

MECHANICS' WORLDWIDE 2009

TIMOTHY CLAXTON – LONDON – ST PETERSBURG – BOSTON

Jim Lowden, Melbourne – Australia

Synopsis

Timothy Claxton (1790-1848) was very much a self-help mechanic who seized every opportunity for advancement and an education. He was born to illiterate parents, on a country estate near Earsham, Norfolk, England and was educated to a basic level paid for by the lady of the estate. Later he took an apprenticeship as a whitesmith and on its completion moved to London where he married in 1812. In 1817 he established the Mechanical Institution in London which had weekly sessions relating to the arts and sciences. With opportunity beckoning he travelled to St Petersburg, Russia in 1820 to establish a gas lighting plant. That completed he sailed for the United States in 1823 and settled near Boston and founded the Boston Mechanics' Institute in 1826. In 1831 he met the American Lyceum's Josiah Holbrook and mass produced scientific apparatus for him in partnership with Joseph Wightman. He returned to England in 1836 and in 1839 published *Hints to Mechanics; on Self-Education and Mutual Instruction* and *Memoir of a Mechanic*. In the meantime Claxton worked as an instrument maker until his death.

PAPER

I grew up in Kilmore, a small rural community, just north of Melbourne. The social life of the community centred on the Mechanics' hall and library which had been established in 1854. Badly down at heel in the 1960s its trusteeship passed to Council. Subsequently the library was sold, the building demolished and part of the land was disposed of. A set of 'opportunities' enabled the establishment of a community library, open seven days a week, the assembling of a specialist static reference collection in the library and the re-establishment of the Kilmore Mechanics' Institute with a cash nest-egg to insure major events. Kilmore is dubbed the Institute without walls and it is where the first ever meeting of Victoria's Mechanics' Institutes was held in 1998.

I preface my Paper by complimenting all who have worked to put **Mechanics' Worldwide 2009 (Bath)** together. It has been a self-less task and I commend all who have attended to make it happen. This is an event which would have gladdened the hearts of George Birkbeck, Lord Henry Brougham and Samuel Smiles in England and Benjamin Franklin and Josiah Holbrook in the USA and of course Timothy Claxton. All were pioneers in the great self-help movement which spread around the world in largely the nineteenth century.

Timothy Claxton is very much a product of grass-roots self-help and he spent the rest of his life promoting that cause.

Timothy was born of illiterate parents at Earsham, Norfolk, England on 22 August 1790. In his *Memoir of a Mechanic* he also added 'near Bungay, Suffolk' to his birthplace.

His father was a long-time gardener at Earsham Hall, serving thirty-five years under three successive employers of the Windham family. The squire of the Estate having died it was then run by his widow, the Hon. Mrs Charlotte Windham, wealthy in her own right. Timothy later wrote 'It is my duty to record the goodness of this amiable woman. She not only instructed the ignorant, but fed, warmed and clothed those who were in need.'

One of five children, two older and two younger, his parents which 'though poor, were honest and industrious... were determined to do what they could for their children'. Initially he was educated from age 'five or six' by a woman who 'kept' a school. This was paid for by the Hon. Mrs Windham, who also chose six Estate children, three boys and three girls, each year for a two year stint in the adjacent market town of Bungay where they boarded with schoolmaster William Simpson.

At age seven, a year earlier than normal, our Tim was chosen 'to fill a vacancy occasioned by a boy being dismissed from school'. So for the next two years he lived at the school in Bungay, returning to the Estate to assist his mother with 'gleaning' during the harvest.

At year's end Mr Simpson, with his twelve 'charges', would attend at Earsham Hall where the Hon. Mrs Windham would hear 'her' students read and she would ask them questions. 'She would inquire of those about to leave school, what books they had; and order the master to furnish them such as she thought they needed most'.

After the 'examination' ceremony was over, she gave each of them a shilling and they were then told to 'proceed to a room where we sat down to a sumptuous dinner, and we were attended by the servants'.

