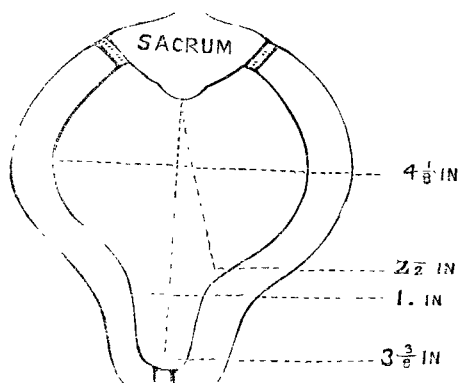


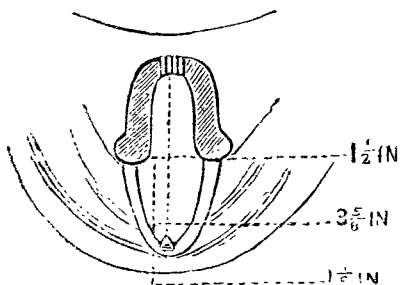
during the day. Refused beef-tea and milk, but takes a little brandy. Râles spreading over chest; complains of pain across the belly. A copious loose motion had been passed during the day. Pulse very rapid; respiration 42; temperature 99.2° . Had not slept. Lochial discharge had been abundant and healthy since operation, but was now somewhat offensive. The breasts had secreted milk. There is considerable tympanitis, and at times the abdominal pain is much aggravated. Two-thirds of a grain of acetate of morphia were injected under the integuments in right hypochondriac region. Ordered a little champagne to be given during the night.

16th.—9 A.M.: Had slept from the time of the injection until 2 A.M. Breathing easier. Had vomited once only. Champagne and brandy had been taken during the night. Pulse 130; respiration 30; temperature 98.8° . Bowels had been moved once. Hypodermic injection repeated on opposite side.—7 P.M.: Has taken brandy-and-water and champagne, also cream, and about half a pint of beef-tea. Complains of pain in the region of the diaphragm. Breathing difficult, and chest loaded with mucus, which she is unable to expectorate. Some bloody serum had escaped from the lowest part of the wound, and appeared to be forced out by the cough. Styptic colloid was applied, and the bandage readjusted. The lochia continue, but are very dark and offensive. Pulse 140; respiration 36; temperature 100.4° . Several loose motions had been passed during the day. Hypodermic injection was repeated. She died in the night, at 2 A.M., rather suddenly.

At the post-mortem examination, which was made on the 18th, and confined to the parts involved, the following conditions were noticed:—The bones of the lower extremities were much bent and deformed, as were also the arms, which were remarkably short, the fingers being misshapen and knobbed. The height of the body when the woman was living was a little over four feet. There was no attempt at union throughout the entire length of the incision. The abdominal cavity contained some bloody serum. The intestines were glued to each other and to the abdominal walls by recent lymph. The uterus was contracted; the edges of the incision made in its structure were everted, but the cut surfaces were glued together. The pelvis presented the deformity known as the "cocked-hat" pelvis. The brim gave the following measurements:—The antero-posterior, from the sacral promontory (which projected inwards) to the symphysis pubis, $3\frac{3}{8}$ in.; the transverse, $4\frac{1}{8}$ in.; the pubic bones, being approximated, measured across at their junction with the ilium, exactly 1 in., and from this point



backwards to the promontory of the sacrum $2\frac{1}{2}$ in., which represents the space available for the passage of the head. The preceding diagram may assist in explaining these dimensions. The outlet of the pelvis presented the follow-



ing appearances and measurements:—The rami of ischia and pubes were closely approximated, and the tuberosities

of the ischia were only separated to the extent of $1\frac{1}{2}$ in. at their greatest point of divergence; from tip of coccyx to symphysis pubis, $3\frac{3}{8}$ in.; and from tip of coccyx to an imaginary line drawn from one tuber ischii to the other, $1\frac{1}{8}$ in.; and this measurement represents the available space for working with instruments at the pelvic outlet. The second diagram may assist in illustrating these dimensions.

On reconsidering this case, it seems to me that what I may call the double deformity—that is, of the brim and outlet—constituted the great difficulty in attempting delivery *per vias naturales*. If the head could have entered the pelvis, it would have been possible to have extracted the foetus piecemeal through the small outlet. On the other hand, a larger outlet would have permitted the application of instruments to the head above the pelvic brim. But the combination of difficulties rendered it impossible to use instruments with safety to the mother, inasmuch as the hand or fingers could not be introduced to guide them; moreover, it was impossible to make out the presentation by the usual means.

