

AUCKLAND MEDICAL HISTORY SOCIETY

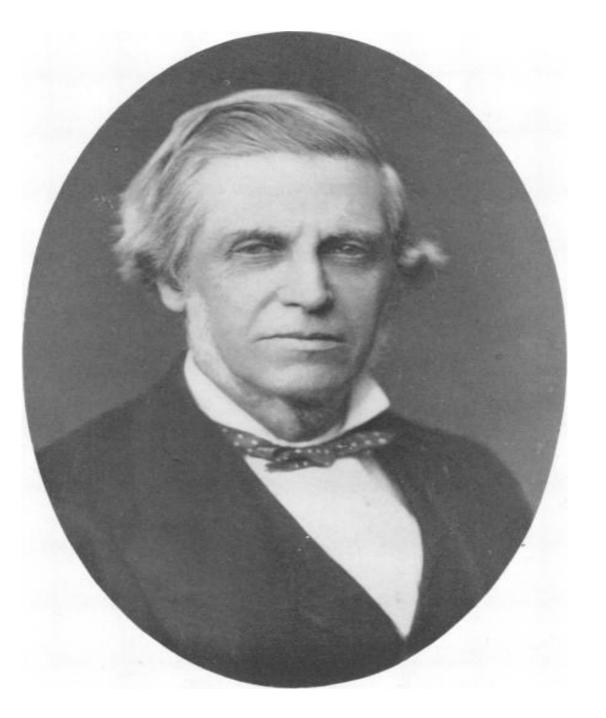
**2023 Lecture Series** 

### Cardiac Pacing, Sir William Bowman [1816 – 1892], and Jerusalem.

Ross Blair

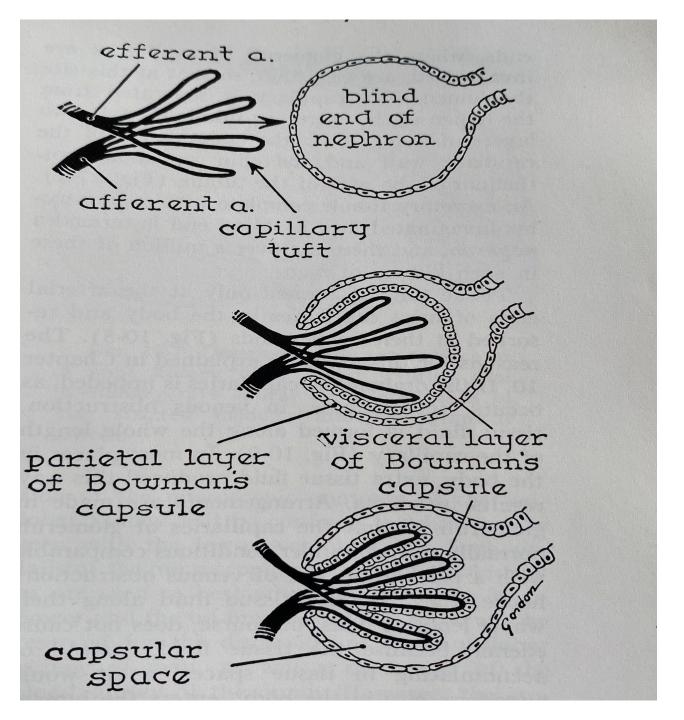
ED KGSJ MB ChB FRACS FACS 2<sup>nd</sup> Nov. 2023