Timothy records 'I made the best of the opportunity to get a little learning, which was confined to reading, writing and arithmetic; and was tolerably quick at the latter. When I left school, I had reached the Rule of Three; being then about nine years old.'

We are informed that he could not bear to hear a pig cry on being slaughtered or have a ring put in its nose, or see horses go up a slippery hill, yet he later witnessed executions at the Old Bailey.

He tells us he was 'tender-hearted, timid and very bashful' and although he was never an assailant he 'was very useful when I was placed in the situation of a defendant'. He believed 'that the consciousness of right strengthens the weak, while the guilty are easily confounded'.

Then after stints as a wool spinner, shepherd and market gardener he was apprenticed as a whitesmith to John Bobbit of Bungay on 6 April 1803. Whereupon on completion of his seven year apprenticeship, he was to be paid ten pounds.

Timothy walked the mile to work each morning from his parents' home to start at 6am and the work day finished at 7pm. On Saturday night he 'left work at six o'clock'. The shop made and repaired 'almost every article made of metal' and afforded him wide experience and his prior schooling also enabled him to take down orders from customers and occasionally work in his master's hardware store.

Sunday was spent partly in church and reading passages from the Bible to his father. He also acted as local scribe answering letters or composing letters for his father and the neighbourhood.

The first money he received was at Christmas time, when apprentices had the right to call on their master's customers and his share was half a guinea. With that he purchased a Bible containing the Apocrypha 'as I wished to have it complete' and a 'thick ciphering book'.

In 1804 he started arithmetic anew and sought help from anybody he could find. 'One of the most efficient of my advisers was a journeyman carpenter. He had several books full of examples in mensuration of superficies and solids, embracing the methods of measuring various kinds of artificers' work. The figures or diagrams were very neatly drawn. I had several lessons of an evening from this man... and I had made up my mind to study as much as I could from him'.

However this association was short-lived, for his mentor was to soon have an operation and he died. Timothy writes 'I never was more sorry at the loss of a relation...'. His widow sold his books to his former employer and Timothy bought his bench vice and some other tools.

He then made himself a small bench lathe at home and started work on building a clock, based on the 'examination of a large church clock'. During lunchtime, with his master's approval, he would make pieces he was unable to make at home all from the bases of old brass kettles and other scrap metal.

In his *Memoir* Timothy gives a graphic account of his vice being screwed on to the end of the kitchen table, farthest from the fire, and working with his bow string powered lathe into the night. Hammering caused the family some consternation and he was furnished with a separate light and he could then decamp and work upstairs where he screwed his vice on to the bannister. Next year he fitted up a workshop in a garden shed. The completed clock had two faces 'which he never seen before, although I had heard of it', and kept relatively good time with a requirement to wind it every 'four days and a half'. So at aged fifteen he had produced his first clock.

This youthful motivation brings me back to my early life when I worked in the family saddlery business. We received several letters from a thirteen-year-old from outback New South Wales who was then at school but looking for a job when he left school. Exactly how this was possible we knew not, but he turned up one day at the shop with a bridle he

had made, and it was obviously not his first. Clearly he had talent. He was one of thirteen children and he told us he would live in a caravan and work for us and he pleaded his case.

So after a year he left school and turned up with 'his' caravan and went to work in the factory with my brother and others at our farm. There seeing all the equipment and machinery he became a most accomplished and diligent worker. Our factory made a whole range of saddlery items generally in lots of fifty or a hundred and sent out to 'piecework' sewers. He excelled in cutting the required thickness of strap from the hides, skivering it to thickness, running it through the creaser to put decorative lines on the leather, cutting the strap to length, rounding and dyeing edges, chamfering ends, and gouging neat sewing lines in the leather. All items would be almost identical. Next he assembled the required buckles, dees or keepers and waxed hemp thread in tin containers and put them all in the various boxes to be dropped off at the sewer. He was a whiz get the various kits together all based on the sizes in the well-thumbed *Harness-makers Manual*.

