The Politics Underlying the Provision of and Changes in Pathology and Laboratory Services in the United States During the Roaring Twenties

James R. Wright Jr, MD, PhD

**Context.**—Prior to 1900, laboratory tests were simple enough to be performed by clinicians on the wards and most pathologists were academicians with little involvement in patient care issues. In the next 2 decades, laboratory test menus expanded rapidly and the increasing complexity of the tests created a potential niche for clinical pathologists (ie, pathologists providing patient-oriented anatomic and clinical pathology services). In the late 1910s and early 1920s, most of these services were provided by mail-order commercial laboratories or state public health laboratories rather than by hospital-based pathologists.

**Objective.**—To describe the political events in the 1920s that would drastically alter the practice of pathology and laboratory medicine and that would have been important to the discipline at the time the *Archives of Pathology and Laboratory Medicine* was being conceived and first published.

**Design.**—Available primary and secondary historical sources were reviewed.

**Results.**—In the 1920s, clinical pathologists organized, forming the American Society of Clinical Pathologists, and took on the powerful American Medical Association for permitting advertisements by private laboratories in the pages of the *Journal of the American Medical Association* that listed test prices as if these were commodities. They found a strong partner in the American College of Surgeons, which was attempting to elevate surgical practice by creating minimum standards for hospitals. Through this symbiotic relationship, hospital-based practice was firmly established and the commercial laboratory model faltered.

**Conclusions.**—The Roaring Twenties was the time when the practice of pathology and laboratory medicine evolved into what we recognize today.


The 1920s were a unique time in America. America had just emerged from World War I as the most powerful country in the world, both economically and militarily. Soldiers returned to a time of economic prosperity and increasingly liberal values. The Roaring Twenties were characterized by rapid industrial growth, antiunion mentality, rampant consumerism, widespread implementation of new technologies, feminism, a sense of modernity and progressivism, stock market speculation, and the propagation of jazz music and art deco architecture. Ironically, Prohibition, an anachronistic policy that had been in the making for several decades, was implemented on January 17, 1920, when the 18th Amendment to the United States Constitution took effect. Prohibition lasted the entire decade but was vigorously circumvented by the proliferation of speakeasies and organized crime. The Roaring Twenties ended on Black Tuesday, October 29, 1929, when the stock market crashed, beginning the Great Depression, costing millions of jobs throughout the 1930s.1,2

This essay will focus on pathology and laboratory medicine during the Roaring Twenties, which was when the specialty began to evolve toward something we would recognize today, and the fascinating politics behind these changes. This was the dynamic environment that existed when *Archives of Pathology and Laboratory Medicine* was approved by the American Medical Association (AMA) Board of Directors, established its editorial board, and began publishing in 1926.3

**PATHOLOGY IN THE EARLY 20TH CENTURY**

In the late 19th century, most laboratory tests were generally simple enough that a well-trained internist could perform them on the wards; most pathologists were academicians and were not normally involved in direct patient care.3,4 However, by the early 20th century, there had been an exponential increase in available laboratory tests, and the increasing complexity of these tests precluded their being performed by the patient’s clinician.3,4,5 This, along with an even larger increase in the number of hospitals in the United States, created a
potential niche for clinical pathologists, as well as 2 opposing service models: hospital-based laboratories run by in-house clinical pathologists and commercial laboratories. The former tended to be smaller and less efficient, but provided more personal service, whereas the latter, benefiting from economy of scale, were often larger and more efficient with faster turnaround times. By the mid-1910s, commercial laboratories providing these services were rampant; large cities generally had multiple providers competing for the clinician’s laboratory testing business, and they often did this by advertising their low prices (Figure 1). Laboratory services had quickly evolved into a commodity rather than a consultation between physicians. Further complicating matters, some laboratory tests were offered for free by state public health laboratories, but turnaround times could be very slow. Most hospitals did not provide surgical pathology services; tumors and other tissues removed at surgery were normally thrown in the garbage can, unless the surgeon specifically needed a histopathologic diagnosis. When this unusual request was made, the turnaround time was normally days or weeks. Physicians and surgeons who were in even less of a hurry to get their results also had another option, as more than half of all states offered free histopathologic diagnoses in their public health laboratories.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS FORMS AND FIGHTS THE AMERICAN MEDICAL ASSOCIATION

