IJUH
The International Journal of Urologic History
www.ijuh.org

G.G. Smith: A Urologist on the Western Front

Barbara Chubak*[1]

[1]Department of Urology, Icahn School of Medicine at Mount Sinai, New York, NY
**Correspondence: Department of Urology, Icahn School of Medicine at Mount Sinai, 10 Union Square East, Suite 3A, New York, NY, 10003*
e-mail: barbara.chubak@mountsinai.org

Introduction: World War I (WWI) left a devastating impact on Europe. Urologist George Gilbert (GG) Smith served with a Harvard-associated group of surgeons and nurses stationed at the western front from 1915-1916. First-hand accounts and medical observations from the front are rare, so Smith's wartime diary is a valuable source to gain further insight into what was once termed the 'War to End All Wars'. Our objective was to study Smith's diaries from WWI to better understand the personal and professional experiences and sacrifices of those who fought and served.

Sources and Methods: The GG Smith diaries were obtained courtesy of the Smith family. Archives were consulted from the American Urological Association (AUA) William P. Didusch library (Linthicum, MD), Center for the History of Medicine at Countway Library (Cambridge, MA), the British Red Cross, the American Hospital of Paris, and cited secondary sources.

Results: Smith graduated from Harvard medical school in 1908 after training at Massachusetts General Hospital (MGH). He joined the growing urology faculty at Harvard under the leadership of Hugh Cabot. Following the start of WWI and before the United States' formal involvement in the war, the Harvard Surgical Unit (HSU) was one of a number of 'neutral' medical corps from America's elite hospitals, composed of individual doctors and nurses who were deployed wherever they were needed for a 3-month tour of duty. As a member of the HSU, Smith was stationed by the warfront, braving air attacks and bombs to care for hundreds of wounded, combatting infections, trauma, and fractious personalities.. The skill in leadership he developed served him well as President of the AUA from 1935-1936, Chair of Urology at MGH from 1938-1945, and President of the Massachusetts Society of Social Hygiene from 1937-1945.

Conclusions: Smith's war time diary is testimony to the great philanthropic efforts of America's institutions during WWI, to the remarkable progress in medical and surgical care that was motivated by the devastation of that war, and to the diversity of people whose pragmatic heroism contributed to the Allied victory. .

Keywords: World War I, George G. Smith, History of Surgery

Over a century has passed since World War I (WWI), and society has since faced many other intervening wars, genocides, and natural disasters. However, WWI, the first mass killing of the 20th century, maintains its relevance. Armistice Day, the anniversary of November 11, 1918 when that war finally ended, continues to be celebrated annually as Veterans' Day or Remembrance Day, in honor of soldiers' sacrifices for their countries. Many of the medical and surgical practices that are characteristic of our modern medicine were born out of the necessity that the war's entrenched battlefronts created. But historians have noted that in the United States (US), WWI is also a forgotten war: whether because none of the fighting occurred on US soil, or because the US entered the fray rather late in its progress, or from the trauma of 117,000 military casualties sustained in only 19 months, WWI does not feature prominently within the national consciousness.(1) This paper is a corrective to that oversight, using the wartime diary of an American urologist, Dr. George Gilbert (GG) Smith, to characterize the involvement of US medical personnel and recognize their contributions to the WWI Allied effort.(2) By analyzing this diary as a product, not only of the individual who wrote it, but also of the context in which he lived and labored, we can gain insight into the similar experiences of his medical colleagues on the Western Front.