Ellesmere, February, 1870.

REMARKS IN REFERENCE TO
THE PRESENCE OF FAT AND ABSENCE OF
ATTENUATION OF THE INTESTINES
IN THE BODY OF SARAH JACOB,
THE "WELSH FASTING GIRL."

By ROBERT FOWLER, M.D.

BOTH during the magisterial investigation at Llandyssil last March, and now again at the trial of the parents for manslaughter at the Carmarthenshire Summer Assizes, one of the points of the defence was that Sarah Jacob could not have possibly died of starvation, because after death was found "a thick layer of fat from half an inch on the thorax to one inch on the lower portion of the abdomen," and that also there was no attenuation or thinning of the coats of the intestines.

Being subpoenaed by the Crown as an independent medical witness, I did not hesitate from the very first to express my opinion that the presence of the fat and the absence of the thinning were not only not inconsistent with, but were in fact to be expected in, the case of a young "plump" girl who dies on the eighth day after the complete deprivation of all solid and liquid food.

My opinion was not again asked by the counsel for the defence at the trial last week at Carmarthen; Mr. James Thomas, Newcastle-Emlyn, one of the gentlemen who conducted the post-mortem inquiry, on cross-examination, very pointedly and logically supported, however, my previous assertions. On summing up, the judge (Hon. Sir James Hannen, Knt.) ably and aptly also refuted this part of the theory for the defence.

I. The more or less complete absorption of fat in a case of acute (or, as the judge naively called it, "absolute") starvation in man would appear to mainly depend on two elements: (1) The amount of fat previously existent in the body; (2) The duration of time from the commencement of starvation till death.

(1) Sarah Jacob was a "plump," fat child. A medical man who saw her early in 1869 writes me that her temporal fossæ were then bulging with fat. She had, therefore, of course, some way or other been sufficiently fed up to Dec. 9th, 1869, when she was suddenly deprived of all liquid and solid food. This sudden and *absolute deprivation* for a definite time, in a previously sufficiently fed person, constitutes the case as one of *acute* starvation. From various diseases, and during a general famine, we get cases of *chronic* starvation, implying an *insufficient* supply of food up even to the very death, which may be weeks or months before its actual occurrence.

Sarah Jacob was never put on the weighing machine either immediately before or during the last eight days of her life. It is consequently impossible to accurately estimate her *relative* emaciation. She did, however, emaciate.

The "sunken eyes and cheeks" and "pinched nose" were produced by the absorption of fat and fluids from the cavities of the orbits and the neighbouring parts. Mr. James Thomas produced also at the trial important evidence of absorption of fat in the description he gave of the patchy distribution of the fat in the omentum.

(2) Where in recorded cases great emaciation is spoken of as a symptom of starvation, it is invariably after a much longer time than eight days of deprivation of food. Of the recorded cases where the duration of starvation is alluded to, and of which I have carefully examined the details, there are only three or four analogous, as regards time, to the case of Sarah Jacob.

(a) Casper's case continued ten days without death, and the only allusion made to emaciation is, that "on the fifth day his features were somewhat collapsed," and "on the seventh he was evidently becoming thinner."

(b) In the case of Guillaume Granet, recorded by Guy in his *Forensic Medicine*, it is stated: "For the first seven days the symptoms were not very remarkable."

(c) In the case of eight men and one boy (mentioned by Taylor as being) eight days in a coal-pit, it appears, on reference to the details in the *Medical Gazette*, 1835-6, that, although "excessive weakness" is spoken of, no allusion whatever is made to "emaciation."

(d) A case of voluntary starvation is recorded in the *British Medical Journal* of April 16th, 1870, by Mr. Lingen, of Hereford. A "thin spare man" lived ten days without solid or liquid food. On the sixth day he was "up, dressed, and at his business." Of course even a "thin spare man" can become thinner; but, in answer to a question from me, Mr. Lingen kindly writes: "The emaciation was not excessive by any means."

(e) Dr. Martyn, in the *Medical Times and Gazette* of March 30th, 1861, says:—"Haller ('Opuscula Path.') examined the body of a suicide where fat an inch deep was found in the omentum." The duration of the deprivation of food is, however, not mentioned, and Dr. Martyn suspects it is not an uncomplicated case.

II. Attenuation, or thinning of the coats of the intestines, is not peculiar to death by starvation. It is found almost always in death from long-continued wasting diseases.