In 1921, there were only 450 clinical pathologists registered with the AMA. It was a moribund specialty before it had even really established itself. During the late 1910s and early 1920s, commercial laboratories, competing with hospital-based clinical pathologists for their very survival, reached their peak. Throughout the 1920s, clinical pathology as a specialty had extreme status issues, and clinical pathologists were often viewed as technicians rather than as peers and colleagues by other physicians. The issue of whether laboratory tests were commodities or professional consultations came to a head in the *Journal of the American Medical Association* (JAMA). Although, in general, the Roaring Twenties was an antiunion decade, physician specialists were still actively forming specialist societies, and the American Society of Clinical Pathologists (ASCP; the name was later changed to American Society for Clinical Pathology) was created in 1922.

Briefly, the rapid evolution of the movement to form the ASCP began April 1, 1921, when 5 clinical pathologists practicing in Denver formed the Denver Society for Clinical Pathologists; on June 21, 1921, other clinical pathologists...
within the state wanted in and the organization was renamed the Colorado Society of Clinical Pathologists. Quarterly meetings were arranged. According to the first history of the ASCP:

At these gatherings, besides the presentation of scientific papers, informal discussions were held on the status of the clinical pathologist and his relation to the clinician. The situation was deplorable. The clinical pathologist was coming to be regarded as a mere technical assistant, not on par with other specialists. This condescending attitude was greatly fostered by the unseemly advertisements in medical journals tending to make laboratory diagnosis a purely commercial ad-
junct.\textsuperscript{16(p680)}

At about the same time, the Texas Society of Clinical Pathologists and the Ohio Pathological Society formed. The Colorado society began a campaign to take on commercial laboratory advertising in journals, and they also began a letter-writing campaign:

Letters of mild protest were sent to honorary consul-
tants whose names figured in the advertisements of a laboratory on the “chain of stores” plan, pointing out the anomaly of their position as teachers in medical schools lending their prestige to a commercial con-
cern.\textsuperscript{16(p682)}

Later in 1921, the Colorado society, led by Philip Hillkowitz, MD,\textsuperscript{19} and Ward Burdick, MD,\textsuperscript{20} wrote letters to all physicians listing themselves as clinical pathologists in the AMA directory; these letters included a circular proposing the formation of a national society. Based upon a highly favorable response, a meeting was arranged to coincide with the upcoming AMA meeting in St Louis. The ASCP was born on May 22, 1922, with Hillkowitz as its first president and Burdick as the secretary-treasurer.\textsuperscript{16,17}

The ASCP had an immediate success that was quickly reversed. On December 2, 1922, a brief story entitled “Advertising of Commercial Laboratories” was published in JAMA’s Association News Section.\textsuperscript{21}

At a former meeting of the Board, a resolution was adopted directing the advertising department of The Journal not to accept advertisements of commercial laboratories in which the personnel, including consult-
ts, and the prices of the various test are mentioned. Following this action of the Board, the Advisory Advertising Committee . . . held several conferences to consider the principles which should govern the acceptance of advertising of clinical pathologic labor-
atories.\textsuperscript{21(p1937)}

These meetings resulted in a report to the AMA Board of Trustees (the entire brief was printed in JAMA\textsuperscript{21(p1937–1938)} recommending that this decision be reversed because it “was not in the interest either of the physician or of the public.” It addressed each issue of the following issues separately: omission of price, personnel, and consultants, and then stressed that the advertising was not unethical as “is not addressed to the public but to the medical profession.”\textsuperscript{21(p1937)}

Related to the omission of price issue, the Advisory Advertising Committee stated:

The omission of price permits the man who calls himself a laboratory specialist to make charges for laboratory tests on a sliding scale. Such variations in price are not warranted by the character of the work done. . . . The status of the clinical pathologist is not the same as that of the internist or surgeon. The latter deals with variables—human beings. The former conducts manipulations on fixtures—inanimate substances. If the tests are scientifically performed, the results must be the same in the hands of all well-qualified men. Personality does not enter in; training does. It is known that when the prices are not generally known, some laboratories charge physicians unwarranted fees for services. At the same time, when prices are not made public, an unscrupulous physician may charge patients unwar-
ranted prices for laboratory work. Such work as the Wassermann test, urinalyses, blood counts and similar technical procedures are standard commodities which can be furnished by persons of a certain minimum training at a reasonable fixed price which may be estimated and controlled by the advertising committee of The Journal.\textsuperscript{21(p1938)}

The story finished with the AMA Board resinding its former resolution and adopting the principles contained in the report of the Advisory Advertising Committee.

