pectoral muscles, and over the abdominal muscles it varied in thickness from an eighth to nearly a quarter of an inch. The cartilages of the ribs at their junction with the bone were cut through with the greatest ease and facility, the knife meeting with no resistance from any osseous changes. The cut surface presented a narrow rim of true white cartilage, whilst the other part possessed a brownish tinge, the result of some change allied to fatty degeneracy, for a slight roughness was manifest to the finger, although the middle structure was quite soft; but before division of the costal cartilages the thorax could be compressed with ease, through their elasticity, as I had seen during life.

The lungs were healthy, crepitant throughout, and had the

usual appearance. Some slight congestion of the posterior part of the left was present, which, to some extent, may have been hypostatic; yet, associated with what was described as a trifling cold, it was the immediate cause of death. At the apex of each lung was a trifling adhesion, readily broken down, the connecting membrane having the appearance of ordinary areolar tissue. Both lungs at the margins of their lower lobes had an emphysematous fringe. The heart was perhaps a little large in proportion to the size of the body; it weighed, with the arch of the aorta, thirteen ounces exactly. In structure it was soft, a little flabby, and had a slight covering of fat. The coronary arteries were distinctly observed, but had not undergone any change. The right side of the organ was filled with dark clots of blood, whilst the left was empty. The muscular structure, cavities, and valves appeared to be normal. The arch of the aorta generally was enlarged, dilated, and somewhat attenuated; at its commencement the circumference was four inches and one-sixteenth, whilst at its termination it was three inches and one-fourth. An atheromatous patch, the size of a silver three-pence, was present on the lower surface of the transverse portion of the arch, whilst at the commencement of the anterior and left part of the ascending portion a ridge of atheroma existed, which did not involve the semilunar valves.

On opening the abdomen scarcely any trace of the omentum was observed. The stomach and alimentary canal were perfectly healthy, and not distended with flatus. The liver was of fair average size for the body, of firm, healthy structure, possessing a light claret-brown colour, and free from any white spot or patches. The gall-bladder was large in proportion to the liver, and filled, but not gorged, with bile; it contained no biliary calculus. The spleen was of the usual purple colour, comparatively small, slightly curved in shape, but healthy and firm. Both kidneys appeared to be healthy, the cortical and medullary portions fairly distinct, but in general structure soft and flabby. The ureters were normal, and so was the bladder, which was nearly full of urine. The uterus was very small, the Fallopian tubes and ovaries equally so, all quite healthy. The thoracic and abdominal aorta and other blood-vessels were soft, and free from any abnormal changes. The tongue, larynx, and trachea were removed for examination. Some of the papillæ on the dorsum of the tongue were much enlarged. The larynx was small and compact; the epiglottis, which had a slight notch on its superior margin, possessed the natural colour, shape, and appearance of early life. The vocal cords, short in length, had the merest tinge of yellow, but were otherwise normal. The aryteno-epiglottidean folds, the ventricles,

and all other parts of the larynx were as perfect in their formation as in a young person. All the cartilages of the larynx were flexible, with an absence of any calcareous changes, unless in the central solid parts of the wings of the thyroid. The rings of the trachea were white and glistening, perfectly flexible and soft, and could be compressed in any direction. The os hyoides was thin, the great cornua slender, one of them fractured on removal, and the right lesser cornu elongated.

I must not forget to mention that the cornea of both eyes was free from any *arcus senilis* or annulus, although her sight had not been very good of late years. Yet she had been able to knit twine bags almost to the very last.

It remains to say that any merely hearsay evidence brought forward against the old dame's age, such as has been furnished by the Rev. H. A. Harvey, late Vicar of Tring, or by Shadrach Hearn, her nephew, quoted in a letter by Mr. Parfitt, simply counts for nothing, when unsupported by documentary evidence. Even supposing her nephew to be correct, that her elder brother died at Nottingham in 1867 aged 100 years, and that she was two years younger than he, she would now be 104. That she was older than this brother by seven or eight years has been proved in a manner that cannot be questioned, in consequence of the most remarkable confirmation of the age given at which she was confined of Samuel, her firstborn, a circumstance which none but a medical mind could conceive, and upon which a medical jury would unanimously give their verdict as final and conclusive.

DISCUSSION.

