





International Diabetes Federation Europe

**READINGS ON DIABETES**

Angelo Argenterì  
Maria Stella de Sabata  
Andrea Ascoli Marchetti

IDF Europe Team Meeting  
Rome, 12 October 2024

Dear colleague,  
You will receive a "souvenir from Rome" - a USB drive with the "Readings on Diabetes" presentation to you diabetes history - but this evolved into the modern day. Prof. Argenterì, our Board Member...

We deal with the management of diabetes in our daily work or healthcare practice - but this evolved into the modern day. Prof. Argenterì, our Board Member...

The "Readings on Diabetes" is a historical journey of diabetes. Our interest in diabetes history is not just a curiosity, but a very important part of our work. We invite you to join us for a journey of discovery, less well-known, but very important.

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The IDF Europe Team


















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A. Argenterì, S. de Sabata, A. Ascoli Marchetti

Improving the lives of people living with diabetes and those at risk

- From a short presentation to a full-blown journey
- We may not be aware of milestones or able to link names to facts

& Martina Boccardo, Alistair Humphrey, Anna Fileppo

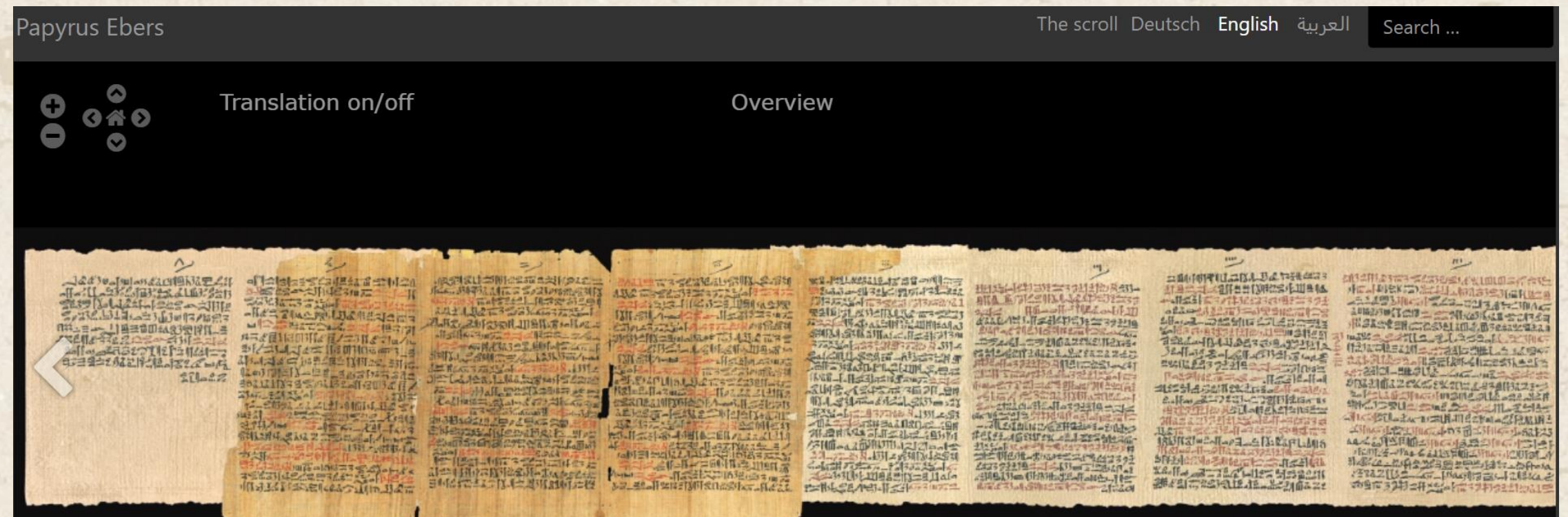
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Logical  
sequence  
but can be  
read in any  
order



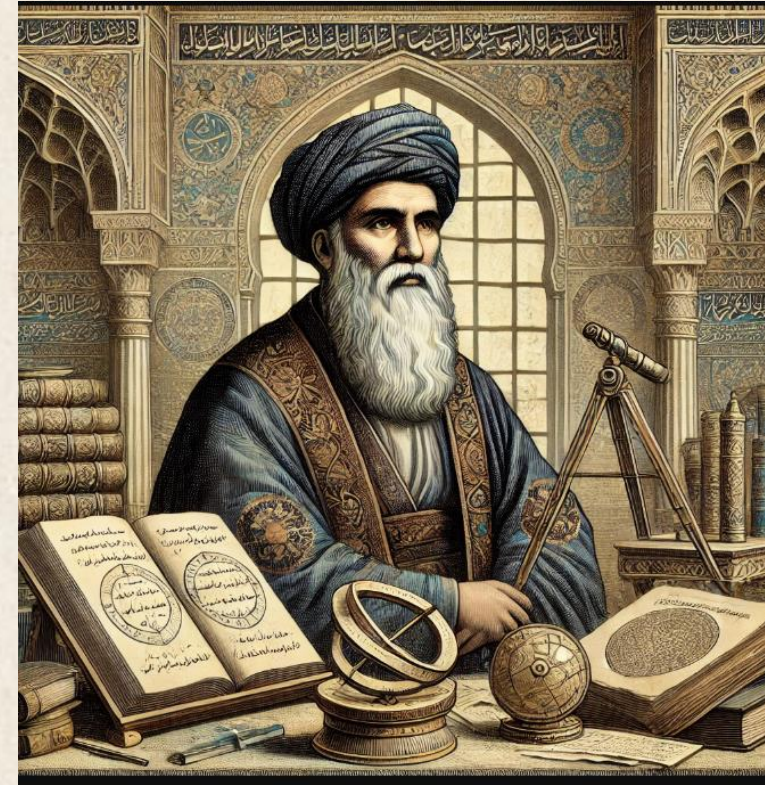
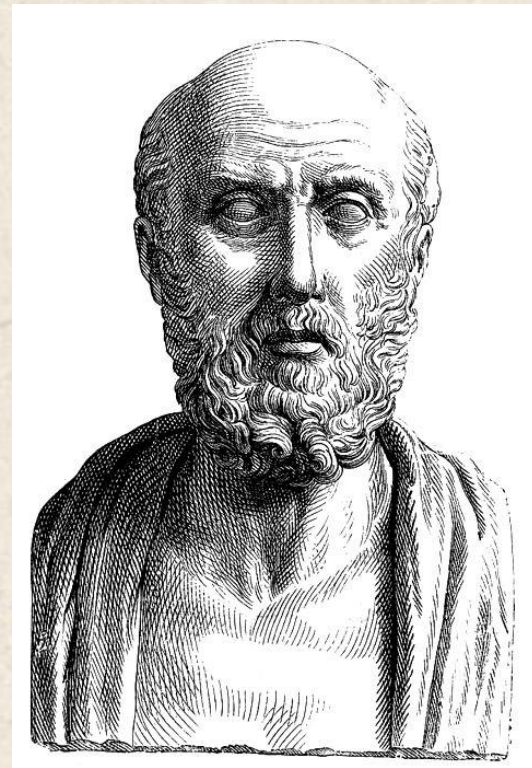
# BEGINNINGS



**Ebers papyrus** 1534 BC: two verses refer to polydipsia, polyphagia and polyuria:  
*«Isi and Osiri, may my thirst be in your fist, may my hunger be in your hand, may the excess of urine be in thy will»*

**Apollonius of Memphis** coins the word Diabetes (ca 250 BC):  
«*dia*»- through and «*bainein*» – to walk = «to pass through»  
Latin *diabetes*, is also describes the hydraulic syphon

# BEGINNINGS



Description of diabetes, possible causes and treatments:

Sushruta, Hippocrates (460–370BC), Aristotle (384–322BC), Apollonius of Memphis, Aulus Cornelius Celsus, Aretaeus of Cappadocia, Galen (129–216), Avicenna (980–1037), Paracelsus (1493–1541)