This precipitated a strong response from the president of the new ASCP, Philip Hillkowitz, in the March 31, 1923, issue of JAMA. His letter to the editor entitled “The Status of the Clinical Pathologist” begins:

To the Editor:—When is a physician not a physician? Answer: When he is a clinical pathologist. This is apparently the opinion of the Advertising Committee . . . The impropriety of their advertisements as being subversive of the Code of Ethics as well as of good taste had been called to the attention of the trustees by the American Society of Clinical Pathologists, a national organization of the ethical laboratory men of the country. The members of the society firmly adhere to the thesis that the status of the clinical pathologist is on a par with that of the internist, surgeon or other specialist or consultant in medicine, and he is, therefore, subject to the same code of ethics and high moral standards.\textsuperscript{22(p943)}

Hillkowitz quotes the entire text of the Advisory Advertising Committee’s report related to omission of price and then dissects it and debates it. At one point, he states that the AMA, “following the logic of the committee, should start a holy crusade against variations in fees for appendectomy—an operation that may be termed stand-
dardized, only differing from a Wassermann test in that it is a scientific procedure in vivo, whereas the Wasserman test is in vitro. The reasoning is, of course, a reductio ad absurdum.”\textsuperscript{22(p943)}

Every statement made by Hillkowitz in his letter to the editor was followed by a rebuttal within brackets by the “Adv. Comm.” For instance, related to the above: “[It should be reiterated that the routine laboratory tests and examinations are in no way comparable to surgical operations. Routine tests, as a rule, deal with materials outside the body, whereas surgical operations are made on the living patient. —Adv. Comm.]”\textsuperscript{22(p943)}

Hillkowitz strongly objected that laboratory tests are commodities. He explained, possibly invoking wishful thinking, that:
This is the unkindest cut of all. In real life what do we find? The clinician goes over the case with the pathologist—he tells him the history of the patient, gives him the findings of the physical examination, inquires what laboratory tests would aid in the diagnosis and, lastly, when the tests are performed, asks for an interpretation, and the two coordinate their laboratory and clinical investigation toward making the diagnosis.22(p943)

The Advertising Committee objected, saying:

[The statement that “in real life . . . the clinician goes over the case with the pathologist” and asks the pathologist what tests are to be made does not hold good even in 1 per cent. of cases in our larger cities, and is not at all applicable to smaller communities. It is safe to say that there are not specialists in clinical pathology available for 1 per cent. of such consultations as Dr. Hillkowitz states are regularly held over all patients by the clinicians. Certainly, the general practitioner, and particularly those physicians in small towns, when in need of laboratory service depend on the regularly established commercial laboratories or on the state laboratory. From the very nature of the case, the specialist in clinical pathology conducts laboratory examinations on a relatively small scale with a naturally higher price, while the commercial laboratory carries on its work on a large scale, and can well afford to do so at a low price. —Adv. Comm.]22(p943)

The need for brevity precludes detailed discussion of the personnel and consultant issues from either perspective. As might be expected, the ASCP maintained that providing this information was unwarranted and that paid consultants were used for the marketing value of their name recognition and were not actually providing the services, whereas the Advisory Advertising Committee maintained that knowing the names and qualifications of the individual(s) providing the testing was value added and that the Advertising Committee could investigate and preclude advertisements from any laboratories with honorary consultants.23,22

Next, a committee of ASCP leadership was invited to meet the board of trustees on June 26, 1923, and the issues were further debated. During these discussions, it became clear that, even within the ASCP leadership, there were differences of opinion as to whether all advertising was necessarily bad, as some of the owner-operators of the commercial labs were qualified for clinical pathology, bacteriology, clinical chemistry, and forensic sciences,25 and, by 1917, had published his first textbook (Figure 2).28 He opened Gradwohl Biological Laboratories in St Louis in 1908, and by the 1920s ran commercial laboratories in St Louis; Chicago, Illinois; Bloomington, Illinois; and Paducah, Kentucky. One of his textbooks became a classic and went through 8 editions, surviving him by more than 20 years.29 He also started one of the first, if not the first, schools for training laboratory technicians. He was a prodigious advertiser for both his laboratories and of the Gradwohl School of Laboratory Technician (Figure 2).