MR. BRABROOK, while complimenting Sir Duncan Gibb on the interesting physiological details he had given, and on the industry of his researches, was bound to say that, in his opinion, the evidence as to Betsy Leatherlund's having attained the age of 112 years was insufficient. She was, no doubt, a very old woman; certainly 98 years old, perhaps 100, but not much more. As to her identity with the person whose birth certificate Sir Duncan had quoted, there was no evidence. As to her marriage, there was no certificate of it; and with regard to its alleged date, had it been ascertained whether at that date the husband was really serving in the militia? [Sir Duncan Gibb: Yes.] Mr. Brabrook had been otherwise informed. Then the alleged interval between the marriage and the birth of the first child was a doubtful circumstance. Another circumstance of grave doubt was the birth of an illegitimate child when the mother would have been, if her alleged age be true, 55 years old. There must have been a dearth of young women of loose character in Tring if a gipsy widow of 55 attracted the attentions of the seducer. If, on the other hand, she was (as the speaker thought) at that time a buxom gipsy widow of 40, it was

not so improbable. In cases of alleged ultra-centenarianism, there was a tendency to exaggeration, which rendered it necessary that the statements of the most respectable and trustworthy old people should be corroborated. In this case, unhappily, the character of the poor old woman, her race, and habits of life, had been such as to deprive her unsupported statements of any weight whatever. With regard to the general question of centenarianism, Mr. Brabrook remarked that he thought the views of his friend Mr. Thoms were much misunderstood. Mr. Thoms's researches had established several cases of undoubted centenarianism. All he said was, that when you hear 105, 110, or 112 years of age talked about, you may be sure there is some mistake. Indeed, the speaker had within the last few days supplied Mr. Thoms with particulars from the National Debt Office of three cases of undoubted centenarian annuitants, one of them a gentleman who had recently called to receive his own annuity, and appeared in excellent health.

Mr. F. GALTON thought it erroneous to conclude that because the chances were so and so to one against a woman living to 112, and so and so to one against a woman bearing a child at the age of 52, that the chance of the double event was compounded of these two chances. It would be so if the two events were independent variables, but in this case they probably were not so. It was more likely that a woman, constitutionally fitted to live to an extraordinary age, would have the period of her youthfulness prolonged beyond that of ordinary women. As another matter of statistical theory, he would mention that he regarded the ages in the table submitted by the author, of an indiscriminate list of persons who had lived beyond 100 years, with extreme distrust, because the way in which its figures were distributed contradicted all experience of death-rates, and similar matters. It was well known that many fewer persons died between the ages of 80 and 90 than between those of 70 and 80; still fewer between 90 and 100 than between 80 and 90; and we have every right to assume that a similar law would continue to prevail during each successive decade. The figures in the table ought to give a distinct indication of this law, whereas they do no such thing. The table even asserts that there have been twenty-four cases of death between 130 and 140, as against sixteen between 120 and 130, and the same number between 110 and 120. The capricious distribution of these figures, and the number of times in which 130 occurred, afforded, in his opinion, a conclusive testimony of their worthlessness. He would conclude by asking the author whether he could throw any light on the ultimate cause of gradual decay and death—that is to say, what it was that produced these senile changes, which were sufficient by themselves, without the aid of any specific morbid condition, to limit the period of life. He had been much struck by a remark in some recent lectures by the great French physiologist, Claude Bernard, that the final cause of these changes and deteriorations lay in the incapacity of the several cells, of which all tissue is composed, to generate fresh cells as their successors, for an

indefinite time, by their process of subdivision. It was pretty well established that no organism can perpetuate itself except by means of sexual generation, and that all continued propagation by grafts, buds, or other asexual methods, tends to produce decay and extinction; and M. Claude Bernard considers senile deterioration to be due to this law. He would be glad to hear the author's opinion on the subject generally.

MR. SCRATCHLEY wished to ask Sir Duncan Gibb if, in his reply, he would kindly state more fully his reasons for considering the statement made by Mrs. Leatherlund's nephew unworthy of credit? He understood Sir Duncan Gibb to say that the nephew had written to the *Times* to the effect that Mrs. Leatherlund's brother had died, a year or so before, at the age of 102, or thereabouts; and that, as he was her *elder* brother, Mrs. Leatherlund could not, in 1873, have been 110. Mr. Scratchley did not quite understand why Sir Duncan Gibb had dismissed this statement as unimportant.

MR. HOWORTH, Major OWEN, and the PRESIDENT also joined in the discussion.

Sir DUNCAN GIBB, in reply, thanked the members present, not only for their patience in listening to his paper, but also for the encomiums of some of the speakers. He had heard the name of Pratt, aged 105 years, but had never seen him; and Baron Desaix, of the same age, was not unknown; he is some four years younger than Count Waldech, the painter, who is still alive. Relative to the age of 51, at which Mrs. Leatherlund had her last child, there is nothing extraordinary about that; and the other instance, referred to by Mr. Howorth, did not occur in the same family, but was an instance brought forward by the author, taken from a Cork newspaper, showing that after an interval of twenty years a woman, aged 63, bears a child to her husband, much older than herself. The question propounded by Major Owen is a very pertinent one, and he (the author) thinks it helps to explain why Mrs. Leatherlund procreated in her 51st year; for undoubtedly where all the functions of life were so perfect as to permit her to reach the great age she did, physiologically speaking, therefore, at 51 she would be physically the equivalent of a female of 25 or 30. And although he had not read the details of the autopsy of the old dame, the womb was small, and its appendages were perfectly normal, a circumstance that is not always the case in old people. Then, again, although she was married some years before she had any family, it did not necessarily follow she was an immoral person, notwithstanding her last child was born some thirteen months after the death of her husband. Upon this last point, for the sake of the living, he should keep silent. In reply to Mr. Brábrook, and also the President, he would say that the fact of the marriage not being found recorded does not in the least affect the accuracy of the great age, because when the old dame had the question put to her point blank, such as you would expect a medical mind to conceive, "What was your age when your first child was born?" she unhesitatingly replied, "29, or between 29 and 30." Then, again, she said she