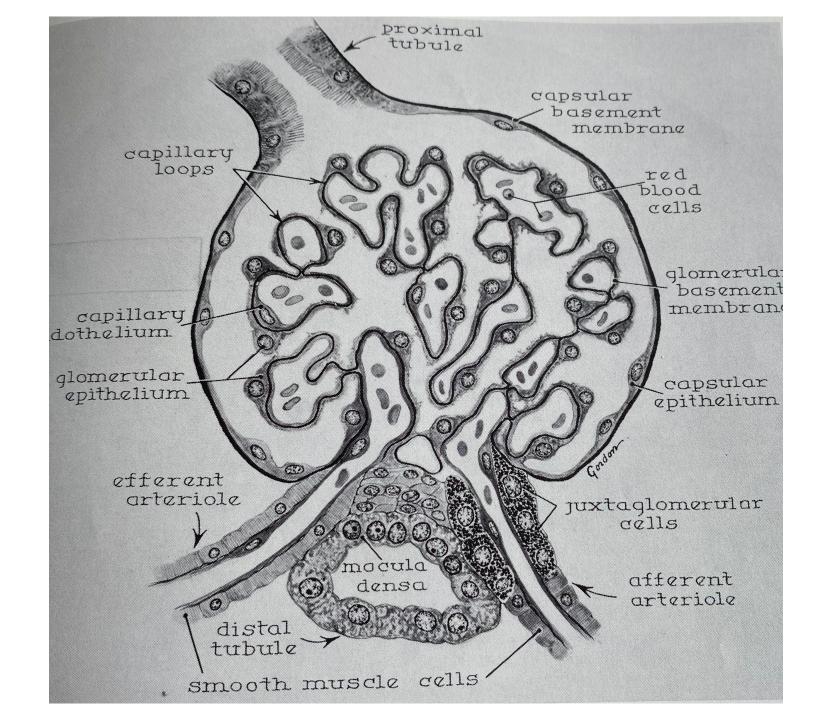


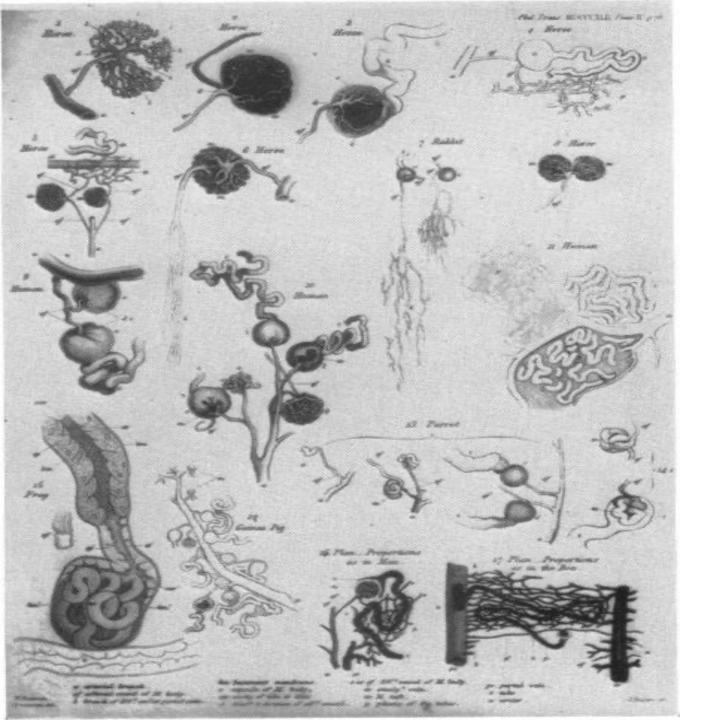
## Sir William Bowman

## 1816 - 1892



### Malpighian/Renal Corpuscle formation and Bowman's Capsule





Drawing from Bowman's paper to the Royal

Society, 17<sup>th</sup> Feb 1842

' On the structure and use of the Malpighian bodies of the kidney'.

Theory of the function of the kidney Secretion/Filtration ?

