neglected. Chagrin and unhappiness, and want of active pursuits, often retard recovery. The venous murmur in the neck is found to be the last to disappear; but, until it is no longer heard, a case of anæmia demands treatment.

I might add that arsenic is of unquestionable value, sometimes, as an addition to treatment by iron, though I am not able to distinguish the cases in which it is specially useful. It is intelligible that it should be beneficial in cases complicated with malarial impregnation, as in persons long resident in the tropics; and its great value in cases of pernicious anæmia, where iron is useless, must not be forgotten in connection with its occasional suitability in simple anæmia.

Lastly, I would say, there is a chapter in medicine to be written respecting the future life-histories of those who once have been severely anæmic, and have recovered more or less completely from that state. We want knowledge as to their special tendencies, and their tolerance of other morbid states; as to their power for child-bearing and suckling, their ability to do their share of the world's work. We want to know, also, the relation of the anæmic state, and a tendency to it, with other morbid proclivities. And all this knowledge can be gathered and made common by this great Association.

I would suggest that such an inquiry as I have here indicated be set forward, and its results brought into this Section at some future meeting of our body. The work will be accomplished by those who enjoy the advantages of family practice, and can thus trace life-histories over long periods.

POST-MORTEM EXAMINATIONS OF CENTENARIANS: WITH REMARKS.

By G. M. HUMPHRY, M.D., F.R.S.,
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Of the *post-mortem* examinations of centenarians which have been recorded (they are unfortunately but few), the first and best known is that of Thomas Parr, aged 152 years and 9 months, made by Dr. William Harvey, by command of the king (Charles I). The body was muscular, the chest and forearms hairy, the hair being still black, but the legs without hair. Organs of generation healthy; penis not retracted or extenuated; testes sound and large, "so that it seemed not improbable that the common report was true, namely, that he did public penance, under a conviction for incontinence, after he had passed his 100th year; and his wife, whom he had married in his 120th year, did not deny that he had intercourse with her, after the manner of other husbands with their wives." The chest was broad and ample; the lungs nowise fungous, adhered, especially on the right side, to the ribs; heart large, thick and fibrous, with considerable quantity of fat; cartilages of ribs soft and flexible; stomach and intestines and all the viscera sound; kidneys healthy, with the exception of a few watery cysts; no appearance of stone in them or in the bladder; spleen very small, scarcely equalling one of the kidneys; a good deal of fat about the mesentery, omentum and kidneys; brain healthy, firm and hard to the touch.

He "had observed no rules or regular time for eating, was ready to discuss any kind of eatable that was at hand; his ordinary diet consisting of sub-rancid cheese and milk in every form, coarse and hard bread, and small drink, generally sour whey. On this sorry fare, but living in his home, free from care, did this poor man attain to such length of days. . . . He was accustomed to walk about, slightly supported between two persons; had been blind for twenty years, heard extremely well, understood all that was said to him, answered immediately to questions, and had perfect apprehension of any matter in hand; his memory was, however, greatly impaired." "He was accustomed, even in his 130th year, to engage lustily in every kind of agricultural labour, whereby he earned his bread, and he had even then the strength required to thrash the corn." His death was attributed to the change from the pure air of Shropshire to that of London, and to the change of diet, incidental to a residence in the house of the Earl of Arundel, by whom he was brought to town and presented as a remarkable sight to his Majesty the king.

2. Dr. James Keill gives, in *Phil. Trans.*, xxv, p. 2247, 1706, an account of the death and dissection of John Bayles, of Northampton, reputed to have been 130. The oldest people remembered him to have been old when they were young. Of late decrepit and carried about. His diet was anything he could get; but he had not eaten

meat for some years, and of late lived only on small beer, bread, butter and sugar. Pulse irregular and intermitting for some years before death; went to stool but once in ten or twelve days for some years before death. A little man; body emaciated; abdominal viscera pale; spleen small; kidneys and urinary passages sound; a few yellow grains of gravel in the right kidney; cartilages of sternum not harder than they usually are; ribs brittle. "Lungs attached even to the pleura." Heart large, thick and fat; diameter of aorta above two inches; the abdominal and iliac arteries for the greatest part cartilaginous. Bones of skull sound and good; a small ossification in dura mater, by the falx. Brain more solid and firm than usual; ventricles full of serum. Genitals, both testicles and penis, of large size. He had lost sight for some years, but hearing was good till he died. "The greatest part of his blood was in his arteries, whereas generally in all dead bodies the veins are full." This is attributed to the loss of elasticity in the arteries; and to the same cause is attributed the dryness and the deficiency of the secretions in the old. The strong fibrous heart, the low stature, the largeness of the chest and goodness of the lungs are regarded as having had the greatest share in preserving the longevity.