# ANATOMICAL DIGNITY OF THE PANCREAS

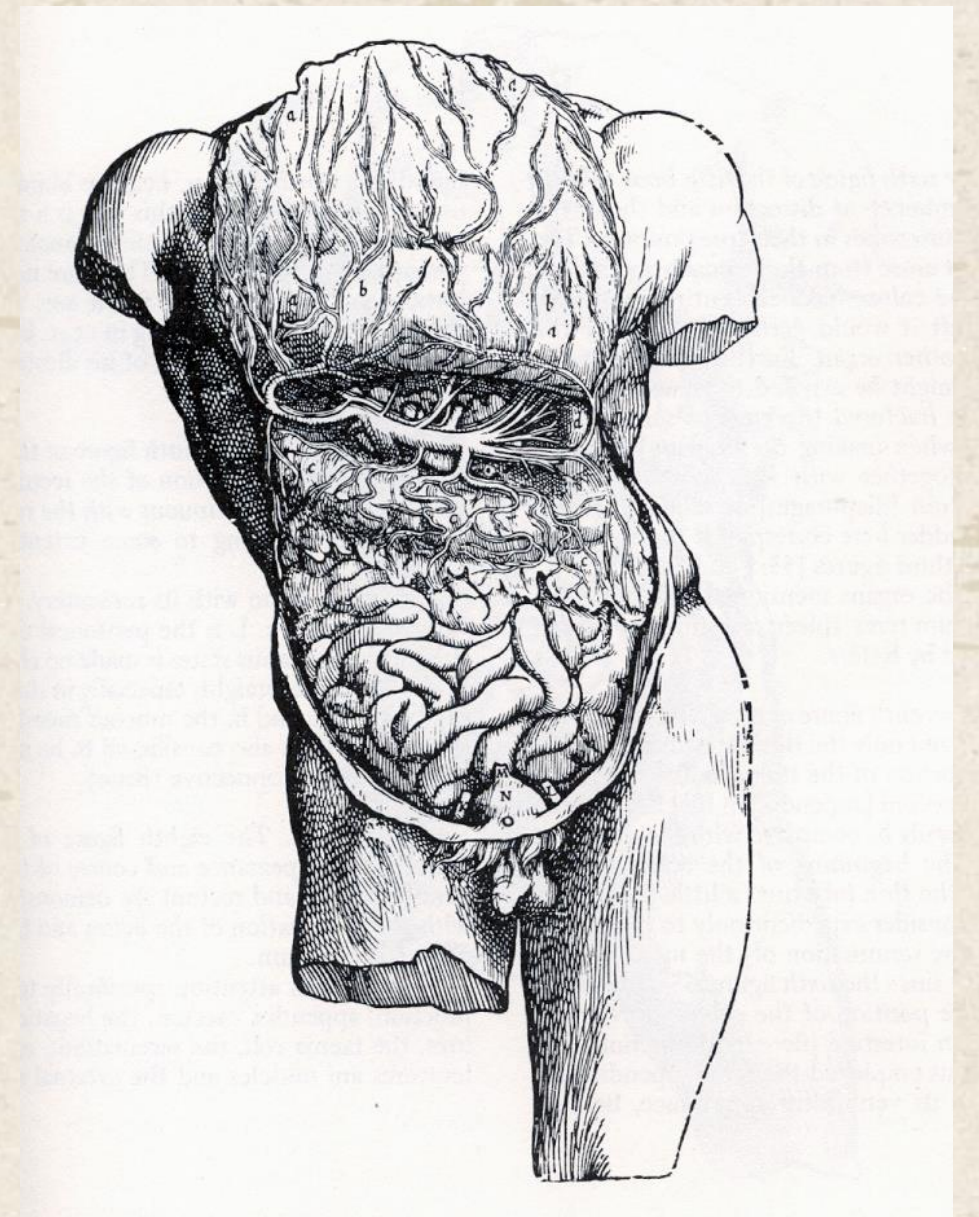
«Now you see me – now you don't / catch me if you can»

The pancreas remained for a long time unknown as an organ as the seat of related pathologies.

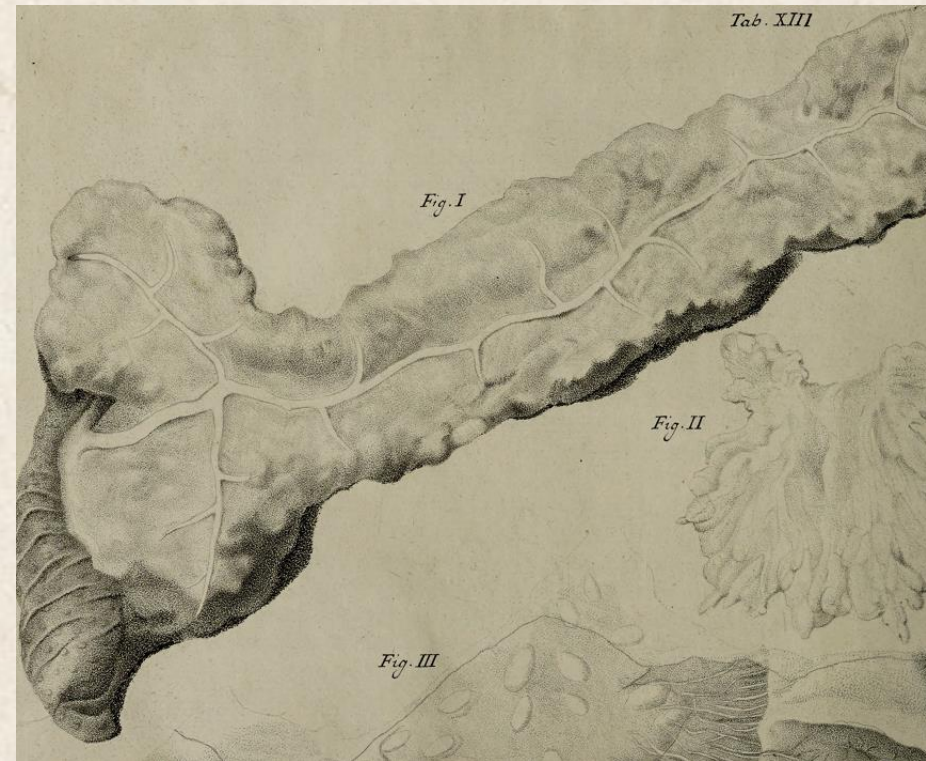
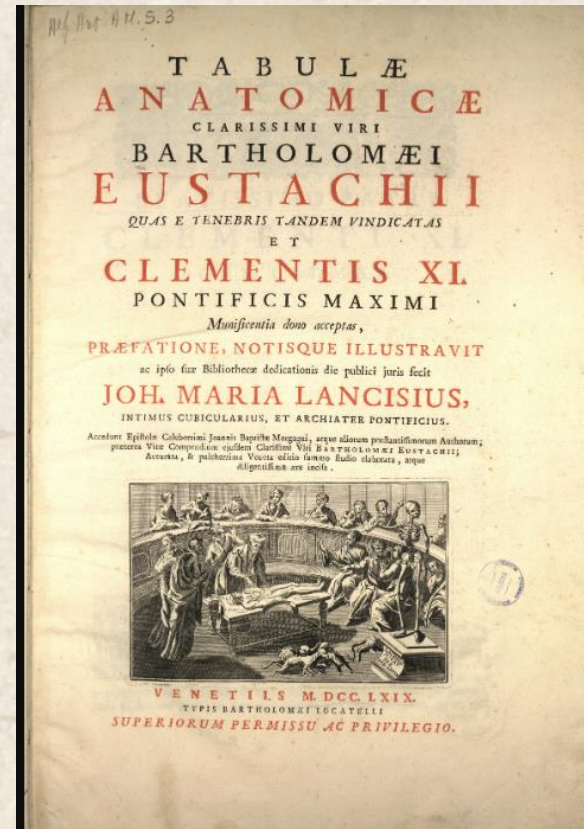
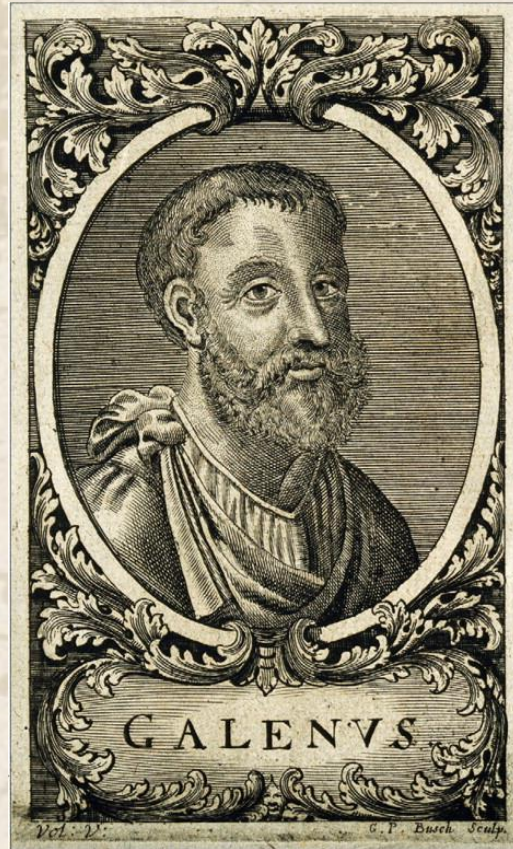
What is it? A gland? An organ? What is it made of? What does it look like?

