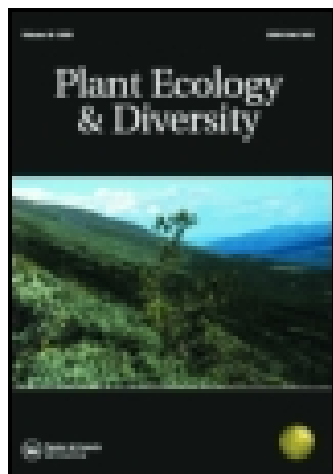


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### III. Obituary Notice of Professor John Goodsir

Professor Balfour

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quently occur in this country, followed by a lengthened convalescence and attended by indigestion, partial or general swellings, coldness of the extremities, and a pale countenance—symptoms which indicate a disordered condition of the organic nervous system—I am in the habit of prescribing the *Chuquiraga* with much benefit.

“As the *sequelæ* of measles and scarlet fever are of nearly a similar character to those of the maladies just mentioned, I have used the *Chuquiraga* in all such cases with beneficial results.

“Of the class of diseases strictly denominated *nervous*, I may mention hooping-cough, which almost every year occurs epidemically. In this disease I have also administered the *Chuquiraga* with benefit. The preparation I employ is a simple infusion, made by pouring a pint of boiling water on six or eight grammes of the plant, taking daily two or three tea-cupfuls; the quantity ordered to be given to young children being proportionally diminished. The extract may be employed, but I prefer the infusion.

“I cannot conclude this brief and imperfect sketch without suggesting to you, when time and circumstances allow, to analyse this important plant, inasmuch as the operation made by me is not altogether satisfactory, owing to the insuperable difficulties of obtaining, in this city, the requisite chemical preparations for the performance of an analysis. Notwithstanding, the following is the result of my observations:—1st, A bitter extractive matter; 2d, Chlorides of calcium and magnesium; 3d, A crystallised body, apparently oxalic acid; 4th, On adding lime water to the decoction, a copious precipitate, the composition of which requires further examination.”

### III. *Obituary Notice of Professor John Goodsir.* By Professor BALFOUR.

I have this evening to record the death of one of our members, John Goodsir, the distinguished Professor of Anatomy in this University. The melancholy event took place on the 6th March, at South Cottage, Wardie. Professor Goodsir was born at Anstruther in 1814, where both

his father and his grandfather had been medical practitioners. His early studies were carried on at the University of St Andrews. He was afterwards apprenticed to Mr Nasmyth, the eminent dentist of this city. He prosecuted his medical studies here, and he showed a remarkable zeal for anatomical pursuits while attending the lectures of Dr Robert Knox, in whose rooms he made the acquaintance of Edward Forbes. He studied natural history under Professor Jameson, and veterinary anatomy under Professor Dick, for whom he continued during life to entertain a high regard. Goodsir and Edward Forbes were associated together for many years. They lodged together at 21 Lothian Street, and carried on those anatomical and zoological researches which have rendered their names famous in science. Many a pleasant hour have I spent with them in their lodgings at the time when they were rising into fame. The habits and structure of animals had been a favourite object of study with Goodsir from his earliest years. During his apprenticeship with Mr Nasmyth he drew up a paper on the structure and development of the teeth, which showed his powers as an anatomical observer, and at once placed him in a high position as a physiological anatomist. The paper was published in the *Edinburgh Medical and Surgical Journal* for 1839. He passed as surgeon in Edinburgh, and afterwards began practice with his father in Anstruther. He did not, however, continue long in practice, in consequence of having been (chiefly through Professor Syme's influence) appointed Conservator of the Museum of the Royal College of Surgeons of Edinburgh.

In this situation he had ample scope for anatomical researches, and he added many valuable specimens to the Museum. He also made some excellent casts and models, which displayed great artistic powers as well as anatomical knowledge. In the outer hall of the Royal College of Surgeons there is a remarkable model made by Goodsir. He made also a series of observations on the changes which take place in pathological tissues. These he communicated to the profession in a series of lectures, delivered at the College of Surgeons in 1842-43. These lectures were afterwards published. The views which he then advocated regarding the origin of various morbid products, from changes

in the pre-existing elements of the textures of the body, have since been amplified by Professor Virchow, and constitute the basis of modern pathology. Virchow dedicated his work on Cellular Pathology to Goodsir, as one of the earliest and most acute observers of cell-life. He prosecuted also comparative anatomy with great enthusiasm, and he became one of the great authorities in that department of science. The specimens afterwards added to the University Museum amply testify his ability and zeal as a comparative anatomist.