was some years married before her eldest child was born. This proved to be Samuel, who lost his life, in the manner described, with so many other persons; and, singularly enough, one of Samuel's children, a married daughter, happened to be saved, who, it is reasonable to assume, furnished the different ages on the monument. Upon that Samuel's age was 59; if living now he would have been 82, which gives 29 as his mother's age when he was born. This testimony is so clear, so overwhelmingly convincing, that not a single objection brought forward by Mr. Brabrook, or by his friend Mr. Thoms, can have the slightest weight against it. Then all the alleged circumstances of her life are abundantly proved. The history of the Bucks Militia, in which the old dame's husband was a private, is readily explained by the movements of the regiment to the various towns named, and in the muster-rolls his name would as certainly be found as that the regiment existed. Necessarily some difficulties must be expected in such an instance as the present, from the woman being a gipsy, although there is no proof that her husband was; he died in his native town in Ireland, and his burial is correctly registered. After that event she returns to the vicinity of the spot where she passed her youth. Mr. Francis Craig mentioned, in a letter to the *Times*, that the absence of senile changes, as found by the author, was an argument in favour of her age; but he (Sir Duncan Gibb) must distinctly state that he never brought that forward himself, and it is of no value at all in this question. Taken with other circumstances, it shows she was the same as all other centenarians physically. Then, again, the entry of her baptism cannot be that of an older person, as supposed by Mr. Brabrook, for she furnished the information herself which led to its discovery, a fact that would be conclusive of her age in a court of law, because no other person could have given the clue to this but her. The names of Horam and Herne are synonymous among the gipsies, which readily accounts for the former in the register. And no entry with either name occurs for some thirty-seven years afterwards in the same register. He (the author) admitted it was not pleasant for either Mr. Thoms or his disciples to have a case confirmed like that under consideration, because it wholly negatives their premises. And he took exception to some of Mr. Thoms's *post-mortem* refutations in his book, because they were not made during the lifetime of the parties, when there was a chance of personal explanation. In the consideration of his paper, it required a medical mind to discuss some of the questions, for, as it should be readily understood, the old dame procreating at 51 cannot in the least affect the question of her age, as he had already stated. He would not go into the question of life, nor reply to that of "Why we die?" asked by Mr. Francis Galton, because it is beside the matter. No doubt as age advances, if there is no actual disease, the great functions of life gradually come to an end, and death occurs. In extreme old age, although all the functions are natural, and regularly performed, as in the old dame, there is necessarily feebleness, which permits a puff of wind to extinguish life; for

the merest cold was sufficient to do so in her. He had nothing further to say in reply, beyond reiterating the fact that all he had brought forward satisfactorily confirmed the age of the old dame, which would be acknowledged by the impartial reader of his paper in future years.

The meeting then separated.

MARCH 23RD, 1875.

Colonel A. LANE FOX, *President, in the Chair.*

The minutes of the last ordinary meeting were read and confirmed.

The election of Colonel W. J. FORLONG was announced.

The following list of presents was read, and the thanks of the meeting were voted to the respective donors.

FOR THE LIBRARY.

From the SOCIETY.—Proceedings of the Royal Society. Vol. XXIII. No. 159.

From the SOCIETY.—Proceedings of the Royal Geographical Society. Vol. XIX. No. 11.

From JAMES BURNS, Esq.—Human Nature, March, 1875.

From the ASSOCIATION.—Annual Report of the Geologists' Association, 1874.

From the EDITOR.—Nature (to date).

From the EDITOR.—Revue Scientifique. Nos. 37 and 38. 1875.

FOR THE MUSEUM.

From HENRY P. LE MESURIER, Esq.—Three Boomerangs from Kattyawar, Bombay.

A letter from Mr. H. P. Le Mesurier was read, in which he presented boomerangs, &c., to the museum, and lent for exhibition an unbaked cooking-pot from the Andamans.

Major OWEN drew the attention of members to the alleged discovery of works of man in Switzerland of high antiquity.

The PRESIDENT (the Rev. DUNBAR I. HEATH, *Treasurer*, in the chair) read the following communication:—

NOTE on the CHEST MEASUREMENT of RECRUITS. By Colonel A. LANE FOX. [With woodcuts.]

ATTENTION having lately been drawn in Parliament to the method employed in the army of taking the chest measurement of recruits, it occurred to me that some statistics on the subject, obtained by me in my capacity as the commander of a brigade depôt, might be of interest to the Institute.

My attention was first drawn to the difference of chest