The author cannot find evidence that this was ever resolved by the AMA board, but in practice, the market changed, the number of advertisements (which was actually already decreasing even before the formation of the ASCP) continued to decrease, hospital-based clinical pathology prevailed, and the need for commercial laboratories dwindled within the decade (see below).

Interestingly, whereas advertising prices of clinical laboratory services was a major issue for clinical pathologists, it was relatively unimportant as far as the AMA was concerned. Morris Fishbein’s 1226-page A History of the American Medical Association 1847 to 1947 only once mentions “Advertising of Commercial Laboratories.” Under a section with this title in his review of the year 1922, the following is his full text: “The rise of commercial clinical laboratories and of by night postgraduate courses was also giving concern to many agencies interested in standardization of medical science on a high level. It became necessary to adopt regulations governing the advertisements of such institutions.”24(p327) These sentences are how the official history of the AMA, written by the powerful and long-serving editor of JAMA (who was also a member of the Advisory Advertising Committee at that time), addressed this very contentious issue that caused the specialty of clinical pathology to crystallize and gel. Perhaps not surprisingly, in reviewing A History, a much more prominent topic of discussion within the AMA during the Roaring Twenties was the ethics of prescribing alcohol during Prohibition.

There was huge variability in the quality of mail-order laboratory services, as was noted by both the AMA and the ASCP. Although a few were clearly incompetent and dangerous (nb: the relative numbers of these cannot be determined), other commercial laboratories provided state-of-the-art testing, which was as good as or better than that provided by most hospital-based clinical pathologists. For instance, Rutherford B. Hayes Gradwohl, MD (Figure 2), an 1898 graduate of Washington University in St Louis (Missouri) who then studied pathology with Virchow in Berlin and bacteriology at the Pasteur Institute in Paris, was a well-rounded pathologist who was considered an expert in autopsy pathology, bacteriology, clinical chemistry, and forensic sciences.25,27 and, by 1917, had published his first textbook (Figure 2).28 He opened Gradwohl Biological Laboratories in St Louis in 1908, and by the 1920s ran commercial laboratories in St Louis; Chicago, Illinois; Bloomington, Illinois; and Paducah, Kentucky. One of his textbooks became a classic and went through 8 editions, surviving him by more than 20 years.29 He also started one of the first, if not the first, schools for training laboratory technicians. He was a prodigious advertiser for both his laboratory and the Gradwohl School of Laboratory Technique (Figure 2).

Therefore, expertise and quality of the results were not uniformly problematic, and the advertisement, personnel, and consultant issues were not working out compellingly to their advantage. The more logical approach for the ASCP was to focus on areas that commercial laboratories, by virtue of physical separation, could not easily provide. Clinical pathologists quickly came to recognize that their stronger...
arguments for the existence of their specialty was the provision of hospital-based anatomical pathology services, a field in which, unfortunately, many clinical pathologists were suboptimally trained. Furthermore, what the hospital-based clinician customers really wanted, in their efforts to increase standardization and promote quality patient care, were clinical pathologists well trained in autopsy pathology and the newer field of surgical pathology.7,30–32 Hillkowitz’s strongest argument in response to the AMA Advisory Advertising Committee’s tenet that clinical pathologists ‘’are not dealing with variables—human beings’’ had been his counterargument that clinical pathologists provide intraoperative frozen section (IFS) diagnoses, making ‘’the quick decision whether a breast tumor is benign or malignant while the patient is on the operating table.’’22(p943) Hence, throughout the 1920s, IFS was critical to the status of clinical pathologists and their establishment of hospital-based pathology and laboratory medicine; they wrote many dozens of articles about every conceivable aspect of IFS.7