SOURCES AND METHODS

Smith's diary came into the possession of the American Urological Association's (AUA) William P. Didusch Center fortuitously, as the AUA 2023 exhibit on Battlefield Urology coincided with efforts by Smith's grandson to

https://doi.org/10.53101/IJUH.3.1.092406
Vol. III (ii), pp 27-35, Spring 2024
Electronically distributed

donate his grandfather's papers where they would be appropriately preserved and appreciated. Smith's family had kept his papers stored in their home following his passing in 1963, out of a conviction that they were important enough to merit preservation, especially those pertaining to Dr. Smith's volunteer efforts during WWI. These papers, which include not only his complete wartime diary and photos, but also various manuscripts from Smith's later career, are now accessible as part of the Didusch Center collection (urologichistory.museum)

Diary manuscripts are valuable primary historical sources, but they are also inherently problematic, biased by the conventions of the genre and especially the ego of the author.(3) Thus, they must be consumed critically: noting the ways that the personality, opinions, and prejudices of the author shape their contents; and attending to the negative spaces, people, places, and things that are elided or excluded from the text. For this study, other primary and secondary sources are used as references for contextualization and interpretation of Smith's diary.

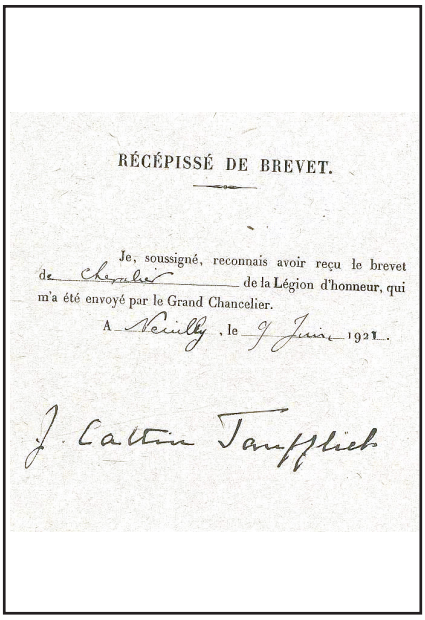
This caution is particularly relevant to the history of medicine as composed by and for medical practitioners. Historiography, the meta-analytic study of the study of history, teaches that such self-reflective narratives are vulnerable to teleological or 'Whiggish' forms of interpretation, which describe history as a virtuous progress toward the physician-historian's status quo, with erasure or vilification of people and things that do not fit that deductive argument.(4) When looking back at the history of biomedical science and clinical practice, it is tempting to elide or malign deviations from the path to what is standard or ideal practice today. But just as medical students are cautioned not to get too attached to what they are learning as much of it will sooner or later be proven wrong, it is essential to balance celebration of medical heroes with doubt, as we can learn from acknowledging their missteps and challenging their virtues.

Additional resources include French National Archives (www.leonore.archives-nationales.culture.gouv.fr/ui/), and the Countway Library of Harvard University (Boston).

RESULTS AND DISCUSSION

Pre-War Education and Practice

Dr. GG Smith was born in Brooklyn, NY in 1883. He moved to Boston as a student, graduating from Harvard University with a BA in 1905 and again with an MD in 1908. Smith completed his formal training as a surgical intern at the Massachusetts General Hospital (MGH) from 1908-1909, before going into surgical practice in Boston from 1910.(5) This rapid trajectory from student to surgeon was not remarkable for the time: it was only in 1904 that the American Medical Association Council



RÉCÉPISSÉ DE BREVET.

Je, soussigné, reconnais avoir reçu le brevet de Chevalier de la Légion d'honneur, qui m'a été envoyé par le Grand Chancelier.

A Neuilly, le 9 Juin 1921.

J. Caitlin Taufflieb

Figure 1. (Left) GG Smith (1883-1963), in his World War I uniform, chronicled his voluntary medical work with the Harvard Service Unit (HSU) in 1915, years before the US entered the war.(Courtesy, AUA Didusch Museum, Linthicum) (MIddle) American socialite and philathropist Julia Hunt Catlin Park Depew Taufflieb (1870-1947) who gave her chateau for use as a medical hospital where Smith and the HSU served (See Figure 2).(Wikimedia Commons, Public Domain) Her efforts throughout the war were recognized by France, and she was awarded (right) the Legion of Honor in 1921.(National Archives of France)