From day one he declared he would make a Western saddle in his spare time and he did and it was most presentable and a whole range of saddles followed in subsequent years. No item of saddlery was beyond his talent. He assembled a working library and a range of quality tools. Soon he had a horse and would go riding with a neighbour's children and by eighteen had saved enough cash for a near-new car which was shedded under a cover and polished almost daily.

Alas when the factory moved into Kilmore he shared quarters above the workshop and shop with all modern conveniences. He went to the hotel one night for a counter tea... and that was the beginning of the end. This was the 'alehouse' no-go zone that promoters of the Mechanics' Institute movement often referred to in derogatory terms.

However our hero Timothy Claxton chose the other road at the fork. He 'duly and truly' served his seven years was paid his ten pounds. And upon announcing he was going to London his master said 'Well, keep your right hand forward, and you will do well'. Arriving in London in April 1810, he obtained work immediately. There Timothy experienced many things he had never seen or heard before. Steam powered machinery in factories and lectures on 'any branch of science' and books on all branches of the arts and sciences.

For two years he did little but work and he was employed in the large machine shop of inventor John Braithwaite (1797-1870) where some of the best engineering minds were assembled. He also learned to read plans and was engaged in the practice of mechanical drawing. After a time he procured a good lathe and tools and set up a workshop at his home.

He met his future wife through a neighbour's daughter and after seeing 'Miss Hannah' and her middle class manners, weekly for two months. He noted 'Here, I thought, was a chance of being connected to a respectable family.' And noted 'Things had now been

carried as far as prudent' and he 'wrote a letter to the lady's father' and the reply came back as 'Sir:- Your letter of Wednesday evening I have read over with my wife and daughter Hannah. All of us are well pleased with your candid proposal of becoming allied to our family. If you please call on me at 113 Bunhill Row, on Sunday next, at eleven...'

So within four or five months of their first meeting, he married Hannah Stuniken at St Luke's Church, Old Street, Finsbury, London on 14 January 1812. Alas they were to have no children.

With a home to support further education became a serious issue and he 'bought a ticket' to a series of lectures on Natural Philosophy and Chemistry conducted by chemist John Tatum (1772-1858). He took copious notes and sketches and after each lecture 'sat up very late, to write out all that I could remember of the lecture'. Subsequently he bought a book on Natural Philosophy and was able to build equipment and undertake experiments and he attended a second series of lectures.

He then applied for membership of Philosophical Society 'but not having enough friends at court, I was not received'. Noting that rebuke, 'It made me redouble my exertions... I am a mechanic... the mechanics should be invited to form themselves into a society for mutual improvement.' He sent out printed leaflets which asserted that existing societies were not 'adapted to the capacity of the working mechanic'.

His 'Mechanical Institution' was started in the summer of 1817. Its weekly meetings and the exercises, according to Claxton, 'consisted of lectures and discussion on subjects relating to the arts and sciences'.

Claxton was secretary and the group first met at Brooks' Market, then the Three Compasses, in High Holborn and finally at his house in Little Sutton Street, Clerkenwell and continued for three years. Being without a library, the group subscribed to Horne's 'celebrated' library which initially gave them access to twenty books daily.

But opportunity again knocked and in June 1820 he sailed from London to St Petersburg in Russia where he remained for three years. There at the Glasnoi Stab or military headquarters he installed a gas production unit to light the building with 'oil gas'. He was assisted in this work by several fellow countryman, including Richard Fellowes who boarded with the Claxtons 'like a part of the family'.

Timothy noted there were several departments in the building, with a general at the head of each, some with several hundred clerks. 'The Library was very extensive'. He saw lithographic printing for the first time, along with 'copperplate and letter-press printing' and 'there was a very extensive establishment for the manufacture of mathematical instruments'. The drawing school consisted of about two hundred young officers. He learnt Russian, and improved his drawing skills. During the summer months the Timothy and Hannah visited the various public places, the Academy of Arts, The Hermitage and the Summer Palace of Tsascocela with its Chinese gardens.