3. In *Phil. Trans.*, xlv, p. 528, 1747, is an account by Haller of the examination of a decrepit woman reputed to be 100. Tissues dry; costal cartilages not yet osseous. Aorta, together with large arteries, osseous and rough; the aorta much dilated (5 inches 2 lines in circumference), with valves indurated and earthy. Twenty small stones in gall-bladder.

4. Dr. J. Beddoe, of Clifton, informs me that he "assisted at the *post-mortem* of a woman, credibly reported to be aged 106, who died from a burn. Her costal cartilages were normal. There was no evidence of her having ever had a tooth, so entirely had the alveoli been absorbed. One of her kidneys was perfectly obsolete. She exhibited signs of extreme tight-lacing."

5. Sir G. Duncan Gibb (*Journal of Anthropological Institute*, July, 1875) gives the necropsy of Mrs. Leatherlund, believed by him to have died at the age of 110. She was 4 feet 9 or 10 inches, and body proportionately small. Skin yellowish brown; muscular development good; no decided emaciation; some fat over the chest and abdomen; cartilages of ribs cut through with the greatest ease; lungs healthy; heart a little large, rather soft and flabby, with slight covering of fat; muscular structure, cavities and valves appeared healthy; arch of the aorta enlarged, measuring 4 inches in circumference at its commencement and 3½ inches at its termination. An atheromatous patch the size of a silver threepence at the lower surface of the transverse portion, and a ridge of atheroma at the left part of the ascending portion; scarcely a trace of omentum; stomach and alimentary canal, liver and gall-bladder healthy; spleen small but healthy; kidneys soft and flabby, but, as well as the ureters and bladder, healthy; uterus, Fallopian tubes and ovaries small; thoracic and abdominal blood-vessels healthy. The larynx and the rings of the trachea were perfect and flexible.

The same author attached much importance to the good conformation of the larynx and the erect position of the epiglottis, facilitating the passage of air to and from the lungs.

6. The most complete account of the examination of a centenarian is given by Rolleston.² John Pratt, reputed to be 107. Father died aged 75; mother, 104; grandmother, 110. Habits some way short of strictly temperate. Examination made thirty-two hours after death. One upper canine. Dura mater closely adherent to skull; well-nigh continuous tracings marked the position of the coronal and sagittal sutures. No exostoses on interior of skull. Canals for meningeal arteries deepened by bands of bone on either side, but there is no mention that the skull was thick, dense, or heavy. The relation of diploë, internal and external tables, much as in an ordinary skull. Weight of brain, 43 ounces. Mentions one from a woman aged 100, 45 ounces. Convulsions rounded, and to some extent atrophied; the fissure of Rolando, and the fissure anterior to it, being especially wider and deeper than natural. Cavities of lateral ventricles somewhat enlarged; numerous amylaceous bodies on surface of corpus striatum. Body appeared emaciated, but considerable layer of yellowish fat over pectoral muscles. Muscles looked pale, but showed the usual characters of striated muscle with great clearness and distinctness. Costal cartilages cut with greatest ease, of brownish yellow colour, from oil in cartilage-cells. Died of acute pleurisy. Much fluid in right pleura; apex of right lung the seat of chronic pneumonia. Had cough for some months before death. Heart much loaded with fat; atheroma of aorta opposite the edges of valves, and calcareous deposit; very little beyond this—only one patch. Liver, 43 ounces; much oil in cells. No mesenteric glands visible; Peyer's glands merely black specks;

¹ *Harvey's Works*, published by the Sydenham Society, p. 589. Harvey expresses no doubt about his age. In this more sceptical period we may fairly admit him to rank among the centenarians.