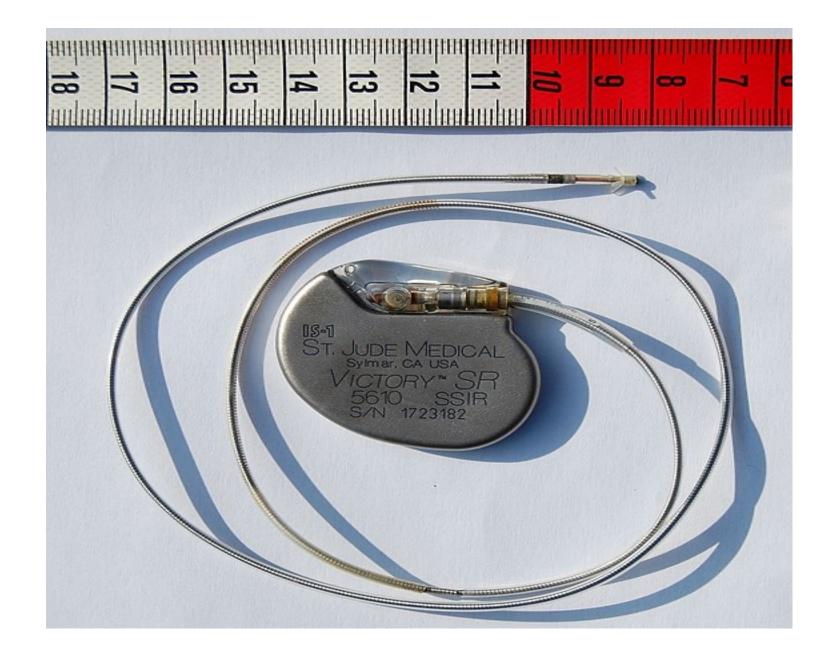


### David Cole

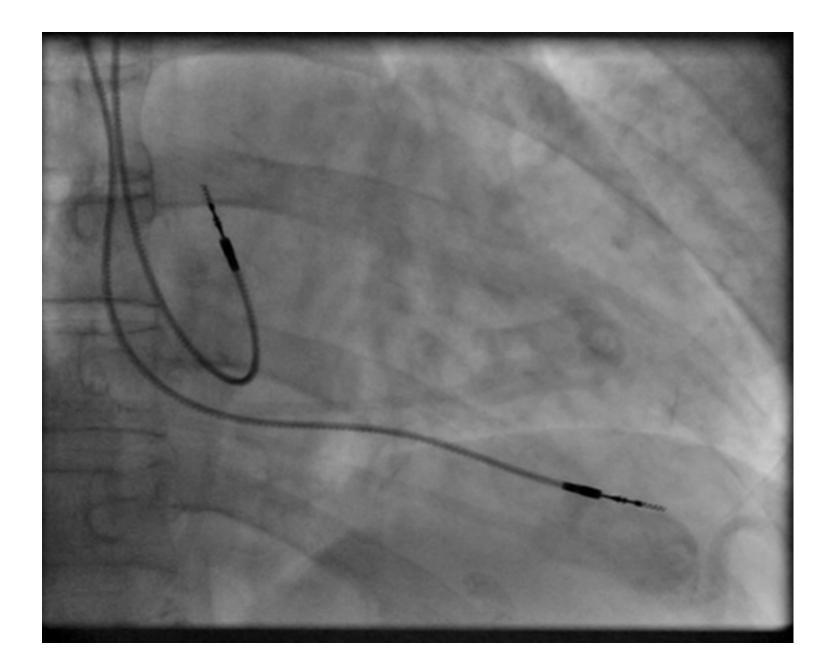
Cardio- thoracic Surgical Unit Greenlane Hospital

