Medical History

Lawson Tait—Disciple of Charles Darwin

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Charles Darwin (1809–82) published *On the Origin of Species by Means of Natural Selection* in 1859. It was some years before many of the doctors studied his theories or saw any application of these to medical science. It is true that a few individuals with medical qualifications and a special interest in botany or zoology were early in accepting Darwin's teaching, not least Thomas Henry Huxley (1825–95), who, after a short commission in the Naval Medical Service, gave up practice and as a scientist became Darwin's most powerful supporter.¹ In the early years only a few anatomists or active clinicians took note of Darwin's work, including James Paget (1814–99),² William Turner (1832–1914),³ and Lawson Tait (1845–99).⁴

Tait read *On the Origin of Species* as a student in Edinburgh soon after its publication. As president of the Hunterian Medical Society of Edinburgh he made the theory of evolution the subject of his inaugural address, thus incurring the wrath of his professors who were against Darwin's theories. Tait went to Wakefield soon after qualification and there gained a reputation for his controversial views on the origin of man and on evolution. In 1869 he published a paper with the provocative title, "Has the law of natural selection by survival of the fittest failed in the case of man?"⁵ It was Tait's thesis that the advances of medical science favoured the survival of the unfit rather than the fit, so reversing Darwin's teaching. He stated, "Medical science . . . enables the diseased to live, those whom it saves from dying prematurely it preserves to propagate dismal and imperfect lives."⁶ It was no small pride to Tait that Darwin in his text *The Descent of Man* referred favourably to this paper.

Tait settled in Birmingham in 1870 to become established as a progressive gynaecologist and abdominal surgeon. In his busy life he had many interests outside surgery. He began a correspondence with Darwin which reached a peak between 1875 and 1876, when 32 letters can be traced from Tait to Darwin and 24 from Darwin to Tait. The rising young surgeon appears in the letters as a keen naturalist reporting observations to Darwin and not afraid to enter into argument with the great scientist. Darwin replied promptly and with invariable courtesy and patience. In addition to developing a considerable interest in evolutionary theory in relation to botany and zoology, Tait soon tried to apply the doctrine to the study of human disease. He wrote to Darwin: "I am engaged in working out a curious speculation as to the origin of the peculiarities of our moral nature, tracing them from the common origin of parental assistance to the young in the struggle for existence. Do you know of any earlier instances of parental protection than that of the stickleback? Spiders don't? Nor ants? Anything about vertebrates?" Back came a reply from Darwin in a letter typical of their exchanges: "I can give you very little information on your

subject. Earwigs are said, I believe, to take charge of their young, and I am sure that I have read that even starfishes do the same for their eggs, as everyone must have read for spiders. I rather think I have referred to starfishes in the second edition of *Descent of Man*. Other fish, besides sticklebacks, take charge of their young. . . ."

Tait sent Darwin copies of his various texts on the diseases of women and wrote, "The more I think over some of the problems of pathology the more I lean towards the view that their solution

FIG 1—Lawson Tait at the height of his active career.

will be aided by regarding them from a Darwinian point of view." Darwin was greatly interested in Tait's accounts of ovarian tumours and considered that their mode of development favoured his conception of pangenesis.

In 1875 Darwin was completing his monograph *Insectivorous Plants*. Meanwhile, Tait had started his own research on the same subject. He observed, in particular, the behaviour of the sundew (*Drosera*) and analysed the secretions by which insects were trapped and digested. In the many letters he wrote to Darwin the observations were often original and the deductions astute. From chemical experiments he claimed to have isolated the ferments by which the plants digested their prey. He recorded his work in a paper which he sent through Darwin to the Royal Society, thus hoping to gain election as a fellow. Sadly Tait's paper was harshly criticised and rejected, and he never obtained the honour which was his great ambition. Darwin was eventually rather overwhelmed by all the information Tait sent concerning the insectivorous plants and wrote rather tersely in June 1875 indicating that as he had already

completed the chapters on the sundew he could not use any new material. But he was encouraging; "Your separation of the ferments seems a capital discovery."