Name Pancreas: «pan» – all + «kreas» – flesh

Ambroise Pare': *«a glandular, flesh-like body and is thus called because it resembles flesh in everything»*

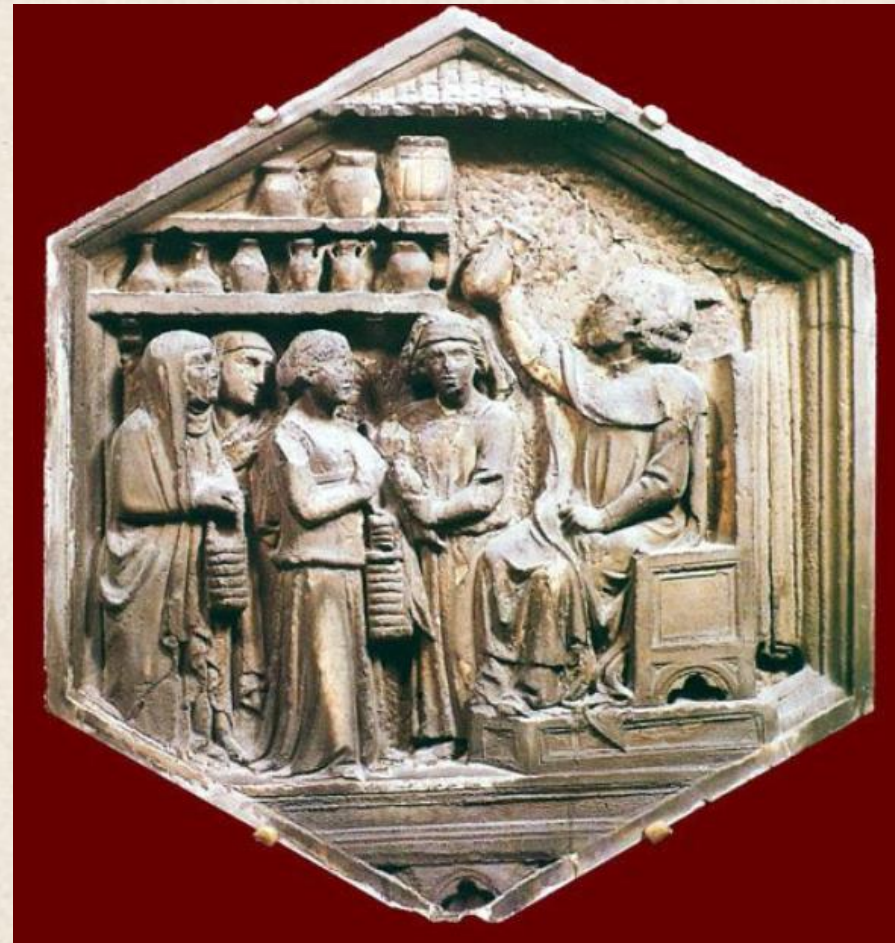


# ANATOMICAL DIGNITY OF THE PANCREAS



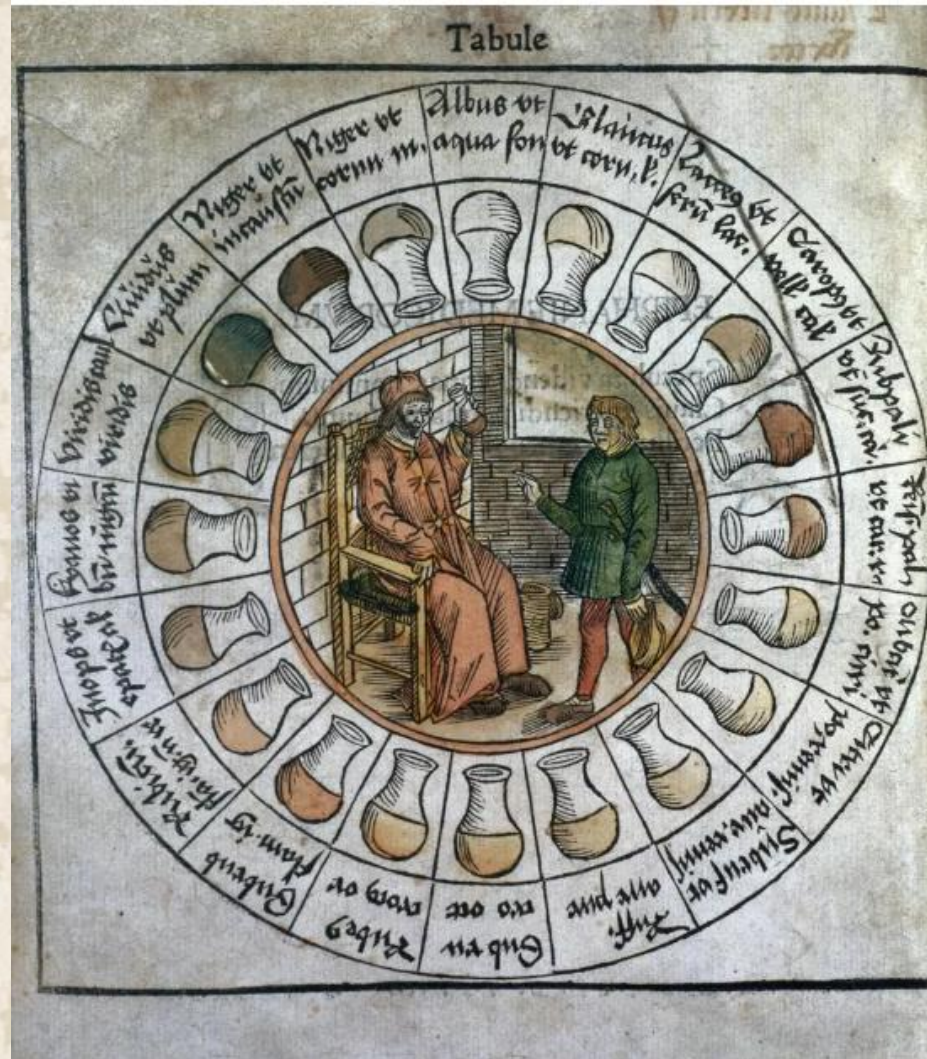
Mondino de Liuzzi, Aristotle, Rufus of Ephesus, Galen, Oribasius (300), Bartolomeo Eustachio (1520–1574), Andreas Vesalius (1514–1574), Gabriele Falloppio (1523–1562), Ambroise Pare' (1509–1590), Kurt Sprengel (1766–1833), Domenico Santorini (1681–1737)

# UROSCOPY – THE COLOURS OF URINE





# UROSCOPY – THE COLOURS OF URINE



# PATRON SAINTS



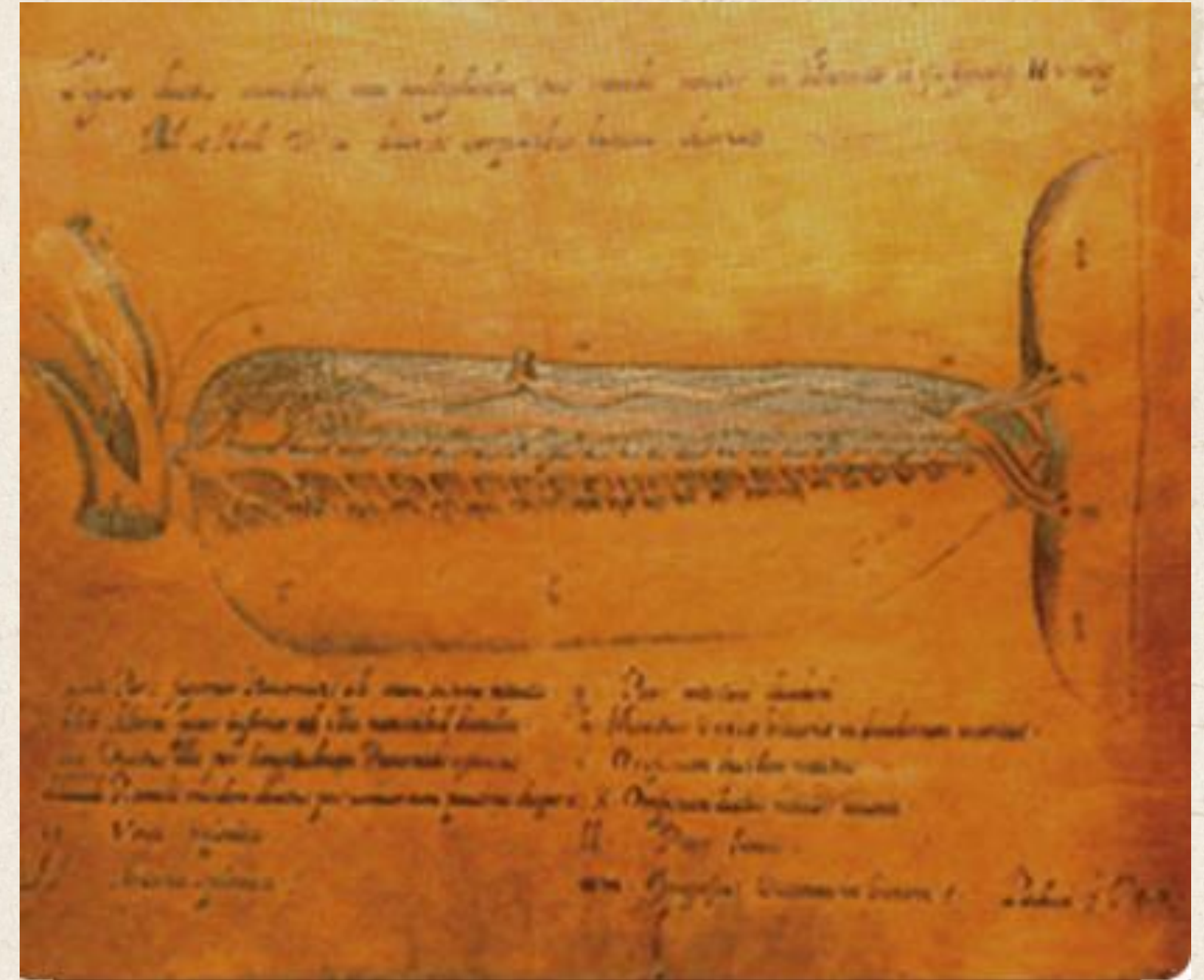
St Apollonia, St Agatha, St Lucy

St Cosmas and Damian

Basilica of St Cosmas and Damian

St Ansanus (284-304), St Giuseppe Moscati (1880-1927), St Gertrude of Hefta (1256-1302),  
St José Maria Escriva' de Balaguer (1902-1975)