!967

Cardiac Pacing with Epicardial Electrodes. Implanted Pacemaker Unit Abdomen



Pacemaker with Unipolar Ventricular Electrode



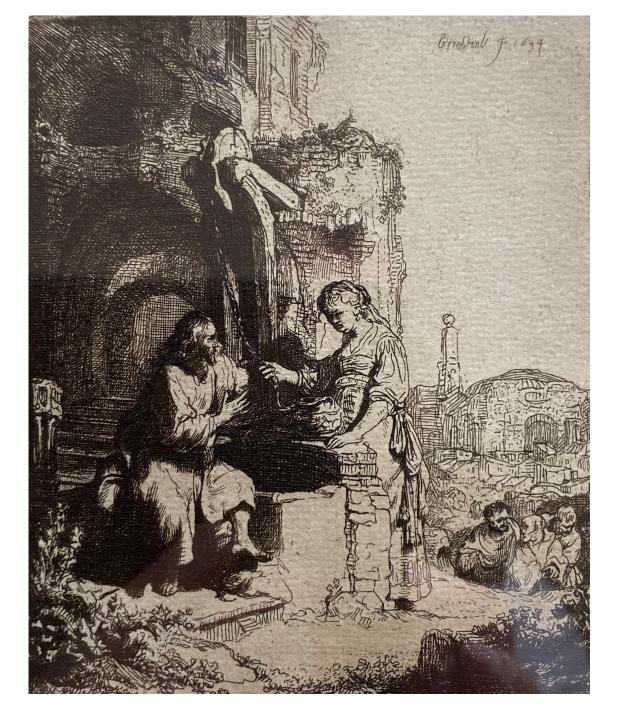
#### Atrial and Ventricular Electrodes



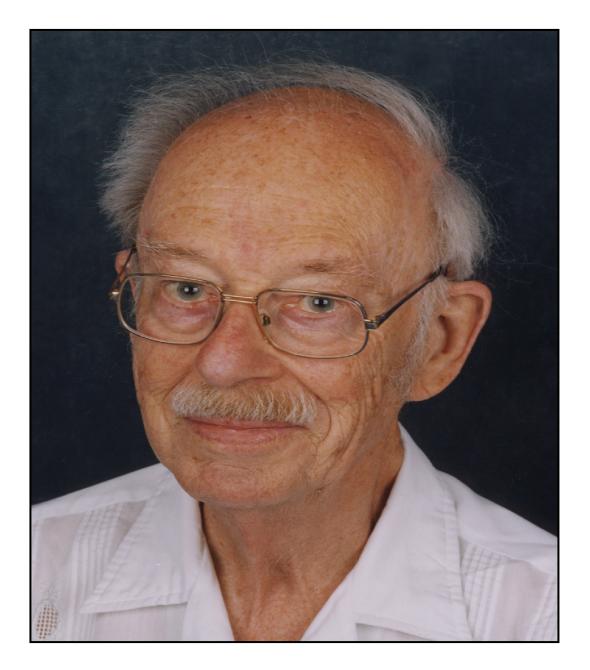
JERUSALEM, ISRAEL 7-11 JUNE, 1987











#### Rex Wright- St Clair [1922 – 2005]

Medical Superintendent Waikato Hospital Medical Officer of Health Medical Historian

Piper on Spinal Paraplegia . wat before the Humingham thed Medents Debating Treich 200.14. 1835. 1.5 Care offiction I again read law 10. 1839 with alteration, teams, before Kings Coll. Must being as nightern came to introduce asaligect for the considera tim of the society, Evarmach perplexed in the choice and when Sattingthe first upon that offinal taraplegia Iwas not without murginings that Ishould be purable to grand it into ashape state worthy to be brought before you, but in selecting asymptom rather than and rain which may defens upon the sistence of reamerous state, of a duce discare, I config twas not without hopes of being able to bring within the scope of the paper, such a variety of metter, as would fromish the means for a discupion abonce useful and divertified without our being clogged with dry rector strong or uninteres Thing or trivial conversations ; and the main object being they obtained , I thought you could with more justice forgive the many imperfections, that I fear will be but too sordent in Surop hap Paraplegia is one of the most distriping afflictions to which the human race is lieble from its tingering and perma = neutratures , and the condition of atter helply neg to which it uducy its victims, it has very pleation claims upon our notice and as we cononly hope to combatit, by acquiring a more accurate