He noted specifically useful inventions: a device for closing doors, a water cistern and the overhead harness on the horse's head and collar.

His challenging job of installation was made worse by a difficult employer with 'no talent, except for a close bargain' and his skilled staff from England were constantly leaving. Claxton was contracted for three years, but his employer would not let him leave and placed certain information before the authorities to prevent his departure.

After petitioning the Governor a new manager finally arrived and he left with a reference which in part read '... Timothy Claxton, has uniformly pursued the business entrusted to his care, we consider it a tribute due to him, to furnish him with the most indubitable testimony of our unequivocal approbation of his conduct, during the period of his engagement with us..'

The Claxtons sailed with Richard Fellowes from Cronstadt on 12 June 1823. During the voyage Timothy embarked on the compilation of a booklet of logarithm tables using 'an improved engineer's sliding rule' having committed to memory 3.1416, .7854 and 27.648.

The ship arrived at India Wharf, Boston on 13 August. He met up with William Philpot, a former work colleague at Braithwaites, and they lodged with him for a time.

By mid-September he had obtained employment in the workshop of a cotton mill at Methuen thirty miles from Boston. Some time passed 'without being able to do anything towards my favourite object – the promotion of popular improvement.' In the autumn of 1823 a clergyman approached him to lecture to his almost lapsed Methuen Social Society for Reading and General Inquiry and 'this put new life into the Society'. The Constitution was even changed to provide for the purchase of a library and apparatus.

Timothy was subsequently elected Vice-President and contributed to its programs whilst he lived in Methuen. Meetings were held weekly with a monthly syllabus of: 1. Reading by all members; 2. Reading by one member selected for the purpose; 3. An original lecture; and 4. Discussion.

Whilst residing in Methuen he also acted as superintendent for Baptist Sabbath School. He also joined the Masonic Lodge and was installed into the office of Senior Warden on 'the 10th of May, 5826', and became Master shortly afterwards. Later in Boston he moved to higher Masonic degrees as far as the Royal Arch and continued his membership of the Lodge 'where [he noted] all meet on the same level'.

In 1825 he printed on his own self-built printing press *Concise Decimal Tables for Facilitating Arithmetical Calculations; by the use of which many problems in mensuration are made perfectly easy* and published this himself in a 12 page format in Haverhill, Massachusetts. A subsequent 23 page edition appeared in 1830. He also undertook small printing jobs for his friends.

In October 1826 he moved to Boston and gained employment with his former work colleague from Braithwaite's, William Philpot, and remained with him for eighteen months.

Timothy continued to champion the work of mechanics and shortly after put a notice in the Boston paper calling a meeting of like-minded people and the Boston Mechanics' Institute was formed in 1826. It had lectures only and was according to him of an 'unsocial character'.

Next he went into partnership with John Codman which lasted for three years 'making and selling apparatus for illustrating the various sciences'. This was a possible contact made at St Petersburg.

Then in early 1831 he started out on his own account. About this time Josiah Holbrook (1788-1854) the pioneer of the Lyceum movement and supplier of books, charts and equipment to these and to schools came to his machine shop. Holbrook asked him about scientific apparatus for potential sale to Lyceums and schools and that he was looking for an air pump.

Timothy showed him his small model pump which could be used for exhausting and condensing air, and small items of equipment that could be used with it. Holbrook 'frankly acknowledged it to be the very thing that was wanted in the smaller establishments for education'. So a number were hurriedly put into production for supply to Holbrook.

Timothy's *Explanation of a set of Pneumatic Apparatus* was issued as an 11 page pamphlet from 23 Water Street, Boston in 1831, and appeared in an updated 14 page edition in 1834.