FROZEN SECTIONS BECOME A BATTLEFIELD FOR THE SURVIVAL OF HOSPITAL-BASED CLINICAL PATHOLOGISTS

The first IFS technique was published by Thomas S. Cullen, MD, at Johns Hopkins (Baltimore, Maryland) in 1895. When Cullen demonstrated his technique for Hopkins Pathologist-in-Chief William Welch, MD, Welch considered this such an important discovery that he demanded that Cullen write the paper that night and then arranged for it to be published 2 days later in the Johns Hopkins Medical Bulletin. Welch recognized that many places around the world were trying to develop this technology and he wanted to make certain that Hopkins got the credit for the discovery.7,32 A number of modifications of his technique and many other improved frozen section techniques were developed during the next 10 years. Therefore, many IFS techniques, including the 2 major ones developed by J. Homer Wright, MD, and Louis B. Wilson, MD, existed by 1905, yet widespread implementation of IFS did not occur until the 1920s and 1930s.7 Many surgeons quickly recognized the merit of improved diagnostic certainty via biopsy interpreted by IFS, but many academic pathologists were less enthusiastic, considering IFS to add an additional element of imprecision. In some instances, surgery departments formed their own surgical pathology divisions, and this level of pathologist apathy almost resulted in surgical pathology becoming separated from pathology prior to the formation of the ASCP. However, the strong push of the ASCP and clinical pathologists such as Benjamin T. Terry, MD,33 resulted in the practice of surgical pathology settling within pathology rather than surgery...
departments. By 1920, Benjamin Terry, the head of pathology at Vanderbilt University (Nashville, Tennessee), who had strong ties to the Mayo Clinic (Rochester, Minnesota), was one of the early and vocal proponents of intraoperative diagnostic techniques, noting that they were good for both the patient and the profession.33,34 During the 1920s, most of the membership of the ASCP embraced IFS, as this was a service that required immediate access to a pathologist and could not be provided by commercial laboratories external to the hospital.7 The ASCP had strong allies in this arena as surgeons, who may not have cared who provided their chemistry, microbiology, and hematology testing, desperately wanted hospitals to provide in-house anatomical pathology services. However, a fundamental problem existed in that there was no practical mechanism to pay for autopsies and surgical pathology. The only money that could readily be identified was in the more routine clinical pathology testing. The ASCP and the American College of Surgeons (ACS) became strong allies in the 1920s to address both of their issues.7,32

**AMERICAN COLLEGE OF SURGEONS IMPOSES MINIMUM STANDARDS FOR HOSPITALS THAT INCLUDE LABORATORY SERVICES PROVIDED BY A PATHOLOGIST**

The early 20th century was a difficult time financially for American physicians. There was a huge oversupply of medical practitioners, many of whom either had graduated from substandard allopathic medical schools or had “irregular training” from nonallopathic schools. Furthermore, formal residency training programs and board examinations did not yet exist and so there was no standardized training for specialists. Therefore, the better-trained specialists began to band together and form elite specialist societies, and to grant membership only to specialists viewed to be highly competent by the rest of the membership. Members of these elite specialist guilds assumed that patients would prefer to engage their high-quality services over those provided by practitioners with lesser training and skills and that, therefore, the best interests of both specialists and patients would be served.35-36 It was within this environment that the ACS formed in 1913, with the mandate to elevate both surgical practice and hospital standards. Hospital numbers were expanding exponentially, and hospital standards were essentially nonexistent. The ACS decided to implement minimum standards for hospitals incrementally, and hospital administrators recognized that they would either need to comply or go out of business, as the majority of their patients were surgical patients. The first version of these standards, proclaimed in 1918, had little impact on pathology and laboratory medicine. However, the 1926 minimum standards were a game changer. These required “that the clinical laboratory shall be under the direction of a graduate in medicine, especially trained in clinical pathology” and that “all tissues removed at operations shall be examined in the laboratory and reports rendered thereon.”7 According to health economist William D. White, PhD, surgeons wanted to establish clinical pathologists and clinical laboratories in hospitals “to impose a minimum check on the quality of care being provided in hospitals” because “these checks . . . provided a potential way to cut down on competition from nonspecialists, who presumably were practicing lower-quality surgery than specialists.”37(p855) The 1926 minimum standard also negated any need for state public health laboratories to continue providing routine surgical pathology services, which surgeons had never liked as these threatened the separation of surgery and medicine.38

Social or economic historians often tend to focus on medical specialization and the efforts of specialist societies like the ACS or the ASCP in terms of how they promoted their specialty’s earning ability and well-being; in contrast, physician historians tend to focus on how specialist societies elevated practice and the quality of patient care. Elements of both are true and are likely inseparable.7 It is very clear from reading primary and secondary historical sources related to standardization of hospitals that both the ASCP and the ACS were highly focused on improving patient care. However, because my task in this brief invited essay was to describe the politics affecting laboratory medicine around the time of the founding of the *Archives of Pathology and Laboratory Medicine*, I have focused primarily on the former rather than the latter. However, there was another powerful force supporting the ASCP’s and ACS’s drive for hospital-based clinical pathologists; surgeons and other clinicians returning from Europe after World War I now had increased expectations for the quality of laboratory services.39,40