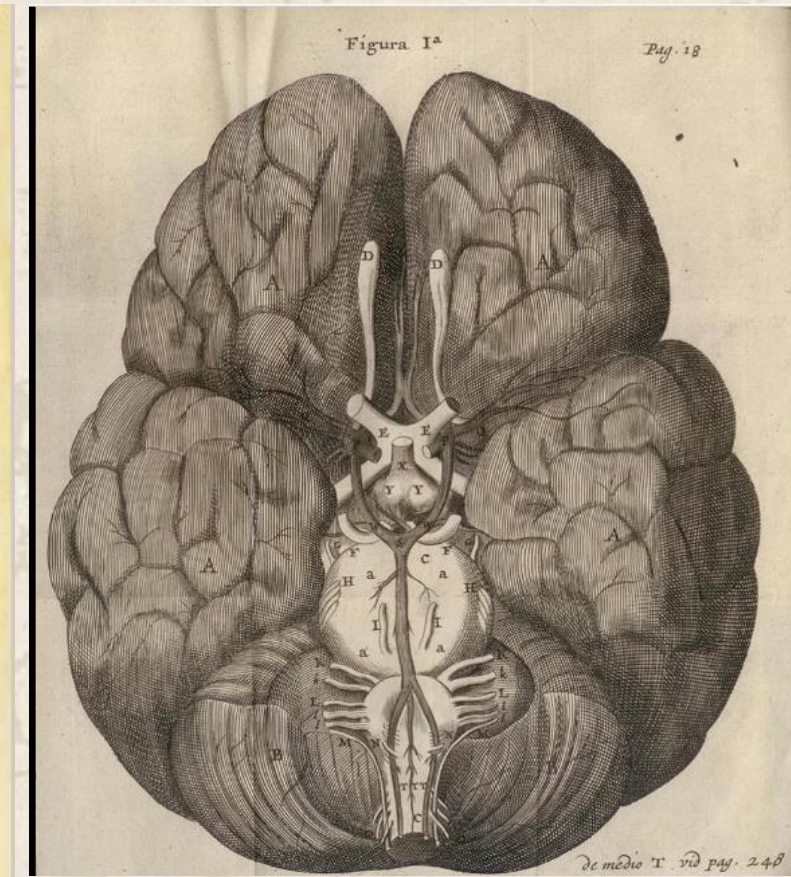
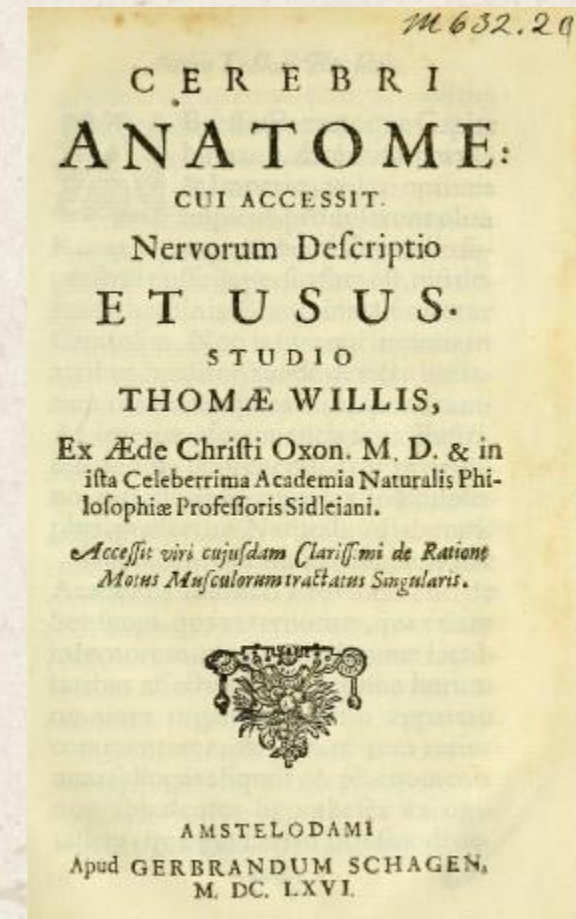
# WIRSUNG – MURDER IN PADUA



The duct!

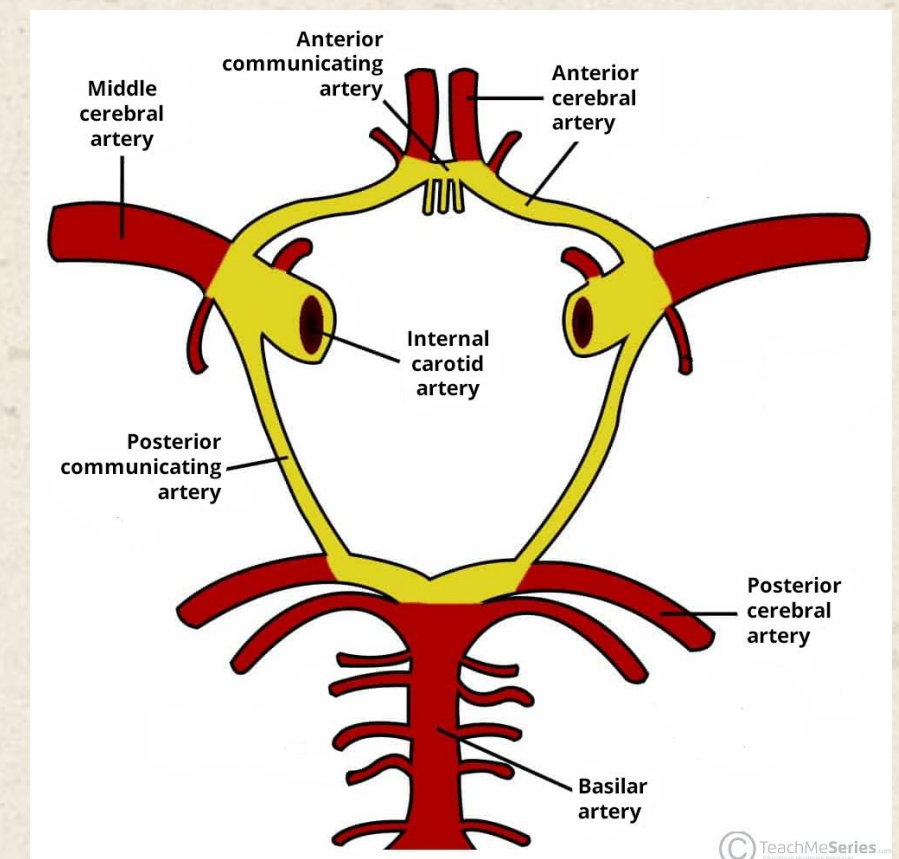
# WILLIS – SWEET AS HONEY

The Willis polygon, Willis's disease I (diabetes mellitus), Willis's disease II (form of asthma), Willis's paracusis, Willis's gland (corpus albicans)



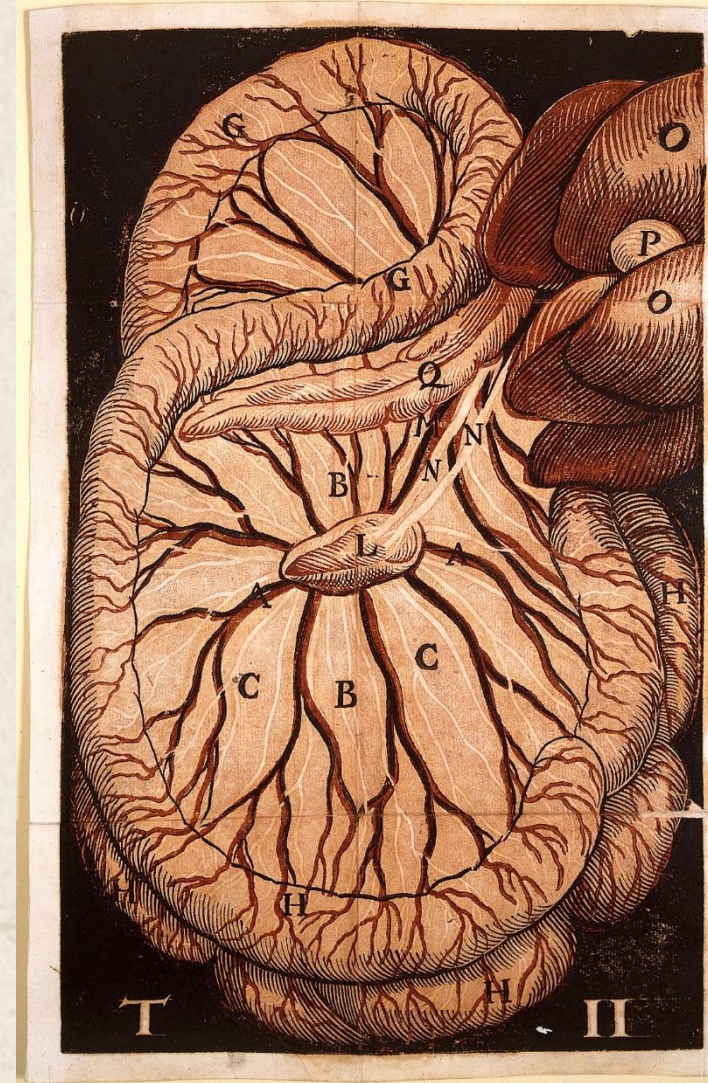
Thomas Willis, *Pharmaceutice rationalis* (1674) : the urine was surprisingly sweet as if it had honey or sugar in it: *quasi melle aut saccharo imbuta, mire dulescebat*

