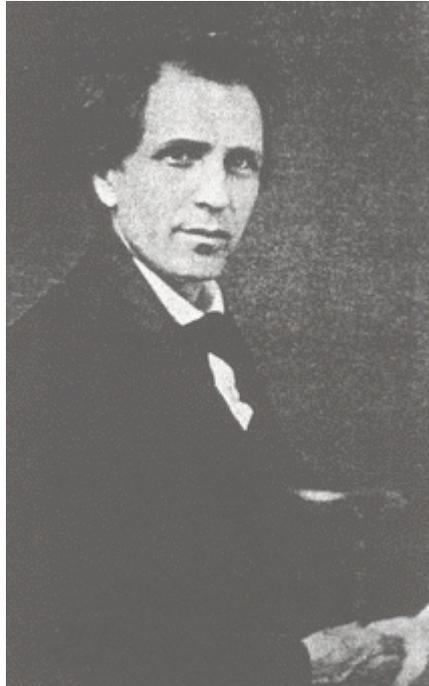




From silversmith to oral surgeon

Kbursheed F. Moos* describes the remarkable career of **Simon P. Huillihen**



S.P. Hullihen, M.D. D.D.S.
"Father of Oral Surgery"
Born December 10, 1810
Northumberland County, PA.
Died March 27, 1857
Wheeling, Virginia

*The color of the ground was in him, the red earth,
The smack and tang of elemental things:
The rectitude and patience of the cliff,
The good will of the rain that loves all leaves,
The friendly welcome of the Wayside Well,
The courage of the bird that dares the sea,
The gladness of the wind that shakes the corn,
The pity of the snow that hides all scars...
The tolerance and equity of light.*

Edwin Markham.

Simon P Hullihen is little known in this country but in the USA he was recognised as the first true oral surgeon and the first to carry out orthognathic surgery for a jaw deformity in pre-anaesthetic days.

He was born on December 10, 1810 near Milton in Point Township, Northumberland County, Pennsylvania. His family, on his father's side, was of Irish extraction (Hullaichan); his great-grandfather came from Ireland in the middle of the eighteenth century and settled

in the western part of Pennsylvania among the pioneer settlers. His father married Rebecca Freeze, a lady of mixed Dutch and English origin from a farming family. Simon was the second of three sons. Thomas, the oldest, became a judge and moved west. James, the youngest, became a dentist and worked with his older brother Simon doing purely dental work in connection with Simon's extensive oral surgery practice.

Simon was a diligent student at the local township school. At the age of nine he had an unfortunate accident which was painful and serious. He was playing with other boys near a limekiln in which the fire had recently subsided. The young lad was pushed, or fell, through the opening at the top on to hot stones at the bottom. Before he could be extricated both his feet were severely burned, causing him to be confined to bed for nearly two years. After much suffering and patience he was able to stand but since his heels were most affected he walked at first on the balls of his feet; which became a habit. Plaster casts of his feet were made, from which a shoemaker was able to make comfortable boots. During his confinement he studied the scriptures and, with instruction, became extensively acquainted with the Bible. During this period also he met many physicians and this may have been the reason for his taking up medicine. He became an expert at the extraction of aching teeth for his acquaintances.

Dr Cabell, who held the chair of Surgery at the University of Virginia at that time, often cited an incident relating to Dr Hullihen to illustrate the necessity of the surgeon being able to devise measures to meet emergencies. As a youth Dr Hullihen visited a house where several physicians were trying ineffectively to remove a fish hook from a man's throat which was still attached to a line. As soon as it was loosened, it flew around and fastened itself anew. Simon bored a hole through a large bullet and passed the line through it and pressed the bullet against the hook with an instrument. When the hook became loose, he tied the line fastening the hook on to the bullet and was then able to remove them both safely.

Simon had an eager desire to watch operations performed by physicians near his home village. The doctors took great interest in the young lad and he was given access to medical books which he read avidly. This allowed him to matriculate in Washington Medical College, Baltimore, and he obtained his MD in 1832 at 22 years of age. He studied under Mr. McLelland, a well known surgeon who helped shape his career.