Figure 2. Madame Taufflieb's famed Chateau d' Annel, Longueil, France, the country estate repurposed as the closest hospital to the western front where GG Smith spent his medical time with the HSU. (Wikimedia Commons, Public Domain)

of Medical Education created a standardized medical school curriculum and Dr. William Halsted, first Chief of Surgery at Johns Hopkins and creator of the now-standard multiyear surgical residency training program, first presented his proposed principles of surgical training in a lecture at his alma mater, Yale University. (6,7) It took the publication of the Flexner report in 1910 to codify a 4-year post-graduate medical degree program as the American ideal, and not until 1927 did the American College of Surgeons formally adopt Halsted's principles as a national standard for surgical education.(8)

The conclusion of Smith's formal surgical training coincided with the creation of a Genito-Urinary Department at MGH that was distinct from the Department of Surgery, under the leadership of Dr.

Figure 3. The Harvard Surgical Unit (HSU), 1915. Geraldine K Moss, back row 6th from right, took hundreds of photographs to chronicle the voluntarism of fellows surgeons and nurses from Boston's great hospitals at the western front including Elliot Carter, 2nd from right, and HSU lead surgeon, Harvey Cushing, front row, 3rd from right. (Countway Library, Harvard)

Figure 4. Surgical ward in the Chateau d'Annel, from GG Smith's personal collection. Spartan and minimally equipped by today's standards, the image still evokes order, a commitment to hygiene, and quietude though actually quite close to the western front. (AUA Didusch Museum, Linthicum)

Hugh Cabot. Cabot had been mentored by his older cousin, Dr. Arthur Cabot, who was himself a renowned MGH surgeon with a subspecialty interest in urology, recognized in the 1880s by his appointment as the first Instructor in Genitourinary Surgery at Harvard Medical School and his founding membership in the elite American Association of Genito-Urinary Surgeons. Initially only an outpatient department, under Hugh Cabot's tenure the urology service expanded in 1911 to include inpatients, and, in 1912, to treating women as well as men. This expansion required personnel, and having become interested in urology while training at Harvard, GG Smith joined the faculty in 1912, working principally in the outpatient clinic and with ambulatory surgical patients.(5)

Europe at War; America, a restless peace

When WWI broke out in 1914, the United States (US) government was committed to America's neutrality, but this did not prevent individual Americans and American institutions from choosing a side between the Allies and the Central Powers that opposed them. Affinity between English-speaking nations and between Revolutionary democracies created a sympathy among many Americans for the Allied cause. Economics were also a powerful motivator as established British naval dominance over the seas meant that the Allies were a great market for American goods, with 'Total War' across Europe consuming farmland and disrupting local production and supply lines. Expatriate Americans who retained ties to their country despite choosing to live abroad formed an essential bridge of care.(9) In France, the 24-bed American Hospital of Paris was established in 1906 and given formal federal status by Congress in 1913.(10) Despite US neutrality, the hospital's presence on the ground made American medical involvement in the war a *fait accompli*.

On August 3rd, 1914, the very day that Germany declared war on France and invaded Belgium, the American Hospital of Paris's Board of Governors, led by Myron Herrick, U.S. ambassador to France, offered the hospital's services to the French government. In

exchange, France gave the hospital facilities and money to expand, turning it into a large, cutting-edge military hospital called the American Ambulance Hospital. It was quickly discovered that having a 'walk-in' or ambulance hospital in Paris was of limited help when soldiers were being wounded outside of the city. After the Battle of the Marne in September 1914, over 150,000 wounded Allied soldiers were stranded outside of Paris.(11) The Americans rushed to the rescue: Ambassador Herrick called his friends with cars, and they drove back and forth to bring the wounded to safety and care. This impromptu fleet was the start of the motor-ambulance corps, and the American Ambulance Field Service grew to number 100 vehicles by 1915, thanks to donations from individual philanthropists, civic groups, and the Ford Motor Company.(12)