The United States entered World War I in April of 1917. Thousands of physicians and surgeons from all over America had enlisted. Although community hospitals had been proliferating at an exponential rate in early 20th-century America, pathology and laboratory services were nonexistent in many of these. The majority of these physicians and surgeons had never had direct access to a pathologist and did not even know the full scope of services that could be provided prior to their enlistment. It is important to remember that the “light version” of the ACS minimum standards did not even exist until 1918 and the more stringent version did not exist until 1926. Therefore, when these physicians and surgeons had enlisted, hospitals were not required to provide pathology or laboratory services. In stark contrast, the laboratory services they were exposed to while serving their country overseas with the American Expeditionary Forces were exceptional because they were organized by Louis B. Wilson, the director of laboratories at the Mayo Clinic (Rochester, Minnesota). Wilson had high standards and became proficient in dealing with military bureaucracy. Wilson and his boss, Col Joseph Siler, MD, during America’s short time in the war, quickly established 300 efficient American Expeditionary Forces laboratories. Wilson was a stickler for providing personalized service. He considered every interaction between one of his pathologists and a clinician as a consultation. Both Wilson and Siler were awarded Distinguished Service Medals by the president and Congress for their laboratory services, which were deemed to be “of inestimable value to the medical and surgical services” and to have been provided “in a manner not believed possible.”39(p1170)

As mentioned above, the 1918 ACS minimum standards for hospitals did not require in-house pathology services provided by a pathologist. However, the 1926 minimum standards did. Not surprisingly, Wilson played a direct role in formulating the new ACS standards, as, “starting in 1922, Wilson served on a 5-member ACS standardization of laboratories committee (sadly described to ACS Fellows as ‘a committee of eminent laboratory technicians’) tasked with laboratory design for the new minimum standards.”39(p1171) Furthermore, “Wilson’s vision of close team-
work between pathologists and clinicians and his demonstration that pathology services can rapidly address direct patient care issues supported the concept of hospital-based pathologists as opposed to commercial laboratories.10,18,40

In 1928, the ASCP established its Registry of Medical Technologists, administered in cooperation with the ACS standardization process.16 Two years earlier, Burdick had been put in charge of the new ASCP Committee on the Registration of Laboratory Technicians, which recommended defined classes of technicians and laid out the concept of the registry. After Burdick died, Hillkowitz became the first chair of the registry. Therefore, certification of laboratorians was also rooted in the 1920s.10,18,40

EXPANDED VALUE OF LABORATORY TESTING DURING THE DECADE

Having primarily addressed the politics of the decade, I would be remiss not to briefly mention that the menu of laboratory tests expanded vastly in the 1910s and 1920s and there was a legitimate need for clinical pathologists to recommend and interpret more esoteric tests.10,12–14 Furthermore, increased testing sophistication and sensitivity made it possible to perform tests with smaller and smaller volumes of blood—making old, useless tests suddenly practical. For instance, insulin was discovered in 1922 and blood glucose testing became a critical element in the treatment of diabetes during the Roaring Twenties; in fact, the discovery of insulin was actually made possible by advances in the ability to measure blood glucose. In 1910, measuring blood glucose was impractical, as it took at least 20 mL of blood for a single measurement (not feasible in small experimental animals used in the discovery of insulin), but by the 1920s, this could be done with 0.2 mL.41 Other things had changed too. The war resulted in huge advances in blood transfusion technologies, which quickly evolved into new roles for clinical pathologists.39,42,43 Importantly, there were also major advances in cancer pathology. Tumor grading was introduced in the early 1920s and immediately became state-of-the-art for cancer prognostication.44 Also, a new era of exfoliative cytopathology began in the late 1920s, after a 60-year hiatus of no significant developments.45 Pathology and laboratory medicine became a highly dynamic field in the 1920s.