As a matter of fact (omitting the Irish famine cases) it is mentioned but once only in the recorded cases I have alluded to of death from actual starvation. That one case (*Regina v. Mitchell*, tried at the Oxford Lent Assizes, 1861) was proved to be a case of disease.

Casper, quoting the Irish famine cases, very hastily and improperly asserts that "attenuation of the coats of the intestines" is the one "specific cadaveric phenomenon pertaining to death from starvation." He apparently for the moment forgets the distinction he has, four pages before, drawn between acute and chronic starvation. He evidently committed himself to the assertion without carefully considering Dr. Donovan's premisses and deductions.

On referring to Dr. Donovan's paper in the *Dublin Medical Press* of February 2nd, 1848, I find that he calls his cases "famine cachexia, or lingering starvation"; and adds, "Even the majority of those who perished of starvation were able to provide some food, which preserved life until exposure to cold or some other accidental cause extinguished the faint spark."

Despite the alleged specificity of the phenomenon in question, it nevertheless appears that in the post-mortem account of the two fatal cases (one evidently an acute case) observed by Casper himself, the existence of attenuation is not even alluded to.

The following extracts from a very complete letter to me by Dr. Donovan form a fitting reply to the reliance of the counsel on this one point in his defence of Hannah Jacob:—

"I agree with you in thinking that the case of the Welsh fasting girl is not analogous to those I was familiar with in 1847-48. From my experience, where the persons were corpulent during lifetime, deposit of fat may be found in the abdomen, and the intestines not much changed from their normal state (on post-mortem examination), although they had died of actual want. The cases with which I have been most familiar were ones of lingering starvation, the supply of food having been insufficient for months; but in every instance they contrived to obtain casually some in-

digestible substance, such as raw cabbage, turnip, &c. In such cases, as was naturally to be expected, there was a gradual absorption of fat, with atrophy, and attenuation of the intestines."

Had Sarah Jacob been able to have got access to water, her life would have undoubtedly been prolonged, and the emaciation would have daily become more perceptible; whilst after death less fat, and possibly some alteration in the appearance of the intestines, would have been discovered. In strict logic, therefore, Sarah Jacob died on the eighth day of starvation from want of, or because she had no, water.

That she did not die from "mental shock" appears evident from the following facts:—

(a) The previous watching by four watchmen, who were constantly with her fourteen days and nights—from the 22nd of March to the 5th of April, 1869,—produced no such symptoms or effects as soon became apparent during the last watching.

(b) The presence of the nurses, several medical men, and other persons in the room on the afternoon of Dec. 9th, 1869, when the last watching commenced, produced no symptoms of "shock," nor serious alteration of the pulse. The certificate of health, signed on that day by two of the medical gentlemen, states that the pulse was regular, averaging 86 per minute.

(c) The depressing influence of four strange nurses would be expected to show itself almost immediately. The sleep was, however, natural the first night of their presence. The girl soon became very much attached to the nurses, whose tact and kindness were undoubtedly mainly instrumental in keeping off the so-called "fits."

(d) The detailed symptoms of the last eight days were clearly those of progressive physical exhaustion, commingling with, and in a measure masked though never overpowered by, the symptoms indicative of a morbidly, or otherwise, perverted will. One of the aphorisms of Hippocrates says, that when a person in health abstains from food for seven days, even though he received nourishment at the end of that period, he never survives; and that thirst, not hunger, is the most distressing symptom.

Should my other avocations permit, I will take an early opportunity of placing the whole history of Sarah Jacob in a more complete form before the profession and the public, to both of whom I should be extremely obliged for any additional details of this medically and legally interesting case.

The following epitome of recorded cases of starvation will, I am sure, contribute much to the value of the remarks I have made:—

1. *Case of Starvation for Ten Days without Death.*—On the fifth day, "features somewhat collapsed." No hunger; no thirst. On the sixth day made "to take a few drops of sp. æthereus." On the seventh day, "evidently becoming thinner." On the ninth and tenth days, "from absolute necessity, took about six ounces of sugar and water."—(Casper's *Forensic Medicine*, vol. ii., p. 29, New Syd. Soc. transl.)

2. *Actual Death from Starvation.*—Duration not stated. "The body much emaciated." Intestines contracted and empty. Attenuation not mentioned.—(Ibid., p. 33.)

3. *Death from protracted Starvation.*—Duration not stated. Body very emaciated; entire absence of fat. Large intestines much contracted. Attenuation not mentioned.—(Ib., p. 36.)

