A Note from History:
Pathologists Who Attained Fame Without Using Microscopy

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The professional activities of Giovanni Battista Morgagni (1682-1771), Matthew Baillie (1761-1823), and Carl Rokitansky (1804-1878) covered nearly two centuries and influenced the thinking of generations of clinicians and pathologists. These physicians had far more in common than not using microscopy. They all had anatomist mentors, inherited collections of anatomic specimens from their predecessors, practiced anatomic and medico-legal autopsy pathology, believed in correlating clinical symptoms with postmortem pathologic changes, were professors of anatomy and pathology, and drew students and followers from every corner of the world. Two of the three, Morgani and Baillie, were wealthy practitioners of clinical medicine.

Giovanni Baptistita Morgagni. Morgagni’s mentor was the anatomist and physiologist Valsalva, from whom he learned, he wrote, that examining the body of one who has died of some disease is of more service to medicine than dissecting the body of a man who had been hanged [1].

Morgagni (Fig. 1) was professor and chairman of anatomy at the University of Padua, Italy, for more than half a century. He was a big, jovial man, a historian, and a Latin scholar. He married only once and had 15 children. He was a wealthy practitioner of medicine. His patients were drawn, before and after death, from the ranks of bishops, cardinals, influential nuns, and rich businessmen.

Morgagni’s monumental text “De Sedibus” [2] was published in 1761 when he was 80 years old. In this book, Morgagni correlated the clinical records with the postmortem findings in 700 autopsied cases. There he published the first descriptions of mitral valvular stenosis, vegetative endocarditis, angina pectoris, purulent mastoiditis, hepatic cirrhosis, and gastric hemorrhage. He described hydrocephalus, hydrothorax, spina bifida, and congenital jaundice. He speculated about the syphilitic origin of aortic aneurysms and he showed that the cerebral lesion in apoplexy is contralateral to the extremity with paralysis. [3]
Morgagni provided accurate descriptions of branchial cleft cyst, patent ductus arteriosus and foramen ovale, ulcerative colitis, Crohn’s disease, gastric and colonic polyps, hepatization of the lung in pneumonia, and he documented carcinomas of the larynx, pharynx, kidney, pancreas, testis, uterus, and ovary. He knew about malignant ascites and performed the first paracentesis. He invented the first “colposcope” for examination of the uterine cervix by introducing a funnel into the vagina and employing a lamp for illumination [3].

In the history of medicine, Morgagni’s legacy includes a dozen eponyms, such as the cataract of Morgagni, Morgagni’s caruncle of the prostate, and Morgagni’s cyst of the bladder. Morgagni’s life was long and healthy, even though he performed all of his autopsies with bare hands. He died suddenly at the age of 90, ten years after his famous book was published.

Matthew Baillie (Fig. 2) was born in 1761, the year Morgagni’s “De Sedibus” was published. Baillie’s mother was the sister of the famous English anatomists, John and William Hunter. He was tutored by his uncles and inherited their anatomic collections as well as their wealth. Baillie was a short man with a hot temper and he spoke with a Scotch dialect. At a young age, he established himself in London as an anatomist, medical practitioner, and lecturer. His dictum was that a successful physician must exercise common sense and cater to the right people [4].

Baillie was well known as a tireless clinical practitioner, but his principal interest was in morbid anatomy. He was familiar with Morgagni’s “De Sedibus” and was critical of Morgagni’s presentation of individual cases without attempting to connect them to each other [1]. To remedy this deficiency, Baillie wrote his own book “The Morbid Anatomy” [5], which was the first English textbook of pathology. Among its innovations was the arrangement of postmortem findings according to organ systems, including the heart and vessels, lungs and bronchi, stomach and intestines, kidneys and bladder, brain and spinal cord.

Baillie’s book contains the first descriptions of obstructive pulmonary emphysema, congenital dextrocardia with situs inversus of viscera, dermoid cyst of the ovary, and scirrhus carcinoma of the esophagus and stomach. Baillie noted a relationship between rheumatic fever and heart disease and he provided a clear description of nodular and infiltrative (miliary) pulmonary tuberculosis [5].

“The Morbid Anatomy” made Baillie famous at home and abroad; it was reprinted in the United States in 1795, making it the first pathology textbook to be printed in North America [6]. Because of his excellence in practice and teaching, Baillie was recognized as the leading physician of England. He was the attending physician of the emotionally unbalanced King George III of England, who governed during the American Revolutionary War.

As King’s physician, Baillie could afford to be selective in accepting patients. On one occasion, a lady visited him without an appointment, while she was enroute to the opera, because she wanted to know whether she might eat oysters after the performance. Baillie, sharp as always, said, “Yes, Ma’am, shells and all” [4]. Baillie died at age sixty-two and was buried in Westminster Abbey.
Carl Rokitansky (Fig. 3) was born 11 years after Baillie’s book was published. He was a student of Purkinje in Prague but he returned to Vienna to complete his medical education. In 1834, he became professor of pathological anatomy, prosector at the Allgemeinen Krankenhaus, and medicolegal pathologist of Vienna. He inherited his predecessor’s collection of pathology specimens and added to it, almost daily, from the couple of thousand autopsies that he and his associates performed annually [1]. He was of medium height and lightly built. His manner was unassuming and graceful. He had four sons and commented that the first two were “heilen” (physicians), while the other two were “heulen” (singers) [1].

Rokitansky did not engage in clinical practice, but his autopsy protocols provided assessments of (a) symptomatology and therapy, (b) etiology and pathogenesis, and (c) pathologic morphology. His method of reporting autopsy findings angered some practitioners of clinical medicine. They became so annoyed that they complained to the authorities in an unsuccessful effort to have Rokitansky’s medical license revoked [7].

Although Rokitansky’s observations in his book “Handbuch der Pathologischen Anatomie” [8], published in four volumes between 1842 and 1846, were unaided by microscopy, only limited details could be added today to his case reports. He was the first to describe goiter, acute yellow atrophy of the liver, intestinal obstruction and intussusception, metaplastic bone formation, villonodular synovitis, periarteritis nodosa, enchondroma, osteochondroma, and benign mixed tumor of the parotid. He coined several terms, eg, “pigmented melanoma,” “hamartoma,” and “osteoid.” He provided classic commentaries on how to differentiate between lobar and lobular pneumonia and between Bright’s disease and renal amyloidosis [9].

Rokitansky demonstrated that without an understanding of pathology there is no intelligent diagnosis nor any good practice of medicine. He established Vienna as the global center of medical learning and his followers did everything to ensure that it remained so for almost a century. His detractors, including Virchow, failed to harm his reputation by calling attention to his erroneous claim that cellular elements develop from body fluids.

In his latter years, Rokitansky exchanged pathology for administration and politics. He was Dean and Rector of the University of Vienna for a number of years. Subsequently, as a liberal politician, he was elected Speaker of the Austrian Parliament. In old age, he suffered from asthma and died from a heart attack at age 74 [7].

Summary. Morgagni, Baillie, and Rokitansky were three giants in pathology. They established the foundations for classification of diseases. Their combined contributions to clinical knowledge outweighed all that had been learned in medicine in the prior history of the human race. It is remarkable that their achievements were made without using microscopy.

References