In 1832 Simon Hullihen was located in Canton, Ohio, where he apparently followed the trade of silversmith and did dental mechanical work for some clients in the town. He also became better acquainted with dentistry and decided to practise it.

He moved to Pittsburgh where he met and married Elizabeth Fundenberg, and they moved to Wheeling in West Virginia on the Ohio River. There he set himself up to practise oral surgery as a speciality but continued practising dentistry until his surgical practice increased to the point where he could turn his dental patients over to his brother James, whom he had earlier trained.

To begin with, there was considerable prejudice against him in the town as, although he intended to specialise in the surgical treatment of diseases of the mouth and head, he was also practicing dentistry. An early incident occurred when two young dandies, one a medical student working with an established practitioner, brought him a cock chicken whose leg they had broken in order to challenge his professional pride. He said it was curable and splinted it. They left it with him for 10 days, not intending to return. After 14 days he sent the chicken back with a bill for \$20. They ridiculed the charge and Dr Hullihen took the affair to a magistrate who judged in favour of them paying him. They then became

the laughing stock of the town and his reputation advanced. However it did not take long for his true reputation as a practitioner of extraordinary versatility to spread through the Mississippi and Ohio valleys. His brother took on the dental work and although Simon allegedly had a roughness of manner, patients had great confidence in him as he was obviously dedicated to their wellbeing and sought every means possible to achieve a good result. In 1842-43 Baltimore Dental College gave him an Honorary Doctorate of Dental Surgery - possibly the earliest instance of such an honorary dental degree being awarded.

From the beginning Hullihen enjoyed the confidence of patients. He had a personality and bearing that impressed all who came in contact with him and, together with his extraordinary surgical skill, won admiration from both patients and friends. His notebooks give one an idea of the range and bustle of his surgical practice. In the last 10 years of his life he operated on the following total numbers of cases: - cataract - about 200; harelip - 100; cleft palate - 50; cancers - 150; antral cases - 200; strabismus - 100; making new noses - 25; new lips - 50; making under-jaws - 10; general surgery - 200 cases.

Since general anaesthesia was not available until about 1846, most surgery would not have that benefit. He established for himself a private infirmary in 1845. Hullihen was well known for his social concerns and he had a great desire to establish a public hospital at Wheeling. In 1850 and in conjunction with a sympathetic Catholic Bishop Whelan and skilful Sisters of a Catholic order, a large house was purchased and later enlarged into what is now Wheeling Hospital. A charter for this was given in 1850 and a physician, Dr Houston, and a surgeon, John Russell, were appointed. Patients paid 97 cents per day and during its second year it operated at a loss of \$101.61; receipts being \$2,407.73 and expenses \$2,509.34. He shared his learning and expertise with colleagues and took on apprentices and continuously contributed to the literature with well written accounts of disease and treatment. His honesty and ingenuity in handling patients were impressive

In 1839 he wrote an essay on 'odontalgia' the opening paragraph of which reflects the anguish of those times: "There is no disease, perhaps, which attacks the human family so indiscriminately as the toothache, none which the dentist is called upon so often to cure and none that he treats with less success".

He treated many antral infections. At the time authorities thought that this was caused by an 'altered secretion' of its membrane. Hullihen concluded that in addition to a morbid secretion of the lining membrane, a true abscess of the dentition was frequently present and was usually due to an infection of the teeth. He recommended extraction of the tooth, creating an adequate oro-antral fistula for drainage. Irrigation and friction with a small brush made especially for the purpose was part of the treatment.