Staffing was a product of volunteerism as well, with one-third of the enlarged American Ambulance Hospital and its 190 beds staffed by surgeons and nurses from various medical institutions across the United States, who rotated through the University service in 3-6 month shifts. Doing this while still maintaining a formal stance of neutrality toward the war was dubious, but those involved claimed that "It was not intended that the universities should assume any unneutral position, any more than surgery or science is unneutral."(13) The University Service was also justified as an educational endeavor, teaching American academics about the relief problems imposed by war and familiarizing American surgeons with military surgery. The first University Service was from Western Reserve University in Cleveland organized by Dr. George Crile (who later founded the Cleveland Clinic,) and served from January to March 1915. The second was the Harvard University Service, organized by Dr. Harvey Cushing, from April to July, 1915, after which they were replaced by the University of Pennsylvania (Figure 3).(13)

The first motor-ambulance fleet could only carry 34 patients at a time, and the American volunteers did not arrive until 1915. British medical assistance did not arrive until October 1914.(13) For the first 3 months of the war, France fended for itself as the Germans pushed the warfront westward toward Paris, claiming many of the best-equipped hospitals' medical and surgical supplies as spoils. Within the first 6 weeks of the war, 300,000 French soldiers were wounded. The French medical community was overwhelmed. Surgeon Theodor Tuffier later lamented to George Crile that over 20,000 amputations had been made, many potentially avoidable had there been more qualified staff and systems for their management.(15) Unfortunately, rampant infection of wounds acquired in fields and trenches made them unmanageable by the standard antiseptics of the time (benzalkonium chloride, carbolic acid, and iodine, all still in use today). Nearly 70% of amputations were due to infection, not the initial injury; if the injured part could not be safely amputated, as with penetrating wounds to the abdomen, the patient inevitably died of septic shock, so surgeons gave up on trying to save them.(15)

The loss of life and limb from infection changed through

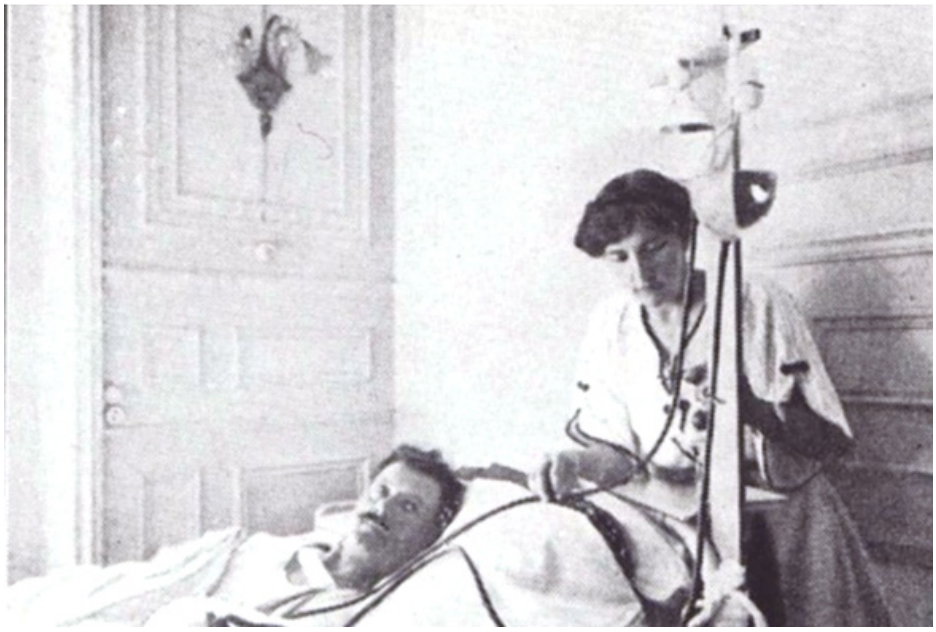


Figure 5. Madame Anne Carrel (1877-1968), demonstrating the bedside management of wounds on a patient with her husband Alexis Carrel's (1873-1944) revolutionary wound irrigator. The simplistic tubing, a predecessor of today's negative pressure devices, was commonly employed by Dr. Smith et al. at the Chateau in the combat against microbes and gas gangrene using the solution co-developed by Carrel and HD Dakin, later known as "Dakin's Solution". (Kilmer House, Johnson & Johnson archives, New Brunswick, NJ)