"naturations and the condition of atter helplapines to which it internations , it has very pleaking claims afor our notice and as we cannot hope to consolitit, by acquiring a more accurate knowledge of them forms of discers which accasion it and of theme symptoms by which there may be disching usite formatach other, 9 it all make no explores for twelling chieffy on these points." It all instances , a correct dispose is discidable, but in nome more than the present, where apparently the same appedimentage defend of his attack bette brain, a the spinal merrow, or some of and there will construct the scans and where the attact the street of his attack bette brain, a the spinal merrow, or some of an distant from both and inches and where the attact of a star theme correspondents that we can only help the ancies the spinal appendent of the scans of the start of the spinal of a distant from both and inches and when the attact of the appendent of the scans of the start of the spinal of the distant from both and inches and the start of the spinal appendent of the scans of the start of the spinal of the appendent of the scans of the start of the spinal of the distant from both and inches and the start of the spinal of the start from both and the scans of the start of the spinal of the start from both and the scans of the start of the spinal of the start from the start of the scans of the start of the spinal of the start here is a second the start of the spinal of the start from the start of the start of the spinit of the start from the start of the spinal of the spinit of Paper on Spinal Paraplegia read before the Birmingham Medical Students Society 14 Nov. 1835

And again read Jan. 10. 1839 with alterations, cases, before Kings College Med Students Society

Fullet der fritt on the Sathologs of Frantance Britten about January 1835 reachopse the medical - Museut, Debating Society - of Birminghaling An inquiry anto the mode by which practures bone suite, may at first sight, appear of so little importance to us in the dais Prelimin is practice of our profession, as to lay measure to your censure, on marks The ground of my diverting your attention from substantial and weighty investigations, to dwell on the more ornamental, but lep volid departments of Chicangical knowledge - Some one will salain, " Experience has fought us in what manner we are to treat practice of timets, how departurely is to be guarded athe union of the bones promoted, and gainst or secondied , The member restored to its former healthy condition - What avails it there to spend our time in searching more draply into the secrets of grature, and in unsaveling the laws by which sheworks? Sufficient you as that we know what is useful - Let us reject the pleasing repinements of Pathatogical and Physicological research not indeed as abound , but as worthy the attention only of the shallow superficialist, who in his eager pursuit of knowledge, becomes Enamoured solely with the beauty of her attire, to the neglect of all her solid admintages " - But from sentiments such as these, founded in misconception, and broached in rophism, ? entire - by dissent. Though unassisted observation has, I am ready to allow done much for the advancement of our propepsion, its progress during the last half century has been almost solely

to the lights east over it by the important sciences just ouring mentioned; and hope to shew, that they have had no Small share in the elucidation of the subject to which I Shall now directyour attention ; and that in this, as well as in other departments, their influence outsteps the really narrow bounds of comply theory and extends to what is useful and preactical , 1. If by scanning the operations of hatures are can draw conclusions which bear upon the breatment of dix = sease, we shall rejoice in being able to prove to thease plice that the moor that he considered barren, only wantes cultivation to be twented to profit and wantage advantage. Before we can fully understand the doctrine of union

Former Established at the present day through the Cabours of Baron Theories the forma Dupuytren and of our dis hinquished countryman Tir Benj's film of cal Thatoh