ACHIEVING A NICHE DOES NOT ASSURE STATUS

The Roaring Twenties were an exciting time in which the field of pathology and laboratory medicine was growing and innovating and in which it established a strong foothold in hospitals across America. Furthermore, a mechanism to pay for the services of clinical pathologists evolved and the preferred model for service provision switched from external commercial laboratories to hospital-based practice. Although the niche for clinical pathologists was firmly established, one of their initial issues, social status within the medical hierarchy, was not resolved, and many clinical pathologists finished the decade with big chips on their shoulders. Throughout the decade, they were still often considered technicians by some of their clinical colleagues, and they remained incensed and insulted that the AMA had called them manipulators of test tubes and other inanimate objects. Even within their own ranks, they had status issues. For instance, J. H. Black, MD, in “The Biology of the Clinical Pathologist,” published on page 1 of the first issue of the ASCP’s new official publication, the American Journal of Clinical Pathology, started his paper (ie, his presidential address at the ninth congress of the ASCP in June 1930) with:

The clinical pathologist is an animal of lowly origin and somewhat uncertain parentage. He had his origin as a biological variant in response to an environmental demand. His development from a simple body with few and uncomplicated functions has been so rapid that in the life time of most of us we have seen his evolution into a complex creature with multitudinous functions and relationships. Because his evolution has been so rapid his adaptations have not been perfect and there are still evidences of maladjustment to environmental conditions. There has been the usual amount of variation in the species brought about by differences in pressure of varying factors. There has been a loss here and a gain there in the constant attempt at adjustment. Some have fallen by the way side because of their inability to meet the rigorous conditions of existence. Some, who have survived, have so modified their characteristics that they closely resemble members of other families, and need to be carefully examined to determine their true character. Some have been fortunately situated and have flourished unchecked by unfavorable circumstances and stand out as examples of the finest type of development . . . Biologically, the clinical pathologist still shows many primitive characters and, in some respects, resembles the lower forms of animal life.46(p1)

This excerpt was followed by Black’s humorous and detailed analysis of why clinical pathologists are like bacteria. However, while addressing the first ASCP meeting of the 1930s, Black does highlight that natural section had chosen hospital-based pathology, which had such an uncertain future only 10 years earlier, as opposed to commercial laboratories:

The clinical pathologist who . . . established himself as an independent unit and continues to maintain himself without hospital and teaching connections is rapidly becoming extinct. Through competitive forces of various kinds he finds conditions more and more unfavorable and is maintaining himself at present only in comparatively few strategic locations.46(p4)

Black ends his lecture with an admonition that the profession of clinical pathology had better remain adaptive to external conditions and market forces. One year later, Black’s successor as ASCP president, Kenneth Lynch, MD, in his presidential address, added further clarity that the market conditions would have a strong anatomical pathology focus.30

BIRTH OF PATHOLOGY JOURNALS IN THE 1920s

The Roaring Twenties was the heyday for pathology and laboratory medicine, resulting in the birth of several influential pathology journals that still exist today. When the ASCP was established, the society initially adopted the preexisting Journal of Laboratory and Clinical Medicine, edited by University of Michigan (Ann Arbor) pathologist Victor C. Vaughan,47 as the venue for publishing its activities. Although this worked well enough while the profession’s future was uncertain, by the late 1920s, the society really wanted its own journal, and hence the birth of the American Arch Pathol Lab Med—Vol 140, September 2016
Journal of Clinical Pathology in 1931, which was initially perhaps focused less on generating new knowledge and more on continuing medical education, as the new clinical pathologist supporting the ASC’s vision of the modern hospital needed to be a jack-of-all-trades. Therefore, it is important for the reader to understand that the meaning of the term clinical pathologist in the 1920s and 1930s is not equivalent to its meaning today. Clinical pathologists were generalists who practiced both anatomical and clinical pathology, often in nonacademic or community hospitals.

Prior to the existence of the ASCP, 3 other very important pathologic societies existed in America: the American Association of Pathologists and Bacteriologists (established 1901), the International Association of Medical Museums (established 1907), and the American Society for Experimental Pathology (established 1913). The International Association of Medical Museums flourished in the immediate postwar period with its focus on pathologic museums (nb: in 1955, it became the International Academy of Pathology); its journal, the Bulletin of the International Association of Medical Museums, was stable throughout the decade. In contrast, the American Association of Pathologists and Bacteriologists’ official publication, the Journal of Medical Research, was discontinued in 1924 and was replaced in January 1925 by the new American Journal of Pathology, edited by F. B. Mallory of Boston. This transition came with a 5-year, $7500/y grant from the Rockefeller Foundation and enhanced the profile of pathology. The new journal retained its more experimental focus. The American Society for Experimental Pathology did not have its own journal in the 1920s.