He was soon to be joined in the business by Joseph Milner Wightman (1812-85), a former employee of the partnership of Codman and Claxton. *A Catalogue of Philosophical Apparatus for Sale* was issued by him in Boston in 1834, and the 1835 edition carries the joint name of Claxton and Wightman.

Timothy edited the *Boston Mechanic and Journal for the Useful Arts and Sciences*, the first volume of which was published in January 1832 and printed by George W Light of Boston.

When Holbrook organised the meeting to form the Boston Mechanics' Lyceum in February 1832, Claxton was elected President and he contributed eagerly to its growth. Ladies were also asked to contribute original pieces of writing which were read at the meetings. George Light published some of them in his *Essayist* which ran from November 1829 to September 1833.

He was also one of six members of the Boston Mechanics' Lyceum that launched the *Young Mechanic* in 1832 and it ran until 1835.

A fire swept through Timothy's workshop in the summer of 1835, and Timothy and two workers escaped, one a brother of Joseph Wightman was seriously burned and took two years to recover. Joseph Wightman, Timothy's key workman was absent on the day with typhus fever, but he soon returned to work and was taken in as a partner.

The insurance payout enabled the settlement of creditors and the rebuilding of 'a handsome property... which enabled me to put the business on a more respectable footing... and afforded me the opportunity of revisiting my native country'.

Leaving his partner in charge, Claxton resolved to return to England. With his wife he took the Providence Railroad from Boston to New York on 3 June 1836 and arrived in New York the next morning. They sailed for London on the steam packet *Gladiator* on 10 June and arrived at Portsmouth on 3 July and went by mail coach to London where they visited Hannah's relations and then went to Bungay to visit Timothy's own family.

He then returned to London where he assembled and/or made a kit of instruments and bought some relevant books in preparation of a lecture tour. He then established the Bungay Lyceum and a Testimonial Letter was addressed to him on 29 December 1836 by Abraham Asher Levy and Samuel Tibnam two members of the Lyceum.

In London he had published *Hints to Mechanics; on Self-Education and Mutual Instruction* by Taylor and Walton in 1839, and went into a second edition in 1844. His autobiography *Memoir of a Mechanic* was meanwhile published in Boston in 1839 by George W Light.

The latter is a book which appears to have been largely put together by George Light with various miscellaneous items. One 'Origins of Mechanics' Institutions' details their establishment by Dr George Birkbeck. Another refutes the claim that the London Mechanics' Institute was the first London 'Mechanics' Institute' and gives credit to Claxton's Mechanical Institute established six years before. It also contains a review of the booklet *Hints to Mechanics* written by Dr George Birkbeck in which Birkbeck gives credit to Claxton for establishing the first Mechanics' Institute in London.

Timothy had a very fertile mind and worked on countless projects including a considerable time spent a contrivance based on perpetual motion. Another was an elaborate mouse trap. His amphibious alligator may have caused derision at the time but it was later to become reality.

In 1839 Timothy was approached by the Central Society of Education to solicit his cooperation in relation to school apparatus. They initially wanted him to superintend such and operation but eventually he built his own shop and employed an 'excellent' workman and he was producing equipment in 1839.

He also produced, with his business partner of the day Anthony Morton, *Companion to their small set of apparatus, for illustrating principles of hydrostatics, hydraulics, and pneumatics, with a descriptive explanation of the apparatus and experiments*, was a 45 page pamphlet printed by H Mitchener of London in 1842.

He was located in St Pancras's, at 27 Harrington Street, Hatton Garden they were manufacturing equipment there. In 1847 the business traded as Claxton and [John] Prothero.

Timothy Claxton died at his residence, St Pancras's, London in late 1848. His will, which left his entire estate to his widow, was probated in 1849.

Bibliography: George Washington Light, ed., *Memoir of a Mechanic: Being a Sketch of the Life of Timothy Claxton Written by Himself, Together with Miscellaneous Papers*. Boston: GW Light, 1839; Carl Bode, *The American Lyceum*. New York: Oxford University Press, 1956.