4. *Guillaume Granet, a Prisoner at Toulouse.*—"For the first seven days the symptoms were not very remarkable." After this period he was compelled to drink water occasionally. Died on the fifty-eighth day, in convulsions.—(Guy's *Forensic Medicine*, 3rd edit., p. 329.)

5. *Shipwreck on Calcutta Coast.*—Ten out of thirteen men escaped and recovered, after being twelve days without food or water. No mention made of rain water.—(Ibid.)

6. *Captain Casey, of the "Jane Lowden."*—Of the crew, one survived eleven days, one twelve, one fourteen, two fifteen, one eighteen, and the captain twenty-eight days. When picked up, the captain was "pale and thin"; he sustained life "by drinking as much rain as he could collect by tying his cravat round the mast, and, when it became drenched, sucking it." (Ibid., p. 329; *The Times*, Feb. 6th, 1866.)

7. *Mark Cornish.*—Death after insufficient food and ill-treatment for about three months. Had food and water night before death. Extreme general emaciation. Attenua-

tion not alluded to. (Guy, op. cit., p. 330; *Morning Chronicle*, Feb. 26th, 1853.)

8. *Elizabeth Canning*.—Lived (?) eighteen days, in depth of winter, on a gallon of water, a quarter loaf, and a small mince pie. "Languid and reduced state." "Appeared like one who had suffered extreme hunger, thirst, and cold." (Guy, op. cit., p. 330; Dr. Cummin's Lectures, *Med. Gaz.*, vol. xix., p. 209, Nov. 12th, 1836.)

9. *Prisoners at Millbank*.—Two men and one woman. Complete abstinence from solid food, but free access to water. No bad symptoms. By no means exhausted. (Guy, op. cit., p. 330.)

10. *Two children Aspinall*.—Death from insufficient food. Duration not stated. Extreme emaciation. Scarcely a trace of fat. *Attenuation not alluded to*. (Taylor's Principles and Practice of Medical Jurisprudence, p. 745; Proceedings of the Liverpool Medical Society, 1855-56.)

11. *Irish Famine Cases*.—Called by Dr. Donovan in his paper "famine cachexia, or lingering starvation." *Attenuation of coats of intestine regarded as strongest proof of starvation*. "On one occasion (at an inquest) I was able to recognise a portion of green cabbage in the duodenum of a man who died of want." *Diarrhœa* a frequent symptom in these cases. *Vide* extracts (in text above) from paper and letter of Dr. Donovan.—(Taylor, op. cit., p. 743; Dr. Daniel Donovan, of Skibbereen, Co. Cork; *Dublin Medical Press*, Feb. 2nd, 1848, p. 67.)

12. *Regina versus Pryke*.—Insufficient food and maltreatment. Death from ulceration of intestines. *Attenuation not alluded to*.—(Taylor, op. cit., p. 746. *The Times*, July 22nd, 1840: Chelmsford Summer Assizes.)

13. *Regina versus Mitchell*.—Insufficient food. *Case of muco-enteritis*. Previous diarrhœa; emaciation. *Intestines thin and transparent in parts*.—(Taylor, op. cit., p. 746. THE LANCET, 1861: Oxford Lent Assizes.)

14. *Case of Voluntary Starvation*.—Death on the tenth day. No post-mortem examination. Pulse increased in frequency as he became feebler; he appeared thirsty, and his animal heat was sustained with difficulty. *Vide* extracts (in text above) from paper and letter.—(*Brit. Med. Jour.*, April 16th, 1870, p. 384; Chas. Lingon, Esq., of Hereford.)

15. *Cases of long-continued absence of food*.—(a) Hysterical vomiting and abstinence for eleven months. Friction with cod-liver oil, and draughts of cold water and ice. Enemata as long as borne. "A living skeleton." "No bed-sores." No post-mortem examination. (b) Case of lethargy and abstinence; "without food for twenty-six weeks"! Olive oil inunction. Lips moistened. *Great emaciation*. Recovered. (*Brit. Med. Jour.*, May 28th, 1870: Dr. Henry Barber, Ulverston.)

16. *Haller's case* ("Opuscula Path.")—"A suicide where fat an inch deep was found in the omentum." See extract (in text above) from paper. (Dr. Martyn: *Med. Times and Gaz.*, March 30th, 1861, p. 344.)

17. *Dr. Sloan's case*.—Twenty-three days in a coal-pit. Access to water for first ten days. After ten days, unable to walk. Extreme emaciation. Intestines collapsed; otherwise normal. *Attenuation not alluded to*. (Taylor, op. cit., p. 743; *Med. Gaz.*, vol. xvii. 1835-36, pp. 264 and 389.)