² *Scientific Papers and Addresses* i, 141.

but these, under microscope, showed the same turgescence and soundness as in younger persons. Haller notes the absence of mesenteric system in advanced years. Spleen small, weighing 2 ounces; capsule tuberculated. Concretions of uric acid abundant in pelvis and calices of right kidney, and in bladder. Right kidney, $2\frac{3}{4}$ ounces; left, $2\frac{1}{4}$; both lobulated, and with numerous cysts scattered over the surface. Ureters much dilated. Bladder hypertrophied with sacculi fasciculated. Lateral lobes of prostate large, like Home's plate 2, in vol. ii. Pediculated growths, size of pea, projected from third lobe into urethra; orifices of ducts large. Testes not to be detected, though epididymis easily recognised by examination through the scrotum. No spermatozoa in vesiculæ seminales or vasa deferentia.

7. A. Melis, aged 104 an ecclesiastic who lived in Sardinia, by Dr. Luigi Berruti, quoted by Rolleston. Good digestion, middle-size, strongly built; fond of pleasures of table and good wine; bled at various periods some hundred times; died of pneumonia in spite of three bleedings. Curly black hair, and teeth in perfect preservation. Body muscular and fat; costal cartilages quite ossified; diploë and sutures of skull disappeared; dura mater beset with bony plates; basilar and vertebral arteries ossified, also incrustations on aortic valves, aorta, and many of its branches. Heart fat, its muscular tissue firm. Splenisation of lungs and bronchitis.

8. Dr. Holyoke, aged 103 (quoted by Rolleston, from his *Memoirs*, Boston, U.S., 1829), a physician who settled in Boston, at the age of 21, in 1749, and scarcely left till the time of his death, and who led a life of the greatest temperance. Costal cartilages ossified; lungs pigmented; fat about heart; cysts in kidneys; widened cerebral fissures and hydrocephalus *in vacuo*, which he had predicted from the sense of fluctuation in his head.

9. Some years ago, I made a hasty examination of a woman, reported to be 103, who died in this town of bronchitis. No certificate as to date of birth was obtainable, but there was incontrovertible evidence of her great age. My attention was directed chiefly to the skeleton. The cartilages of the ribs were soft and yellowish from impregnation with oil. The skull was thick and heavy, weighing $28\frac{1}{2}$ ounces, although only one tooth—a lower incisor—remained, and the alveolar process of the maxillæ were in great measure absorbed. The other bones examined were remarkably light and porous. Thus the thigh-bone, though large for a woman, weighed only three ounces. The skull and thigh-bone are in the museum of the University; and the lightness of the latter is in remarkable contrast with the heaviness of the former. The brain was shrunken, the fissures between the convolutions being wide, and occupied by arachnoid fluid—hydrocephalus *in vacuo*. The density and thickness of the skull which I have observed not infrequently in the skulls of old persons (my *Treatise on the Human Skeleton*, p. 195), and which may be regarded as an ossification *in vacuo*, is probably, like the accumulation of fluid in the subarachnoid spaces, due to a diminished pressure on the tissues and the blood-vessels, consequent on the diminution of the size of the brain, which takes place in advancing years. In some instances, absorption from the exterior keeps pace, or more than keeps pace, with the addition to the interior. Then the skull becomes smaller, and, it may be, thinner as well as smaller. Hence, although in some aged people the skull retains its size, and becomes thicker and heavier, in others it becomes smaller, but of the ordinary thickness, and, in some, it becomes small and extremely thin and light. In some cases, the external absorption takes place unequally, causing especially thinness at certain parts of the calvarium. This is peculiarly the case in the parietal bones on either side of the sagittal sutures; oval symmetrical, or nearly symmetrical, depressions being here formed, as though the outer and middle tables had been planed or chiselled off. In one specimen in the Cambridge Museum, the absorption had extended quite through the parietal bone at one part. I directed attention to these depressions in the parietals in my *Treatise on the Skeleton*, p. 242, and in the *Journal of Anatomy*, viii, p. 136, but never could explain why the absorption should especially affect this particular region. Possibly the pressure of the occipito-frontalis tendon may have some relation to it. I may observe that the neck of the thigh-bone in this old woman forms an angle of 128° with the shaft. Hence there has been none of that lowering of the head and neck which is generally stated to occur, as a rule, in aged people, but which my observations show very often, indeed generally, does not occur.