The Archives of Pathology and Laboratory Medicine entered the fray in 1926, under the aegis of the AMA, which was publishing a series of Archives for other medical specialties. Its primary focus was on publishing advances in pathology and laboratory medicine, and perhaps because of its close relation to the AMA, it was mostly able to steer clear of the turbulent economic politics of the time and focus on the advancing science and practice of pathology and laboratory medicine. It should be noted that by the end of the decade, the ASCP and the AMA had made peace with each other and had agreed to a brief AMA document entitled “Essentials of an Approved Clinical Laboratory.” Fundamental to the “Essentials” was the requirement that the Director of an Approved Clinical Laboratory be a physician who has “specialized in clinical pathology . . . for at least three years subsequent to graduation.” Using this, the AMA issued a list of 174 approved laboratories noting that “a number of (commercial) laboratories under the control of technicians have gone out of business.” Taking some credit for this, the AMA states that “physicians should refuse to have their work done at laboratories conducted under the direction of nonmedical persons.” While I can find no evidence that the AMA ever specifically reversed its decision about advertising prices for laboratory tests, the “Essentials” stated that “publicity of an approved clinical laboratory should be in professional good taste.”

To sum all of this up succinctly, the Roaring Twenties were very good to clinical pathology, and it is during this time period that the practice of pathology transitioned into something we would recognize today.

I thank Kristin Rodgers, MLIS, collections curator, Medical Heritage Center, Ohio State University Health Sciences Library, for archival assistance; Charlotte Monroe and the Interlibrary Loan services of the University of Calgary and Alberta Health Services for assistance with obtaining articles; and Thomas Kryton, BFA, for creating the montages for Figures 1 and 2.

References
27. Sommervich AC, Jarett L. Gradwohl’s Clinical Laboratory Methods and Diagnosis, 8th ed. St Louis, MO: Mosby-Year Book; 1980.
34. Terry BT. Increasing the pathologist’s usefulness and his rewards. JAMA. 1925;82:993–994.
37. Arch Pathol Lab Med—Wright
39. Wright JR Jr, Baskin LB. Pathology and laboratory medical support for the American Expeditionary Forces by the US Army Medical Corps during World War I. Arch Pathol Lab Med. 2015;139(9):1161–1172.

James R. Wright Jr, MD, PhD

Dr Jim Wright is professor of pathology and laboratory medicine, professor of pediatrics, and a research scientist with the Julia McFarlane Diabetes Research Centre at the University of Calgary in Alberta, Canada. He received his BSc (zoology), MA (history of medicine), MD, and PhD (experimental pathology) from The Ohio State University, and completed an anatomical pathology residency at Washington University School of Medicine (Barnes Hospital) in St Louis, where he also trained as a postdoctoral fellow in the islet transplant laboratory of Paul E. Lacy, MD, PhD. Next, he completed a fellowship in pediatric & perinatal pathology at the IWK Children’s Hospital and the Grace Maternity Hospital in Halifax, Nova Scotia, Canada, where he stayed and rose through the ranks to be head of anatomical pathology at the IWK Health Centre and professor of pathology, surgery, and biomedical engineering at Dalhousie University. Dr Wright relocated to Calgary as professor and head of pathology and laboratory medicine for the University of Calgary and Calgary Health Region in 2005. He completed his second 5-year term in 2015 and is currently on sabbatical. Dr Wright is certified by the American Board of Pathology in anatomical pathology and pediatric pathology.

Dr Wright’s research interests include experimental islet transplantation, xenotransplantation, bioartificial pancreas technologies, comparative endocrinology, fish biology, perinatal pathology, and medical history. In the medical history arena, his publications mostly relate to either the history of pathology or the history of insulin. He is a former recipient of the American Association for the History of Medicine’s William Osler Medal, a member of the board of directors of the American Osler Society, president of the Calgary History of Medicine Society, and president of the History of Pathology Society (United States and Canadian Academy of Pathology). Dr Wright has authored or coauthored more than 160 peer-reviewed articles, 2 US patents, and a book.