18. *Thornhill's cases*.—Eight men and one boy eight days in a coal-pit. Access to dripping water. Excessive weakness. All recovered. *Emaciation not alluded to*. (Taylor, op. cit., p. 744; *Med. Gaz.*, vol. xvii. 1835-36, p. 389.)

19. *Tomkin's case*.—A destitute and exhausted man shut up for two days, and then found dead. Emaciation. *Attenuation not mentioned*. (Taylor, op. cit., p. 745; THE LANCET, March 17th, 1832, p. 903.)

Bishopsgate Without, July 19th, 1870.

THE HEAT AND DROUGHT.—The "Pall Mall Gazette" observes: "During the present hot weather the sufferings endured by animals deserve more consideration than is generally bestowed upon them. Horses must suffer intensely. To say nothing of those who are expected to drag heavy carts and omnibuses over dusty roads with the same facility in hot and cold weather, the unfortunate animals who are shut up in crowded and ill-ventilated stables must suffer greatly. And then, again, there are 'chained-up' dogs whose sufferings must be appalling. No one ever thinks of putting a kennel in the shade; and to be chained in the full glare of a pitiless sun to a kennel which gives no protection from its rays must be a positive torture."

AFFECTIONS OF THE THROAT AND LARYNX.

By A. T. NORTON, F.R.C.S.,

ASSISTANT-SURGEON, AND SURGEON IN CHARGE OF THROAT AFFECTIONS, ST. MARY'S HOSPITAL.

(Continued from page 116.)

AFFECTIONS RECOGNISED WITH THE AID OF THE LARYNGOSCOPE.

Catarrh of the Larynx.

In cases of this affection the usual symptoms of cold were present—sneezing and excess of mucous secretion, general feeling of cold, and constipation of the bowels. The voice was of a whispering character, and spasmodically inarticulate. There was no pain, no soreness of the throat, nor, as a rule, was there any cough. But there was a constant desire to clear the throat, and after each attempt there still remained the sensation of something adhering to the vocal apparatus.

An examination with the laryngoscope showed a slight inflammatory condition of the larynx. The mucous membrane over the arytenoid cartilages was of a deeper hue, and so also was that over the false cords. The true cords had lost their whiteness, and in some instances were distinctly reddened. A thick secretion adhered to all parts of the larynx, and formed shreds across the rima glottidis as the true cords separated from each other. These symptoms had not been of long duration before the patients applied to the hospital for relief, and they were readily amenable to treatment. Patients suffering from this affection remained under treatment for a few days only.

The treatment was commenced by a purge, the larynx was washed with a solution of chloride of zinc (a drachm to an ounce), and hot medicated inhalations of creasote or tincture of iodine were ordered to be practised four or five times a day. The inhalation of tincture of iodine (two drachms in four ounces of water) was in two cases followed by an almost immediate return of the voice; but the relief was only temporary, as the aphonia again returned after a few hours. Still, a repetition of the inhalation was as beneficial as before.

Chronic Laryngitis.

Under the term chronic laryngitis were included all cases in which aphonia, or deviation from the natural form of the voice, had existed for more than three weeks, and in which a general inflammatory condition was present within the larynx. The character of the voice was somewhat different in different cases. In some it was like an ordinary whisper, and in others of a dry, metallic, ringing sound.

In some cases there was a decided dryness of the throat, accompanied by a tickling sensation, with a constant, irritable, dry, hacking cough; in others there was a constant desire to clear the throat of a viscid adherent mucus.

Constitutional symptoms were absent, with the exception of those cases in which the affection was sequent upon bronchitis or phthisis. Patients with this affection were therefore able to continue their ordinary avocation.

An examination with the laryngoscope exhibited a general discoloration of the entire larynx. The arytenoid cartilages, cartilages of Santorini, false and true cords, all had the appearance of congestion. In several instances the mucous membrane over the cartilages, and over the false cords, was considerably thickened. The false cords, therefore, occupied a greater amount of space than was compatible with the resonance of the voice, and during articulation approximated each other so closely that all pitch of the voice was entirely prevented.

The treatment adopted in these cases was variable. In those in which syphilis was or had been present, iodide of potassium was resorted to. In all the larynx was brushed with a strong stimulant—nitrate of silver (one scruple to the ounce) or chloride of zinc (half a drachm to the ounce); or, in place of the brush, the application was thrown into the larynx with a rose-syringe. A blister, the size of a half-crown, was applied to the neck in the neighbourhood of the thyroid cartilage. Medicated inhalations of creasote or