He became a member of the Wernerian Society on 29th March 1840, having been proposed by Professor Jameson and Dr Neill. Along with his brother Harry (who perished in the Franklin expedition) and Edward Forbes, he read many valuable papers to the Society. The following may be enumerated :—

1. On certain Peculiarities in the Structure of the Short Sunfish (*Orthogoriscus Mola*), as observed in a large specimen captured in the Firth of Forth, near Alloa (12th December 1840).

2. An Account of the Anatomical Structure of the Ascidæ, showing that even the rough covering of these animals is highly vascular; illustrated by specimens (9th January 1841).

3. On the Natural History of the *Echinus* and *Thalassema*, two genera of Echinodermata, by Messrs Goodsir and Forbes (23d January 1841).

4. On a new species of *Gymnorhynchus* found on the Short Sunfish (26th January 1841).

5. On two anomalous Marine Animals from the neighbourhood of the Isle of May, in the Firth of Forth, by Messrs Goodsir and Forbes (30th March 1841).

6. Account of some new species of *Pycnogonidæ*, and on *Pelonaia*, a new genus of Tunicated Molluscs, by Messrs Goodsir and Forbes (7th April 1841).

7. On the Metamorphoses of *Cancer Mænas* and *Cancer Bernhardus*, with descriptions of some species of Caprella, by the Messrs Goodsir (16th April 1842).

8. On the Natural Features of the Dornoch Firth (10th December 1842).

9. On the vast Accumulation of minute Marine Ani-

inals which precede the appearance of a Herring Shoal off the Isle of May; and on a new species of *Cætochilus*, by the Messrs Goodsir (23d February 1843).

10. On a new Crustaceous Animal, *Erineus splendens*; and on the Larvæ of *Balanus tintinnabulum*, by the Messrs Goodsir (8th April 1843).

11. Description of *Neuronoia Monroii*, a species of Entozoon infecting the nervous system of the Gadidæ (8th February 1845).

12. On the Organs of Circulation in the Echinodermata, with specimens (7th March 1846).

13. On the Characters and Anatomical Structure of the *Hyperoodon Dalei*, taken from a specimen stranded during last autumn near Alloa, with preparations (28th March 1846).

14. Exhibition of living Larvæ of *Medusa aurita*, from the coast of Fife, and a living group of *Coryne* (19th December 1846).

15. On the Morphological Constitution of the Skeleton in Sponges (20th February 1847).

Botanical anatomy and physiology early engaged Goodsir's attention. He joined the Botanical Society in 1841, having been proposed as a member by Edward Forbes, just before he left for his dredging expedition in the Mediterranean. In the billet of that date Goodsir is designated surgeon, 21 Lothian Street. On 13th January 1842 he communicated to the Society a description of a vegetable found on the gills of the gold fish (*Cyprinus auratus*); and, on 10th July 1842, he gave another paper on the characters of *Sarcinula* (afterwards *Sarcina*) *ventriculi*, a new vegetable infusorial; and, on 12th February 1846, he read a paper on the Potato disease. Brief abstracts of these papers are printed in the Society's Proceedings.

He was elected Secretary of the Society in 1842, and he continued to act in that capacity until 1848, when he was chosen Vice-President. He acted as a member of Council from 1849 to 1851.

When Mr William Mackenzie retired in 1844, Goodsir became anatomical demonstrator to Dr Monro in the University. He was a great favourite with the students, who

appreciated his talents, and listened with no ordinary attention to his prelections. Like his friend Forbes, he rallied round him a great number of zealous men, who were proud to acknowledge him as their leader.

In 1845, in conjunction with his brother, Harry D. S. Goodsir (who succeeded him as Conservator of the Museum of the Royal College of Surgeons), he published a series of anatomical and physiological observations. The chapters on centres of nutrition, on the structure of the placenta, on the structure of lymphatic glands, on the structure and economy of bone, on the functions which cells perform, on the processes of absorption and secretion, and on the ulceration of cartilage, showed his power of original observation.