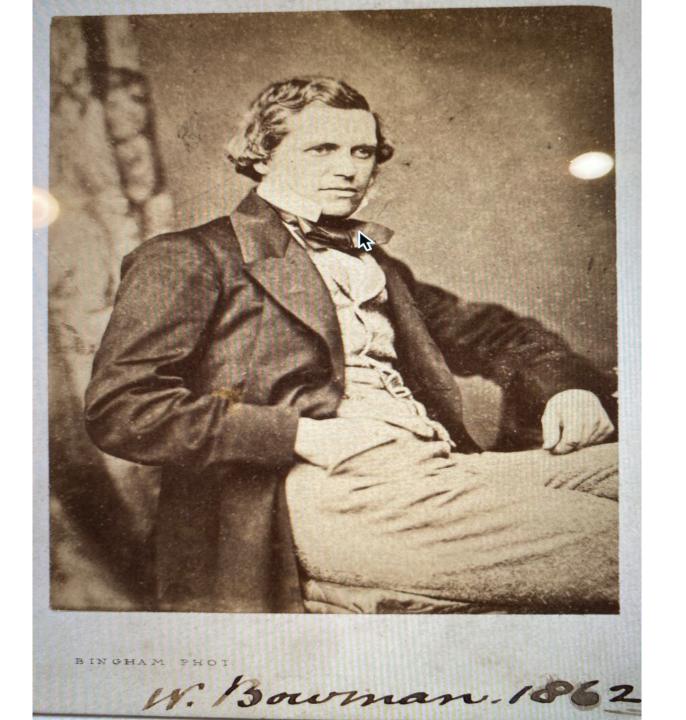
Brodie + we must advert to the various opinions, which have at different times been promulgated regarding the formation + Greated a at different much all proceed to do, as briefly as is consistent with perspiceity and truth ... It will be scancely necessary to dwell for an instant on The crude notion of the ancients, concerning an os the ancients. which they supposes to be pouries out between the ends bone, and becoming concrete, to form an inorganic though of amion , like Boman coment on Faris Plaster. This 2x-

planation, it may be thought is descriving affelle else than

On the Pathology of Fractures

Written about January 1835 Read before the Medical Student's Debating Society Of Birmingham

M. Bowman. Esg. Kinges College



First open farming 20" 1925 My Year Hother Alike Liverpool very well and tores a ship when I was coming over the water place to gove my love to Father, and I remain Pear Mother your appationals and Daliful and 11 Booman

deny that ; and \$ do correct explanation ?? that this attitu moduntary character marking ? e more erecesz Having been thus Cur 220

#### Tottenham

Nov 30

#### 1838

## Sir William Bowman 1<sup>st</sup> Baronet

- Born in Nantwich, Cheshire 20<sup>th</sup> July 1816. Father banker and amateur botanist/ geologist.
- Hazelwood School Birmingham, Thomas Wright Hill Headmaster.
- Medical Student Birmingham 1832 worked under Joseph Hodgson.

• 1837 Kings College, London - 'his being a Dissenter will create no difficulty'



Joseph Hodgson 1788 - 1869

Birmingham General Hospital 1821

Birmingham Eye Infirmary 1823

President Royal College of Surgeons 1864

Quaker

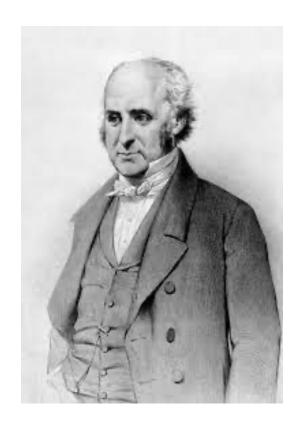
# Kings College, London

- Medical Department founded in 1831 and foundation of the hospital 1839
- Bowman prosector for Robert Bentley Todd, Professor of Physiology
- 1841 structure of Striated Muscle and elected Fellow of the Royal Society.
- 1842 'On the Structure and Use of the Malpighian Bodies of the Kidney', to the Royal Society. Awarded the RS Medal.
- Collaboration with Todd. Publication of the 5 volume ' Physiological Anatomy and Physiology of Man' (1843-1856) 'Cyclopaedia of Anatomy and Physiology (1852)
- Completed surgical Training 1844 FRCS
- Ophthalmology