Willis (1621-1675), Christopher Wren, GB Morgagni (1682-1771), Giulio Casserio (1552-1616)



# THE EXOCRINE PANCREAS

The function of the pancreas is investigated through experiments with animals



Gaspare Aselli (1581-16259), Thomas Wharton (1614-1673), Nicolaus Steno (1638-1686), Frans de Boe (1614-1672), de Graaf (1641-1673)

# BOISSIER DE SAUVAGES – THE SEVEN NAMES

A friend of Linnaeus, Boissier de Sauvages (1706–1767) applies to medicine the methodology for botanical classification of diseases

- Legitimate diabetes/True diabetes
- Anglian diabetes
- Hysterical diabetes
- Artificial diabetes
- Wine diabetes
- Arthritic diabetes
- Febrile diabetes

4. *sect. 1.*

5. *Anacatharsis asthmatica. Voyez Asthme humide.*

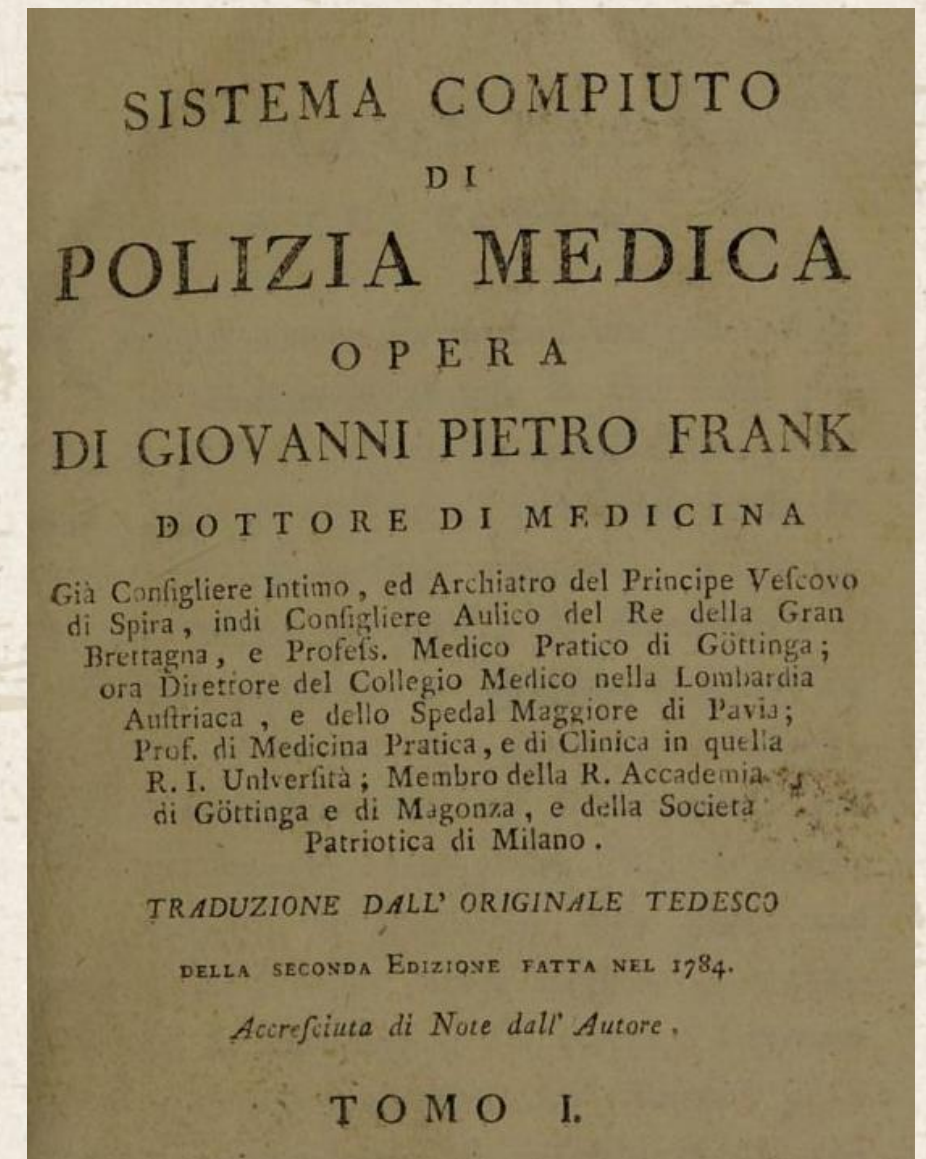
**X X V. DIABETES ;** Diabetès, de *Diabetès*, qui en Grec signifie un *siphon* ; *Diarrhœa urinosa*, Galien, *lib. de crisib. Diarroia ex oure ; Dipsacus*, Galien, *lib. 6. de loc. affect. Hydrops ad matulam*, Galien, *de loc. affect. lib. 6 & 1. de crisibus* ; en Latin, *Profluvium urinæ.*

*Caractere.* C'est un écoulement subit de la boisson par les urines, accompa-

# THE AGE OF DIABETES ENLIGHTENMENT

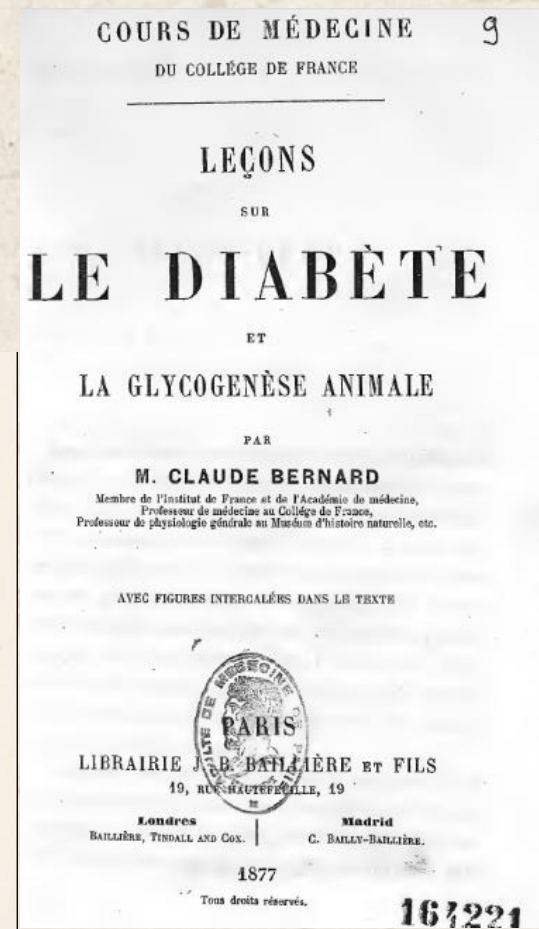
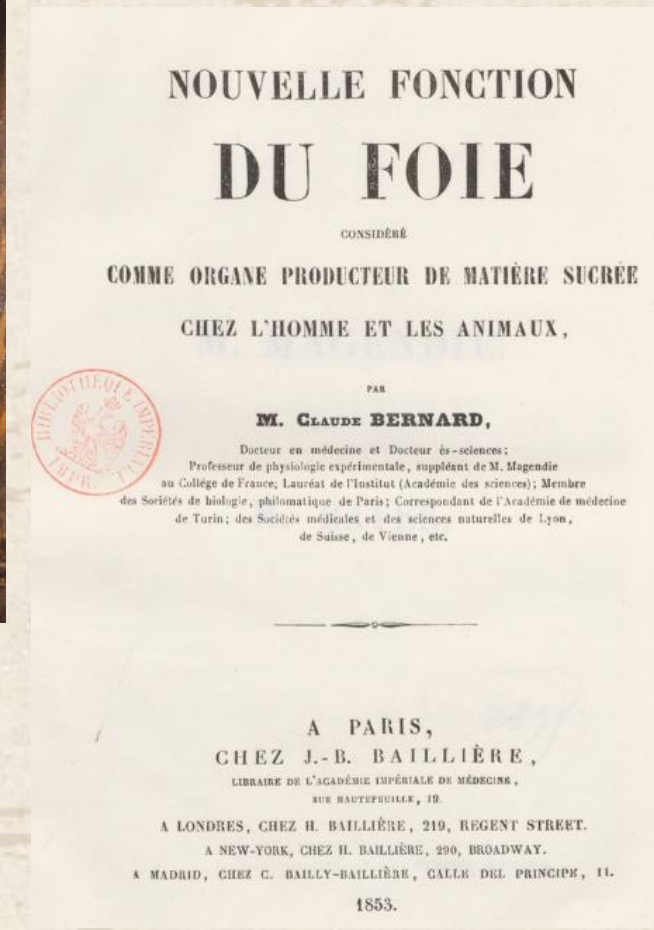
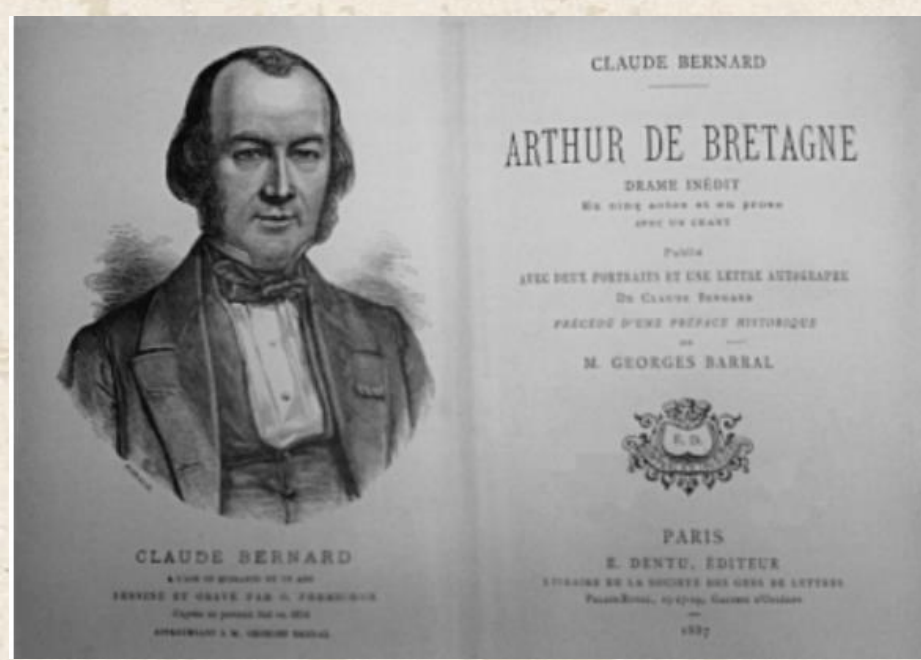
Reorganization of hospital pharmacopeia and  
Organization of expenses for hospital drugs around  
pathologies