He became a Fellow of the Royal Society of Edinburgh in 1842, having previously contributed papers on the mode in which musket bullets and other foreign bodies become enclosed in the ivory of the tusks of the elephant (18th January 1841); and on the anatomy of *Amphioxus lanceolatus*, Yarr. (3d May 1841). He subsequently contributed to the *Transactions* of the Society a paper on the Ultimate Secreting Structure, and on the laws of its function (21st March 1842); and in the *Proceedings* of the Society notices of the following communications occur:—

On the Electrical Organs of the Ray" (6th January 1845.)

Verbal notice respecting the Thyroid, Thymus, and Supra-renal Bodies (16th February 1846).

On the Structure and Economy of Tethea, and on an undescribed species from the Spitzbergen Seas (7th March 1853).

On recent Discoveries on the Adjustment of the Eye to Distinct Vision (7th January 1856).

On the Reproductive Economy of Moths and Bees, being an Account of the Results of Von Siebold's Recent Researches in Parthenogenesis (2d February 1857).

On the Mode in which Light acts on the Ultimate Nervous Structures of the Eye, and on the Relations between Simple and Compound Eyes (6th April 1857).

On the Mechanism of the Knee Joint (18th January 1858).

Along with Edward Forbes, he also gave a paper on new

Marine Animals, discovered during a cruise among the Hebrides with Robert Macandrew, Esq. of Liverpool, in 1850 (3d February 1851).

In 1846, Dr Monro having resigned the Chair of Anatomy, Goodsir was elected his successor. He was now in a position to carry out his anatomical investigations to their full extent. To his pupils, however, his chief attention was directed, and by his ardent, unwearied devotion to them during a period of twenty years, he maintained the high reputation of the anatomical class, and sent forth a band of medical men well versed in anatomical science, who are now scattered over various quarters of the globe, and who look back with no ordinary feelings of pride and affection to their late much respected teacher.\* Goodsir worked for his students. To them he communicated all his important discoveries in anatomy and his physiological views; and many of them have, in after life, given forth, in their printed writings, the lessons of their master; so that, like Linnæus, the *amœnitates academicæ* of his pupils have advanced his fame.

The attendance at the class of Anatomy increased much, and the number of pupils was sometimes so great as between 300 and 400. Besides the ordinary lectures, Goodsir also gave for many years most valuable courses of Comparative Anatomy in summer. He aided for some time his friend and colleague Professor Jameson in the zoological part of the course of Natural History. He gave occasionally special lectures on particular points of anatomy, as on the minute structure of the retina, the lamina spiralis of the cochlea, and on the principle of construction of joints. In 1850 he commenced a periodical, entitled "The Annals of Anatomy and Physiology." Of this journal only three parts were published. About the same time he became a candidate for the office of surgeon in the Royal Infirmary. He did not obtain the office, and soon after he relinquished surgical practice entirely.

\* A proposal has been made to found an Anatomical Fellowship in the University, to be called the Goodsir Fellowship; and I have no doubt that the contributions of the friends and pupils of Goodsir will speedily raise the sum required for its foundation, which will do much to commemorate his success as a teacher, and his eminence as an anatomist.



On June 11, 1846, he was elected a Fellow of the Royal Society of London, having previously contributed to the Transactions of the Society a paper on the Supra-renal, Thymus, and Thyroid Bodies, which was read 22d January 1846 by Professor Owen.

In 1848 he became a member of the Highland and Agricultural Society, and he continued for many years to act as chairman of the Veterinary Department, and assisted at the examination of Professor Dick's pupils in the Clyde Street School. In 1848 he also became a Fellow of the Royal College of Surgeons. During the time that he occupied the Chair of Anatomy, the museum engrossed no small share of his attention, and he was able to prepare a series of specimens which, as regards their beauty and value, are unrivalled.

His naturally robust frame suffered much from his continued and pressing anatomical labours, carried on often to the neglect of the requirements of the body. His health was so impaired in 1853 that he was compelled to give up lecturing for a session. After a continental tour he returned to Edinburgh much invigorated, and able to resume his duties.