### Robert Bentley Todd 1809-1860

## Professor of Physiology Kings College London



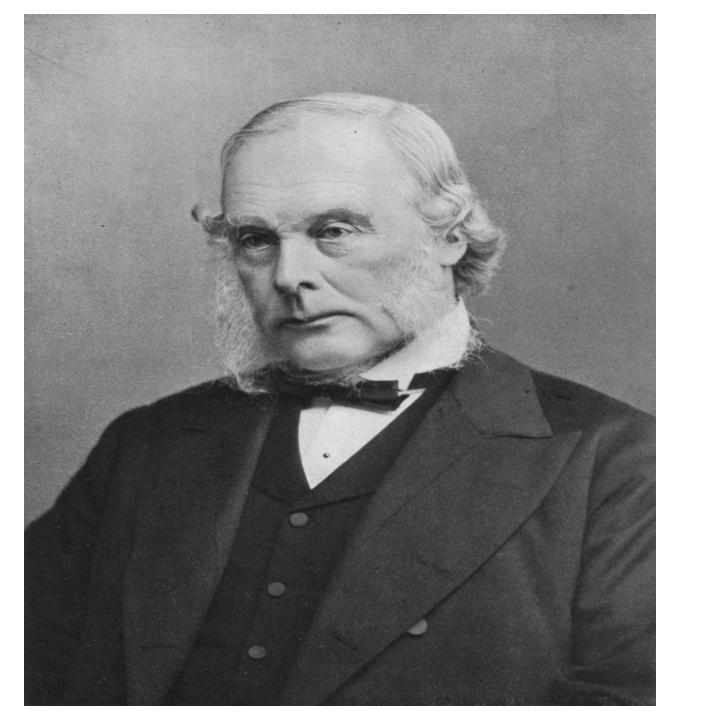


Joseph Jackson Lister

Wine Merchant

Achromatic lenses for compound Microscopes

Joseph Jackson Lister from a photograph by Mault & Co London



#### Joseph Lister, 1<sup>st</sup>Baron Lister

1827 - 1912

## The Manuscripts of Sir William Bowman

• Sanderson J B , Hulke J W (Editors) Collected Papers of Sir William Bowman. 2 Volumes. London, Harrison & Sons . 1892

 The Manuscripts of Sir William Bowman . K. Bryn Thomas – Paper Kings College Hospital, 1965

• Manuscripts in the possession of great grandson , which include the Nightingale letters

Reparan Aprinal Paraptegia und phio Lefon the Brinningham thed - Huden to 'Delating Tricks nov. 14. 1835. 15 Care Rection & Brannes & again real Pan 10. 1839 with alteration, teams, bepre Kingi Cle. Must dent as myturn came to introduce asabject for the considera tim of the society, harmuch perpleses in the choice, and when Sattingthe field upon that offinal Paraplegia twas not arthout misgivings that I should be purable to grind it into ashape atalk worthy to be prought before you, but in selecting asymptom nother than and is and which may defens upon the cristence of namerous states of actuce discuse, Sconfig I was not without hopes ofbeing able to bing within the scope of the paper, such a variety of matter, as would fromish the means for a discupion abonce use ful and diversified without our being clogged with dry rector trong or uninteres = This or trivial conversitions ; and the main object being This obtained . I thought you could with more justice forgive the many imperfections, that I fear with be but too condent in Sur pap Parapleyia is one of the most distriping applications to which the human race is listle From its tingering and perma-enentmature , and the condition of atter helplapness to which it uduas its violims, it has very pleastier claims upon our notice and as we cononly hope to combatit, by acquiring a more accurate knowledge ofthem forms of distant which accasion it and of them

symptoms by which there may be distinguisted from lack other, I

chine with constring beatalop to determine whether the object of his attack bethe brain, on the spinal marrow, or some organ distant from both. and such occessionally is the obscurity in which here cases are involved. That we can only hope to arrive at a just opinion officer nature by a careful observation of the spect of ourremedial agents, in hastinning, protracting, or everying a fatal termination; at a period, in fact, when, in the majority of cases, our knowledge will rolonger be of vervice.

shall make no apology for develling chiefly on these points. In all instances, a correct disquois is desireable, but in none nor than the present, where apparently the same affection may defend upon very different states of disease, and where the ablest practiManuscripts Photocopied

Paper on Spinal Paraplegia read before the Birmingham Med Student Debating Society Nov .14.1835

And read again Jan 10.1939 with alteration & cases before Kings Coll. Med & Science Society

Long introduction crossed out

Most frequent form 'Has its primary seat in the bones' Described by 'the illustrious Pott' - Pott's Disease, The 'Scrofulous state' Ramollissement References - Brodie Acute Myelitis Other causes – Trauma, cancer, syphilitic, aneurysmal swellings, hysteria.