[To be concluded.]

THE building of a deaf and dumb institution in Berks is one of the latests projects for celebrating the Queen's jubilee.

BACTERIOLOGY IN SPAIN.—A bacteriological laboratory is about to be established at Barcelona, under the direction of Dr. Ferran.

ON THE MANAGEMENT OF PERFORATIONS OF THE MEMBRANA TYMPANI.

By SIR WILLIAM B. DALBY, F.R.C.S., M.B.(CANTAB.),
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If any examples of a morbid condition of the body might be described as having individualities of their own, as exhibiting various moods, or showing a diversity of behaviour under treatment, surely it would be perforations of the tympanic membrane. To those who are in the daily habit of observing how soon they occasionally heal, how for long periods they do not heal (periods to be measured by years, and even by long life-times), how tolerant at one time they are of manipulation and of treatment, how intolerant at others, how susceptible to climate, to diet (especially in the matter of stimulants), they indeed display an "infinite variety."

Occasionally there may be found fragmentary additions to medical literature in which this application or the other is recommended as the best treatment for perforations. Now, although many of these applications are useful under appropriate conditions, I fear it is nearer the truth to say there is no best treatment that may be employed by those who appreciate the interesting variety referred to as belonging to perforations.

To begin with early life. Of all children who during their infancy have a purulent discharge from the ear after a few hours of pain in the ear (the position of the pain being generally unrecognised at the time), how very small a proportion are submitted to an examination of the membrana tympani! When in isolated cases they are so examined at the time of the discharge, is it not almost the rule that the membrane is found to be perforated? The probabilities, therefore, are that in all, or at least most of them, these discharges are accompanied at the time by perforation. I say at the time, for when the membrane is examined weeks or months after the discharge has ceased, it is often discovered to be entire. We must admit, then, that during infant life the membrane is extremely prone to become perforated, and happily equally prone to heal. This view must have occurred to so many that it is only necessary to mention it, in order that either the occurrence of the perforation or its healing should not excite surprise with those who see comparatively little of ear-disease.

What is still further deserving of notice is that the majority of these children, when they grow up, hear well. If this fortunate ending of the affair is occasionally in part due to the fact that there has been no local interference, it does not follow that nothing in the way of management should be done for recent infantile perforations; but I feel convinced that they are better without treatment, if such treatment includes mineral astringents in solution; the sulphate of zinc and acetate of lead lotions, which used to be thought as necessary for a perforation as iron and quinine mixtures and Latin verses are still for the English boy, are worse than useless. Scrupulous cleanliness—not only by removing discharge from the meatus, but by its expulsion from the tympanic cavity, vegetable astringents, and protection from the action of external air—include the routine of treatment under which the perforations are aided in healing. The same will apply to the treatment of recent perforations in adults; and when the perforation has healed, so long as there is undue secretion within the tympanum, if the case is treated as one of catarrh, the best possible results as to future hearing will follow. Why, then, do we find so many perforations which have occurred from simple catarrhal inflammation either permanent, or, if they heal, leaving such considerable losses in hearing? Of course the disorganisation of the tympanic cavity (the result of inflammation) must be taken into account; but, having excluded this element, I cannot but think this is sometimes due to the pardonable anxiety of the patients to (as they express it) "stop the discharge," and so they resort to anything that offers this prospect.

No doubt, for a time, the mineral astringent will do this, but it does more—it stops the healing, and it stops the hearing. For it astringes the tympanic end of the Eustachian tube; it prevents the possibility of expelling the discharge from the tympanum through the perforation; it allows the discharge to collect in the tympanic cavity, and become inspissated; it causes cicatrization of the edges of the perforation—in short, it does not give the lesion a chance of repair. More than this, when the mineral astringent whose motto is, "Stop the discharge," is discontinued, the discharge comes on as before, so it indifferently fulfils its own motto. I suspect that the advertised lotions and drops for the ear which patients obtain and use on their