In 1855 he published in the "Edinburgh New Philosophical Journal," a brief review of the present state of Organic Electricity; and in 1859 he gave the annual address to the graduates in medicine in the University of Edinburgh. The address was also published in the "Edinburgh New Philosophical Journal." In 1856 he published a series of memoirs on the skeleton, which are highly valuable.

The disease under which he suffered manifested itself in a paralytic condition of the lower extremities, which continued to be aggravated year after year. In spite of his weakness he still carried on his researches, lectured to his class, and conducted the examinations for degrees. During the past year he was preparing another paper for the Royal Society, on the Contour of the Human Body, and he had collected a large amount of materials for the purpose.

He commenced his lectures in November 1866 with a remarkable lecture on the different kingdoms of nature. The exertion of lecturing, however, was too great. On one occasion he fainted towards the conclusion of his lecture, and

remained in a state of insensibility for some time. On that occasion some of us tried to dissuade him from carrying on the course, but he determined to persevere, until at length he yielded to the earnest solicitations of some of his colleagues, and gave up lecturing, and allowed the course to be carried on by his able and talented assistant, Mr Turner.\* His feebleness increased, and he was finally confined entirely to bed.

His mind, however, continued active and vigorous, and he conversed with intelligence on all scientific matters. I visited him several times after he was confined to bed, and had a melancholy pleasure in talking over the scenes of bygone days. He entered on one occasion with great earnestness on the developmental views of man, and condemned strongly the doctrines of Huxley and others. He considered that no true anatomist could adopt these views. He looked at the mental and moral aspect of man's nature as well as the physical. His lectures on man, in which he maintained that his moral and religious constitution ought not to be separated from his anatomical and physiological, will long be remembered by those who heard him. We believe that there are materials extant from which they can be published. Their publication would be an important contribution to science in these sceptical days. Goodsir embraced in his studies a vast range of science. He was, in the first place, a practical anatomist of the highest stamp; then he had an extensive and correct knowledge of natural history, including alike animals and plants; he was an excellent physiologist; he was well versed in physical science; was conversant with all the recent discoveries in electricity and magnetism; he had æsthetic taste of no ordinary kind; his artistic powers were of a high order, and he had a thorough appreciation of high art in sculpture and painting. He was truly an accomplished anatomist, who brought to bear on his science all the discoveries of modern times. He made many valuable discoveries, which were embodied in his lectures, but never published. Many important observations have been lost, owing to their not having been committed to the press. Much anatomical and physiological knowledge will, however, continue to live in

\* Now Professor of Anatomy as his successor.

the minds of his pupils, and, it may be, will come forth in future in their writings.

A writer in the *Pall Mall Gazette* says—"Since the days of John Hunter no greater master of anatomical science, no keener investigator of phenomena, no more comprehensive grasper of generalisations, no clearer or more effective expositor, ever dedicated himself to the great subject of anatomy, human and comparative, than John Goodsir. The only regret is that he has left so few records of his discoveries and conclusions; that in the keenness of his pursuit after scientific truth, he left himself so little time to gather up and embody in a lasting form his numerous incidental felicities of investigation and doctrine. But enough, and more than enough, will always remain to prove the brightness of his intelligence, the justness of his reasoning, and the philosophic comprehensiveness of his generalisations."

By his death science has been deprived of an original thinker, a most zealous and successful worker, and his pupils have lost a warm and devoted friend and teacher. With all his learning he was modest and unassuming, and was always ready to aid others who were labouring in the cause of science. His lectures were not merely descriptive, they brought home to the mind of the hearer philosophic views of anatomy of a highly suggestive nature. They will bear fruit, I doubt not, in after years.

He breathed his last in the same cottage in which Edward Forbes died in November 1854, and his remains were interred next those of his early and loved friend in the Dean Cemetery.

The disease of which he died was atrophy of the spinal cord, with thickening of the arachnoid.

The Senatus Academicus of the University of Edinburgh, at their meeting of 9th March, adopted the following minute:—"The Senatus deeply regret the loss which they have sustained by the death of Professor Goodsir, who for twenty years had ably discharged the duties of Professor of Anatomy. They feel that the University has been deprived of a most distinguished man of science, who, by his knowledge of Human and Comparative Anatomy, had acquired for himself a European reputation, and who, by his prelec-