No mention of Spina bifida

Age 19 years

(Written about January 1835 - read before the medical Thiseuts Debating Vociety - of Birmingham )

An inquiry into the mode by which fractures bones unite may at first sight, appear of so little importance to us in the dais = ly practice of our propession, as to lay meaper to your censure, on The ground of my diverting your attention from substantial and weighty investigations, to dwell on the more ornamental, but lepsolid departments of Chirargical knowledge - Some one will salain, " Experience has taught us in what manner we are to treat practured limbs, how deformity is to be guarded a= = gainst or semedied, the union of the bones promoted, and The member restored to its former healthy condition - What avails it then to spend our time in searching more drepty into the secreto of nature, and in unraveling the laws by which she works? Sufficient for as that we know what is useful - Let us reject the pleasing refinements of Pathological and Physiological research not indeed as abound, but as worthy the attention only of the shallow superficialist, who in his eage pursuit of knowledge, become inamouned solely with the beauty of her attire, to the neglect of all her solid ad unhages " - But from sentiments such as there, founded in misconception, and broached in sophism, I entire - by dissent. Though emassisted observation has, I am ready to allow done much for the advancement of our projection, its progress during the last half century has been almost solely owing to the lights east over it by the important seconces just metitioned, and I hope to shew, that they have had no small share in the elucidation of the subject to which I shall now directyour attention ; and that in this, as well as in other departments, their influence outsteps the really narrow bounds of comply theory and estends to what is useful and practical. If, by scanning the operations of hature we can draw conclusions which bear upon the treatment of dir = sease, we shall rejoice in being able to prove to thissceptic that the moon that he considered barren, only wanted culfivation to be homed to profit and coefficients advantage.

Hormer Reories Teacing Harforena - C. Harroy cat Labs. + Greated a Baronet 1834. That of the autoents.

Prelimie nary re=

> Before we can fully understand the doctrine of union Established at the present day through the labours of Baron Dechuytren and of our dis hinquished countryman Vir Benjs Brodie + we must advert to the various opinions, which have a at different times been promulgated regarding the formation 34 of callers. This I shall proceed to do, as briefly as is consistent Twith perspicicity and truth ...

That of It will be sancel, no opary to dwell for an instant on the aminists. The crude notion of the anciento, concerning an osseries fire which they supposed to be poured out between the ends of the borne, and becoming concrete, to form an inorganic bord formion, like Roman concert on Paris Plaster. This Ere planation, it may be thought is deserving aflittle clac than

#### On the Pathology of Fractures

Written about January 1835, read before the Medical Student Debating Society of Birmingham.

Preliminary remarks – The value of understanding the mode of fracture healing

Formation of Callus . Various opinions . Baron Dupuytren, Sir Benjamin Brodie, Duhamel du Monceaux, Bordenave.

Failure to unite – Lues, cancer, scurvy, scrofula

Healing assisted by compression

Manipulation to correct deformity when Callus present

## Legacy of Sir William Bowman

- Anatomy and Physiology structure of striated Muscle, mucous Membrane of the alimentary tract, Kidney ,Bowman's Membrane in the cornea, Bowman's Glands in the olfactory mucosa
- Ophthalmology Founder Ophthalmological Society 1880, Royal College of Ophthalmologists. Annual 'The Bowman Lecture.'
- Promoted the use of the Ophthalmoscope (Helmholtz 1851)
- Queen Victoria 1884 Baronet.
- Married Harriet Paget 1842 seven Children.
- Built 'Joldwynds' in Surrey 1870, Philip Webb architect



Joldwynds

## Dorking Surrey

Designed and built Phillip Webb 1873