In 1844 he published a paper dealing with cleft lip which was perhaps influenced by Thomas Dent Mutter (1811-59), who was doing outstanding reconstructive work in Philadelphia. Unilateral and bilateral clefts were described and the timing of correction was discussed. The preferred time began with the fourth week of life, which was not a problem for him and there were no untoward events. The preparatory treatment of cleft cases, especially when the alveolus and palate were involved, consisted of adhesive strapping from cheek to cheek and he stated that after a few weeks the widest cleft could be closed. This was done by removing a piece from the narrowest part of the strapping and stitching it together again without disturbing the adhesive area. It took from four to six weeks generally for the cleft to close in an infant under five months. When this was done the lip edges were reduced and the wound edges were approximated accurately with needles after plainly

marking out the position before commencing surgery. The surgical procedure was carried out using a scalpel, dressing forceps, a bistoury or scissors, three or four long spear-pointed steel needles, several ligatures, a pair of cutting nippers to remove the needle ends and a sponge or two. He stressed the need for an assistant to hold the child wrapped in a long towel. Bleeding was reduced by pressure on the external maxillary (facial) artery below and forward of the masseter.

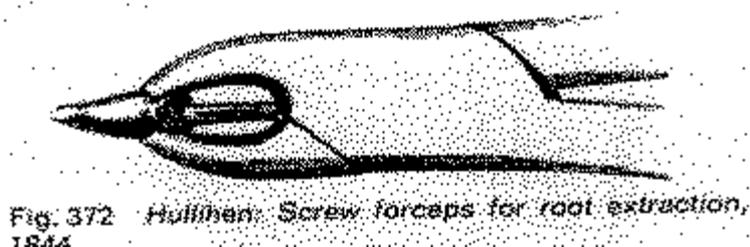
Adult patients were seated in a chair and surgery for cleft palate cases was described where the velum was closed and the hard palate was obturated with a gold plate. Detailed descriptions are given of the surgery. Post-operatively he allowed food and drink and the liberty to talk as much as patients wished, commenting he had yet to witness the first untoward event.

His high reputation as a surgeon was acquired early on following an operation on a lumberman from the Allegheny River for whom he repaired a double hare lip, straightened the nose and constructed a gold plate; giving the man a very respectable appearance and voice. He was the most expert oral surgeon of that time; known for his originality, the fertility of his conception and skill in general surgery. He acknowledged that surgical closure of a complete cleft palate was beyond his skill. Without anaesthesia (Ether 1846) he required complete co-operation of the patient and thus had to wait until nine to ten years of age in the case of children.

In 1849 he treated tic douloureux (trigeminal neuralgia) in four patients with repeated applications of lunar caustic (Silver Nitrate) to the maxillary antrum. He had great sympathy for their suffering and apparently three out of four patients were cured by this treatment!

Hullihen's most important contribution was the successful treatment of a case of distortion of the face and neck caused by a burn in which he reduced the elongation of the under jaw. The case of Miss Mary S., aged 20 years, daughter of the Hon. Wm. S. of Chicago, who came to Wheeling in 1848 to obtain relief from the effects of a very severe burn received 15 years earlier was carefully reported and illustrated in great detail in the American Journal of Dental Science in January 1849.(1)

Other advances which he introduced included a splint for use following resection of the alveolus and for cases of fracture when these were interdental. This could be made from metal or vulcanite and when fitted over the teeth, allowed the jaw to move. Hullihen invented a variety of other instruments including for example, compound root forceps; incorporating extraction forceps containing a screw device for insertion into the root to assist its removal.



There were also

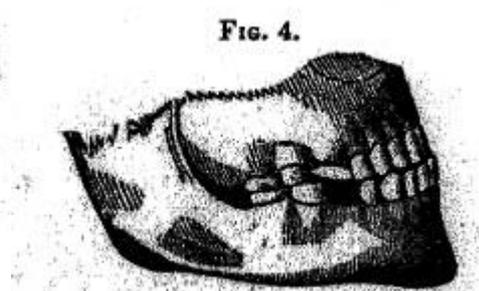
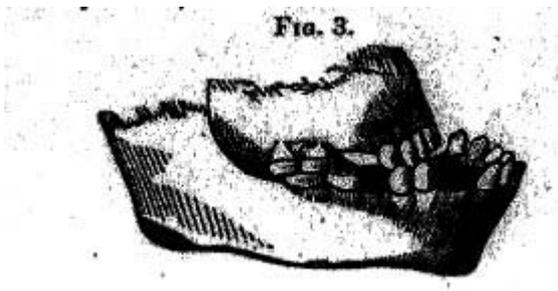
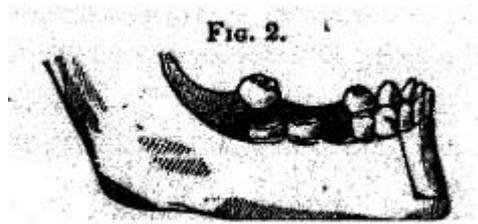
- A cleft palate needle-holder.
- Uvula scissors.
- A dumbbell cautery.
- Curved, fine-tooth forceps.
- Spear-shaped scalpel.

