Letter: Max Brödel and the Practice of Putting Art Into Medicine

To the Editor:

This year marks the 75th anniversary of the First Annual Meeting of the Association of Medical Illustrators (AMI). The meeting, originally held in Philadelphia, Pennsylvania, on September 23–26, 1946, comprised a total of 40 members and guests. Today, the AMI boasts of over 800 members, spread across 4 continents. In light of this momentous achievement, we are delighted to highlight the significant contributions of medical illustrations to neurosurgery and call to attention the work of one particular artist: Max Brödel. Here, we discuss Max Brödel's profound contributions to medical illustration and the importance of artistic capability and creativity in the field of neurosurgery.

For centuries, neuroanatomy and neurosurgical pathologies have been conveyed through medical illustrations. As we continue to make immense strides in neurosurgical technology, it is because of visual maestros such as Brödel that neurosurgeons are able to conceptualize perplexing concepts, and at times subcellular processes, through computer graphics and animations. What even the most advanced microscopes cannot accomplish, medical illustrators are able to portray.

Prior to his journey overseas, Brödel was enrolled in the Leipzig School of the Fine Arts (1884), where, under the tutelage of Dr Carl Ludwig, he began his serendipitous foray into anatomic and histological drawings.2 Even without formal medical training, Brödel acquired a meticulous understanding of anatomy, pathology, physiology, and surgery. His early exposure to the medical sciences enabled Brödel to cultivate a unique skillset that would ultimately allow him to master the “practice of putting art into medicine,” and was rightly crowned the father of modern medical illustration.2,3

Throughout his career, Brödel advocated for medical illustration as both an art form and a precise science with myriad purposes. Prior to Brödel’s arrival at Johns Hopkins in the 1890s, much of the visual medical documentation was done through photography. It was Brödel who pointed out that medical illustrations comprise a combination of analysis and interpretation: an ideal medium for learning and teaching.2 Under the guidance of renowned gynecologist Dr Howard Kelly at The Johns Hopkins, Brödel fine-tuned the precise science of medical illustrations and made some of his most significant contributions to academic medicine.2

Notably, Brödel was known to study his tissue of interest by injection, dissection, frozen section, or reconstruction prior to embarking on any drawing.2,4 It was due to Brödel’s dissatisfaction with prevailing techniques and their inability to capture the essence of living tissue that he ultimately created the “half-tone” method, now commonly referred to as the Brödel carbon dust technique.5 Through the scrupulous study of his objects and his methodical choice of technique, Brödel was able to skillfully blend tissue realism with cross-sectional anatomy, all whilst maintaining topographical accuracy.

As a collaborator and mentor, Brödel always sought to promote both the artistic and scientific nuances of medical illustrations. In 1911, through the creation of the first Department of Art as Applied to Medicine at Johns Hopkins University, Brödel not only established a medical legacy and precedent for medical illustrations but also paved the way to “teach the artists more medicine” and to “teach the scientists more art.”3

Medical illustrations enable neurosurgeons to visualize inexpressible concepts, enable more effective communication with patients, and significantly complement novel scientific research. Indeed, Brödel’s enthusiasm for scrupulous artistic methodology, coupled with his dedication to scientific principles, serves as a faithful reminder that medicine is in fact the quintessential union between the arts and sciences.

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