Differential diagnoses, «Tasteless urine» and «mellitus  
urine»



Francesco Marabelli (1761–1846), Johann Peter Frank (1745–1821)

# CLAUDE BERNARD AND MODERN DIABETOLOGY



The liver is able to produce glucose thanks to glycogen  
Pathogenic theory of diabetes  
With Claude Bernard experiment is equally important as theory

Claude Bernard (1813–1878), Francois Magendie (1783–1855), Maria Raffalovich (1832–1921), Jean-Baptiste Dumas (1800–1884)



# THE RACE FOR INSULIN

What is mysterious and magic substance produced in the pancreas capable of dominating diabetes?

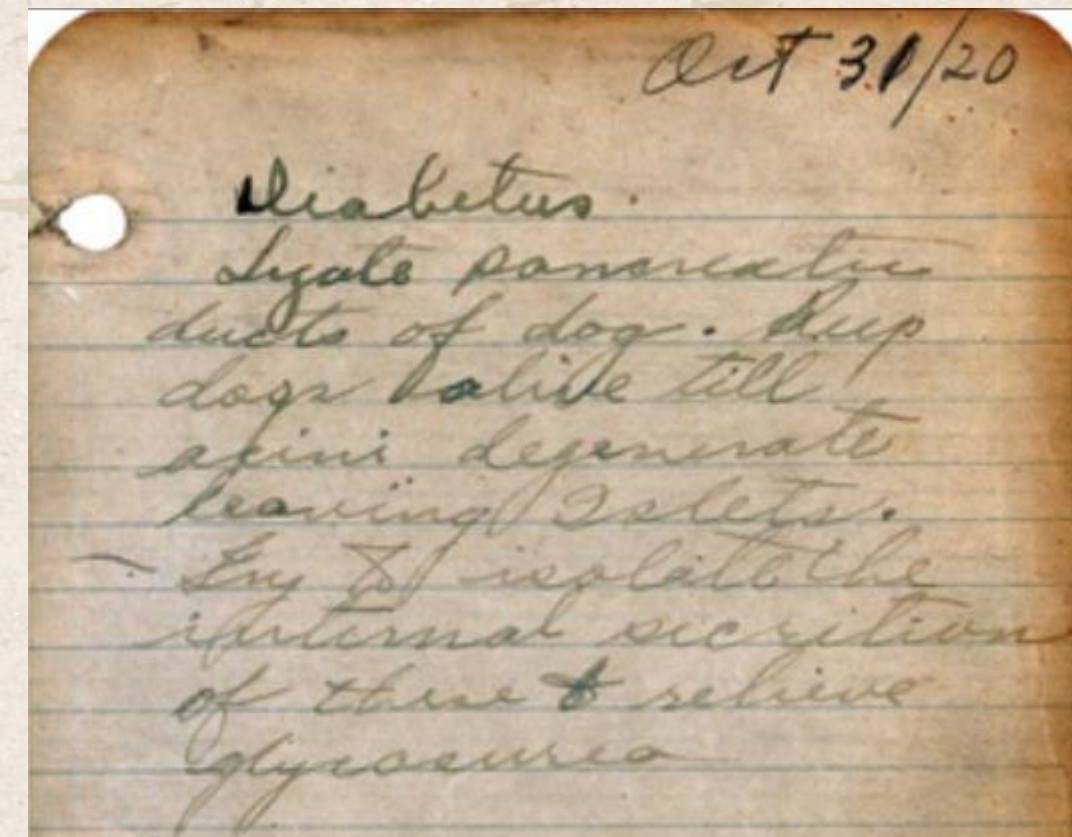


1916: Sir Edward Albert Sharpey Schafer coins the term "insulin"

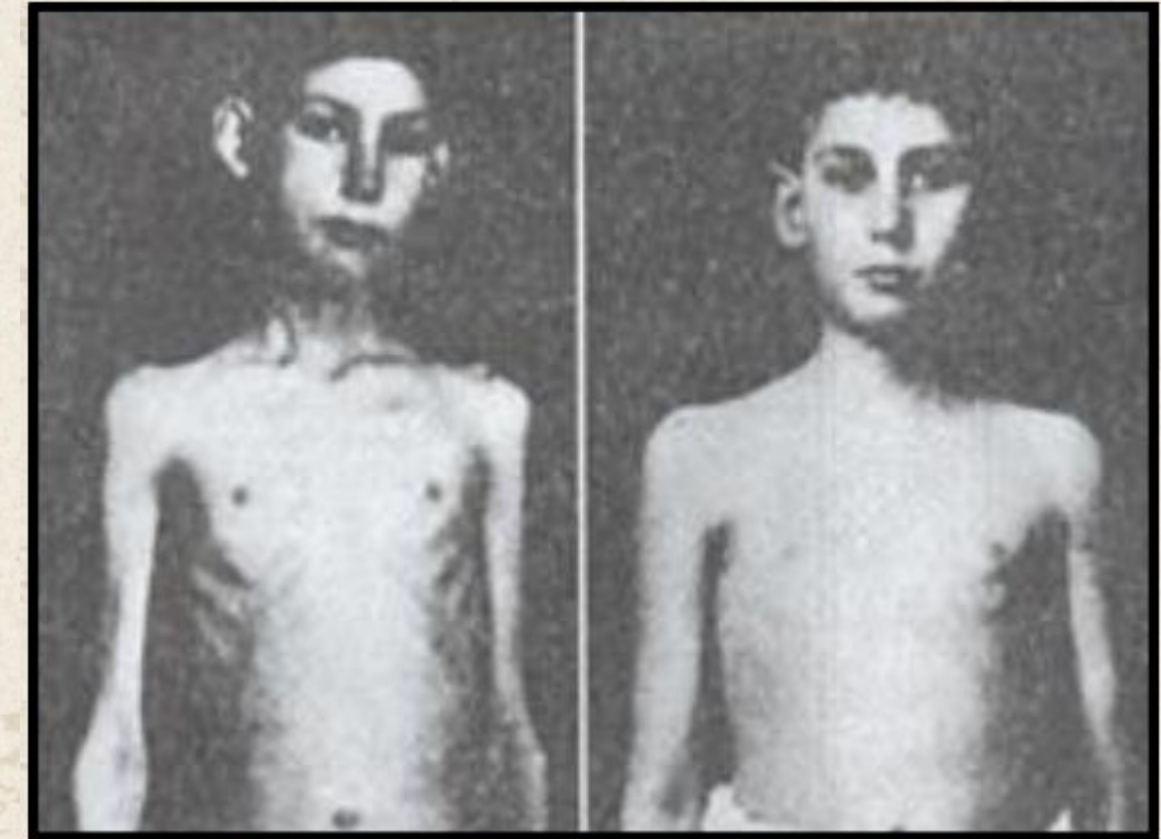
Banting's epiphany in 1920:

*"Diabetes (sic). Ligate pancreatic ducts of dog. Keep dogs alive till acini degenerate leaving islets. Try to isolate the internal secretion of these to relieve glycosurea (sic)"*

Paulescu patents his "pancrein" in 1921



# THE RACE FOR INSULIN



Jan 23, 1922: Leonard Thompson

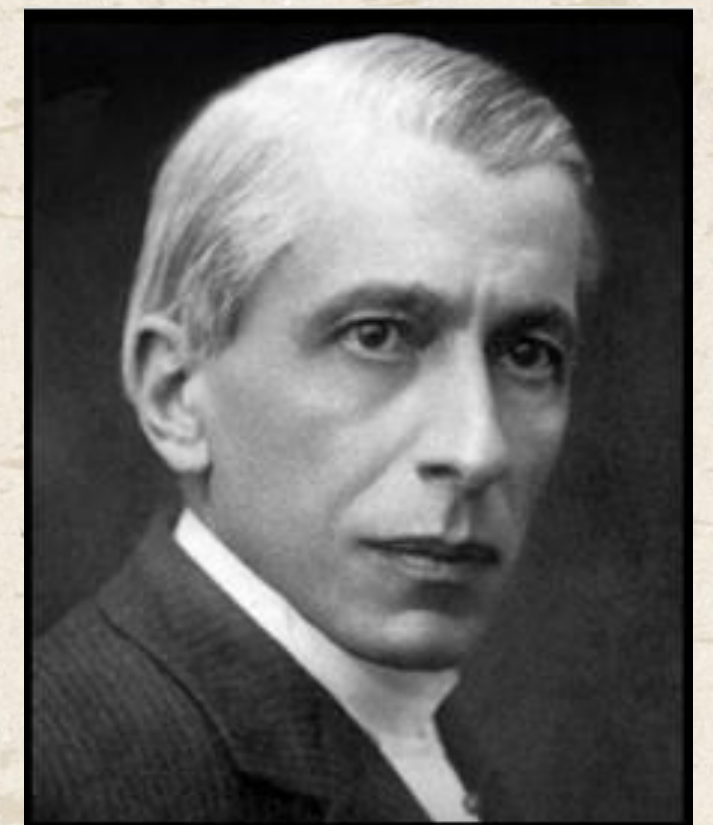
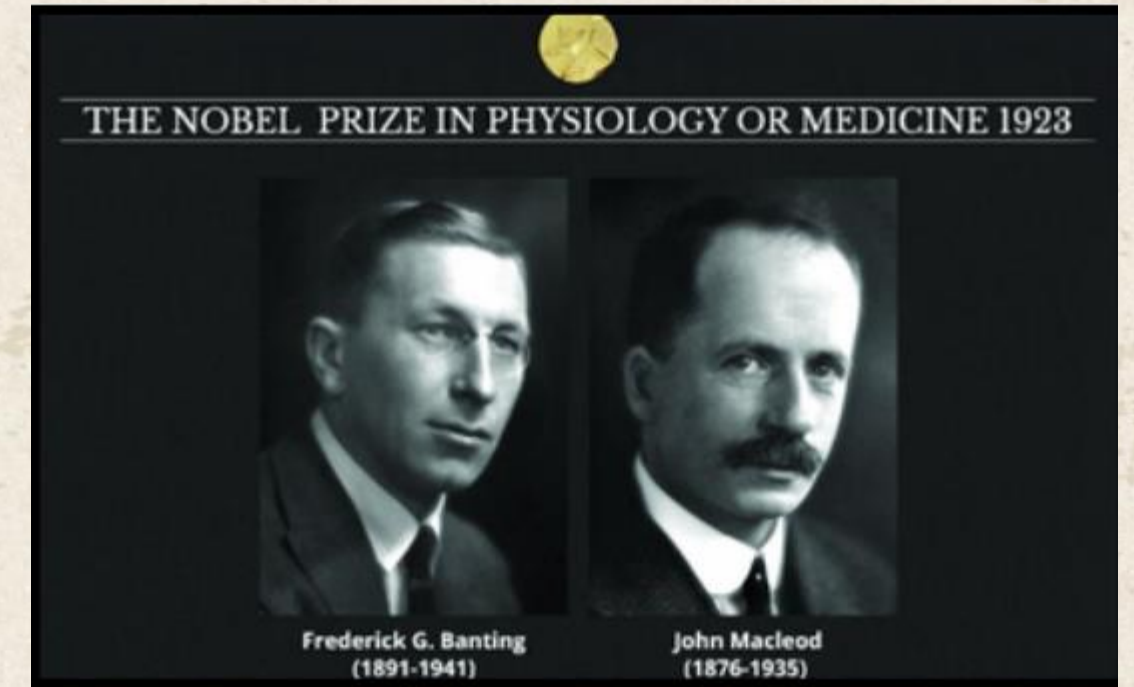
Etienne Lancereaux (1829-1910), Oskar Minkowski (1838-1931), Joseph von Mering (1849-1908), Paul Langerhans (1847-1888), Rudolf Virchow (1821-1902), Edouard Laguesse (1861-1927), Georg Ludwig Zuelzer (1870-1949), Arrigo Visentini (1883-1945), Nicolae Paulescu (1869-1931), Frederick Banting (1891-1941), Moses Barron (1884-1974), John Macleod (1876-1935), Charles Best (1899-1978), James Collip (1892 - 1965), Leonard Thompson

# THE RACE FOR INSULIN

In 1969 the Nobel Committee for Physiology recognized the Paulescu procedure as prior to and overlapping with that of Banting.

*"Honour goes not to those who have the idea, but to those who put it in practice"*

Cardinal Richelieu, 1688

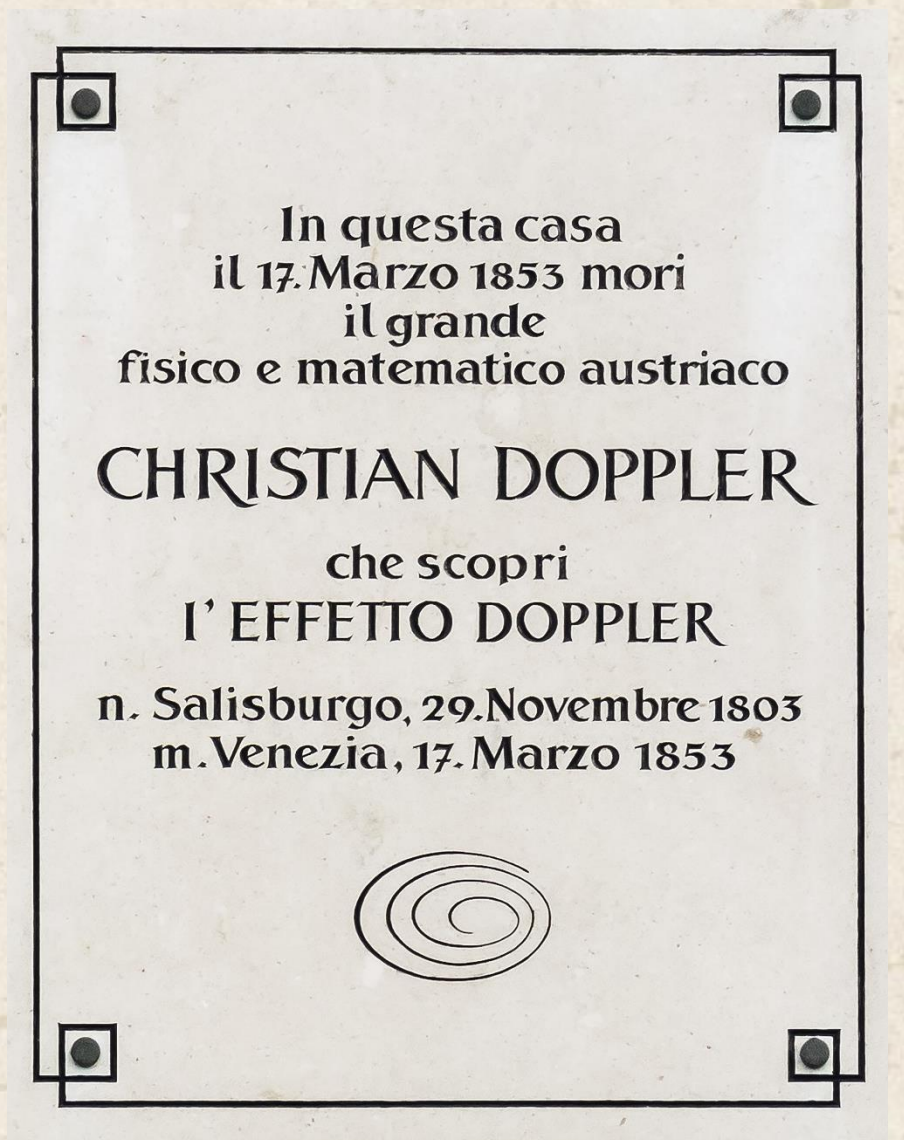


# DOPPLER – DEATH IN VENICE

By applying Doppler's principle the speed of an airplane can be measured as well as that of a red blood cell in a capillary. A sudden increase in speed means that a narrowing (stenosis) of the vessel is the culprit.