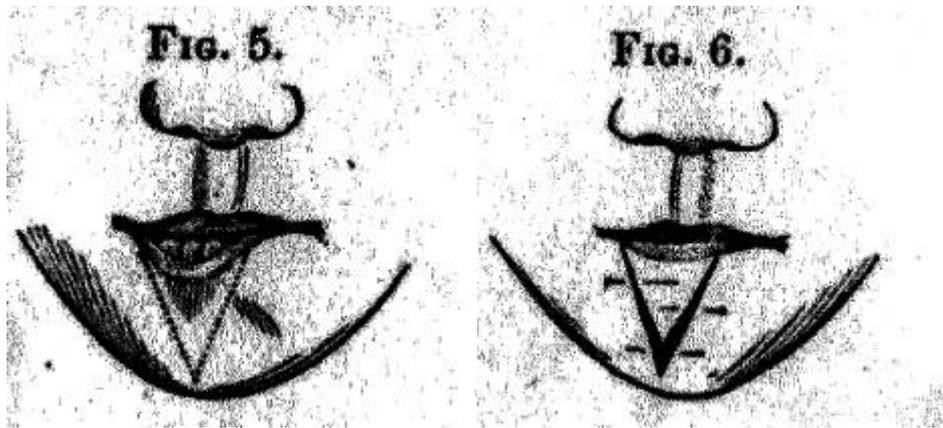
He also devised various medicaments and gave details of ingredients for tooth washes, toothpaste, antral injections and solutions for healing raw surfaces.

He was an astonishing figure, described as bold and energetic in thought and action and possessed of zeal and ardour, sympathy and compassion; a man whose surgical skill and inventiveness was such that he was deservedly described as 'touched with genius'. He was active in every progressive undertaking, a leader in civic enterprises, member of the city council, trustee of the Linsley Institute, originator of the first infirmary hospital in the state where his portrait is preserved and honoured as its founder. Far-sighted and devoted to the relief of human suffering, he was a true humanitarian. His life and work deserve to be recorded and preserved.

On March 27, 1857, Dr 8. P. Hullihen died at the age of 46 from an attack of typhoid pneumonia after an illness of 10 days; allegedly the immediate cause of the attack was his having taken cold from too violent exposure after leaving the heated hospital rooms. His two eldest sons were under professional training with their father at the time and they with Dr W. F. Fundenberg, MB Dentist, continued in the practice.

The case of Miss Mary S., as illustrated in Hullihan's 1849 article





The suddenness of his passing and loss of his talents led the city of Wheeling to declare the event a 'public calamity' and an irreparable loss. At the funeral 4000 citizens followed the body to the grave. There were many obituaries and eulogies in the local and dental literature. Among American surgeons he had no superior. In dentistry he was unequalled in America. He bequeathed his implements for making teeth, dental, surgical and other professional instruments and implements to his older sons, Alfred and Manfred, who allegedly inherited much of his genius and skill. Another son and daughter and his wife survived him. There is a 30ft. marble monument to him in Wheeling's Mount Wood Cemetery.



(1) "Case of Elongation of the Under Jaw and Distortion of the Face and Neck, caused by a Burn, successfully treated" by Dr S. P. Hullihen, The American Journal of Dental Science, Vol. IX, pp. 157-165, Jan. 1849.

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