Tait gave up his botanical research but continued for many years to exchange views with Darwin on diverse topics such as the regrowth of amputated tissue in animals and humans, the importance of vestigial structures in humans, and the function of tails in animals. He was interested too in the evolution of morals. He tried to show "how the mental and moral state of man, his civilisation and culture in the arts and sciences, his religions and aspirations for a higher state might be understood from evolutionary theory." He drew a parallel between the

if it would suit you better to come to London on the 4th or on one of the few succeeding days I should have great pleasure in seeing you."

Darwin had moved from London to the country to isolate himself from interruptions to his work. He discouraged visitors except for a few close scientific friends. Ill-health was not an infrequent excuse. He was certainly subject to depressive attacks and excessive fatigue, but his illnesses were psychosomatic and not physical in origin. Tait was not to be denied and was determined to visit Darwin at Down House in Kent. He spent the whole day there on 18 April and was favoured with a long interview. He was to look back on this as one of the greatest days in his life.

Tait was determined that the world should recognise Darwin as the greatest scientist of the age and wrote to him in 1880, "This day month is your birthday and we propose here to have a 'Darwin Festival' on a small scale probably, but as hearty and as large as we can secure. May I ask if you would be willing to accept some little expression of our gratitude for your work—say an illuminated address or something of the kind? . . . We desire to do this, not only for the honouring of a man whom we regard as the head of the scientific world but to give a fillip to the removal of that singular terror which the word 'Darwin' excites in the minds of religionists and other uneducated people, that is the bulk of the community. . . ."

The final letter from Darwin was in February 1882. It is short and rather sad. "I must write one line to thank you and Mrs Tait for your very kind note on my birthday. I feel I am very old and my course is nearly run."

Tait's last notable public reference to Darwin was in a presidential address to the Birmingham Philosophical Society in October 1885. He reminded his audience of his early support of Darwin and the contribution he himself had made in his paper in 1869. He recalled how his views had attracted much adverse criticism: "There is not much danger now in almost any part of England in a man being a follower of the Darwinian philosophy, but fifteen years ago it was dangerous in most places and not very popular even here." With some satisfaction Tait stated, "I have lived to see a few of the broad principles which I attempted to lay down accepted as part of the creed of the modern evolutionists."

As a young surgeon Tait risked rejection in his profession on account of his vociferous support of Darwin. As an established surgeon he was prepared to devote time to experimental work which was difficult and tedious. Like Paget he genuinely hoped to add something in support of Darwin's theories. Some have suggested that Tait's incursions into the field of botany and his cultivation of Darwin's friendship were entirely directed towards attaining the fellowship of the Royal Society. But from the correspondence between the two men Tait's originality of thought, his enthusiasm, and his determination to promote Darwin's theories are impressive. Darwin showed great appreciation for the support he received from his younger colleague, was stimulated by his observations and theories, and accepted even his criticisms.

Sources of all quotations not referenced are to be found in my biography of Lawson Tait.⁴

References

- 1 Huxley L. *Life and letters of Thomas Henry Huxley*. London: MacMillan, 1900.
- 2 Paget S, ed. *Memoirs and letters of Sir James Paget*. London: Longmans Green and Co, 1901:409.
- 3 Turner AL. *Sir William Turner*. Edinburgh: Blackwood, 1919.
- 4 Shepherd JA. *Lawson Tait. The rebellious surgeon*. Kansas: Coronado Press, 1980.
- 5 Tait RL. Has the law of natural selection by survival of the fittest failed in the case of man? *Dublin Quarterly Journal of Medical Science* 1869;47: 102-13.

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FIG 2—Hastings Medal for Lawson Tait's essay on ovarian disease in 1874 (top), a portrait medal of Lawson Tait (middle), and a portrait medal of Darwin struck about 1880 as a prize awarded at Tait's instigation by the Birmingham Natural History faculty (bottom).

vestigial organs or structures found in man and animals and the survival of old customs and traditions in religions and social life, describing such survivals as "the fossils of anthropology."

Tait seems to have met Darwin only once. When the visit was suggested in March 1875 Darwin replied, "... we cannot meet just at present. I have long been much out of health, and lately I have been working very hard and am quite knocked up; at the best of times I cannot converse with any one for more than half an hour or so; and at present I should be incapable even of this much exertion. Therefore I beg you to propose some future Sunday. But I am going on the 31st or 1st for a week to my brother's house, 6 Queen Anne St, Cavendish Square, for complete rest and expect that two or three days will set me up ...