Doppler does not know it but its effect will become fundamental in countless fields.

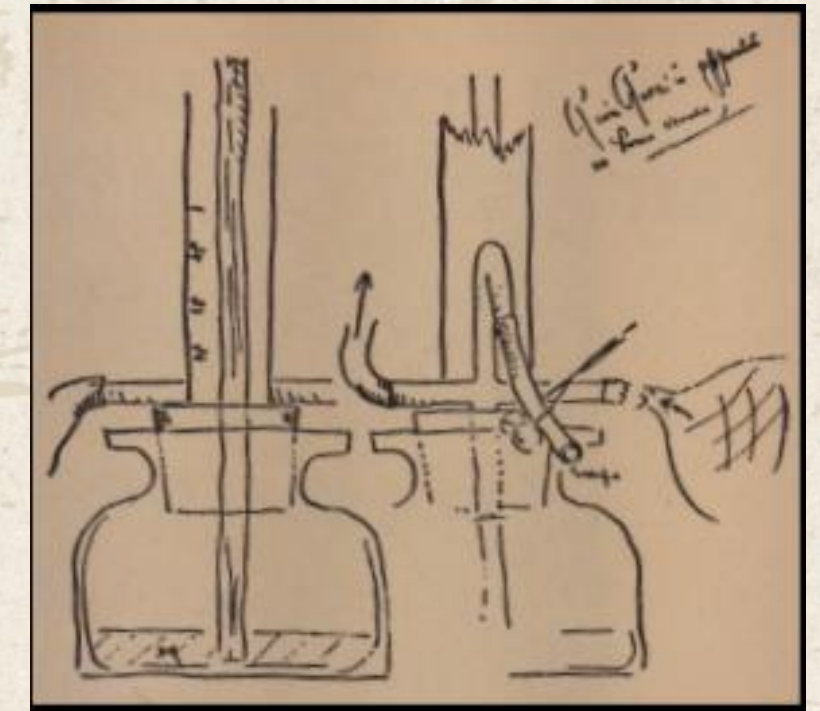
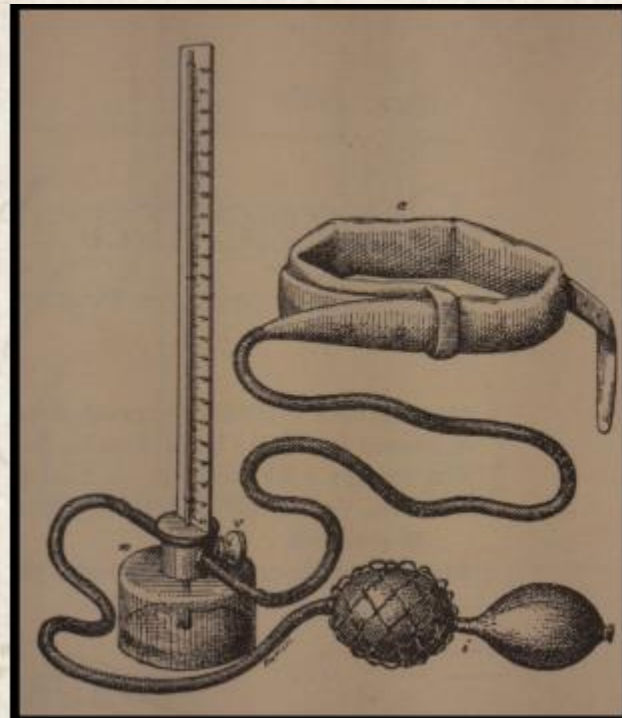
*"The most deserving research is that which delights the thinker and serves humanity".*



# THE LEOPARD



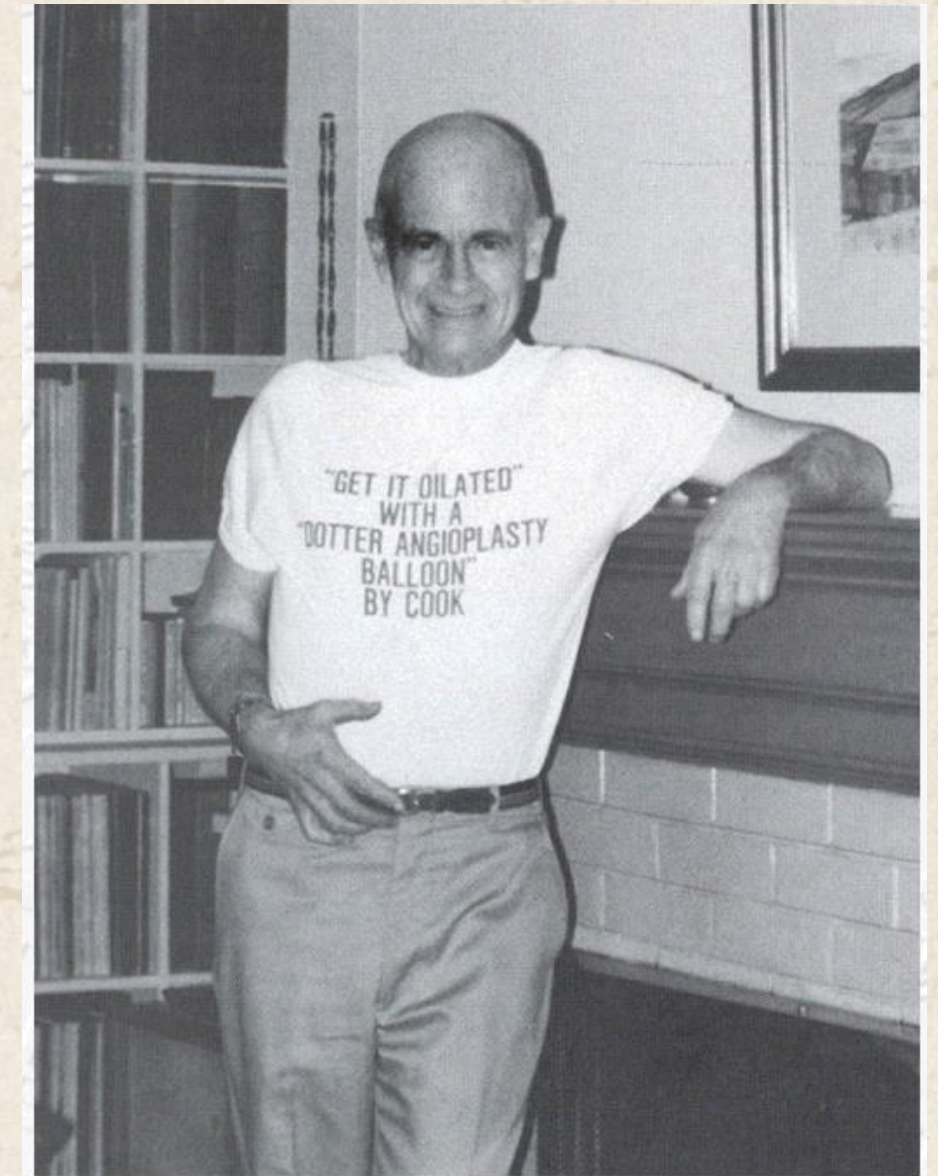
# RIVA ROCCI – THE SPHYGMOMANOMETER



Scipione Riva Rocci (1863–1937), Carlo Forlanini (1847–1918), Harvey W Cushing (1869–1959)

# CHARLES DOTTER AND DIABETES VASCULOPATHY

PTA – Percutaneous Transluminal Angioplasty



University of Oregon Medical School  
Hospital Clinic  
ANGIO SURGERY  
Radiology Consultation  
Please complete in full. One examination per request. Examination is based on the available clinical information. Date of last x-ray examination of the U. of O. Med. Center 3/9/64  
Unit No. 18-28-16  
Name BOURNE, HARRY  
Birthdate 11/22/99  
Anatomical part to be examined: *Left femoral arteriogram*  
Pertinent Clinical Data: *Arteriosclerosis, Adductor hiatus occlusion, etc.*  
Clinical Diagnosis: *Arteriosclerosis*  
Specific Information Desired: *VISUALIZE BUT DO NOT TRY TO FIX !!!*  
What Special Precautions are Needed:  
 Bed to X-Ray  Emergency Wet Reading  
 Bedside  O.R.  
Your signature on this request indicates your approval of the use of procedure and drugs appropriate to the examination.  
ANGIO *Van Eldon* SURGERY



Dotter, Cook, Stent





*Evolution consists in making visible what was already there*  
(M. Grmek, 1993)





# WHAT A TEAM!