the research and work of Alexis Carrel (1873-1944), a French physician who had been working at the Rockefeller Institute for Medical Research in New York City before the war. He enlisted with the French army and was given an abandoned property in Compiegne, near the front to renovate into a military hospital. The Rockefeller Institute provided support for his hospital in the form of equipment and personnel, specifically Henry Dakin, a British biochemist who perfected a solution of sodium hypochlorite, which killed bacteria without destroying human flesh. Carrel developed a protocol of aggressive wound opening and irrigation with Dakin's solution, and the Carrel-Dakin method of wound care was widely adopted with remarkable success (Figure 5). By the end of the Harvard University Service's tenure in Paris, the front had been pushed eastward by a margin, with Carrel's hospital located within the new zone of safety. But this progress was tenuous and the fighting continued without an end in sight.

Recognizing an ongoing need for surgical support, as well as the positive progress through the application of Carrel-Dakin's method in conjunction with novel radiographic, magnetic, and reconstructive techniques, Harvard University opted to stay on in France as the Harvard Surgical Unit (HSU). The HSU was a mobile team composed of individual doctors and nurses who were deployed wherever they were needed for a 3-month tour of duty. The U.S. had yet to enter the war, so the HSU was officially a neutral organization that traveled under the auspices of the Red Cross. However, its members were formally enlisted in the British army, under the British Expeditionary Force, with similar rank and pay to the officers of the Royal Army Medical Corps. (12) This meant taking a pay cut, as the salary, paid out in francs, was less than one-third of what a surgeon would typically earn in the USA, so a certain amount of wealth was a prerequisite to participation.(2 p48, 15)

GG Smith on the Western Front

GG Smith volunteered with the first HSU unit but did not arrive with the majority of the participants, who preceded him by 2 weeks and had a different destination. From his diary, it seems that his separation from the rest of the group complicated his arrival. The first unit arrived in France through England, where they were entertained as a group at Warwick Castle.(12) Smith describes his loneliness taking solitary meals in Paris, being accosted by various characters of ill-repute who perceived him to be an easy mark because of his inability with the language, and having his qualifications to practice medicine questioned by a grumpy, obdurate bureaucrat. He used the time to acquire his British army uniform (Figure 1, left), to take pictures and explore the city – its parks, restaurants, and nightlife – and also to get a crash-course in the management of traumatic fractures at the American Ambulance Hospital from the University of Pennsylvania team. Five stressful days later, he finally received his pass to proceed by train to Compiegne, and thence by car to the Chateau d'Annel (Figure 2), which had been turned into a military hospital where he was assigned to work.(2, p.10-16)

When describing his time at the Chateau, Smith makes occasional mention of Mr. and Mrs. Depew, its American owners. When war broke out, Julia Hunt Depew (Figure 1, middle) undertook conversion of her home into a hospital with 300 beds for wounded Allied soldiers, funded at her own expense. She ran the hospital for 4 years, often under indirect fire, as the front line was within walking distance. Smith's diary gives a sense of what this was like, describing how "one cannot see any signs of war, but nevertheless the German trenches run through the woods not four miles away."(2, p27) There were nights where his sleep was disrupted by shelling, and a memorable October morning when a German fighter plane passed overhead and a shell fired upon it by the French landed (thankfully without its explosive contents!) in the courtyard, just 8 feet from one of the nurses. Twice during Smith's tenure, the hospital had to evacuate in order to stay out of the immediate line of fire. Depew's generosity and courage were ultimately recognized by the French government as she was the first American woman to be awarded the *Legion d'Honneur* and *Croix de Guerre* (Figure 1, right).(17)

Though punctuated by moments of excitement, most of Smith's diary describes tedious routine. Every morning was devoted to changing the dressings of the inpatients – spending hours upon hours attending to this task was standard operating procedure in pre-antibiotic WW1 medicine.* Afternoons were for surgery – not always upon soldiers, as the hospital provided care for the local civilian population, and later for refugees as well. Smith cared for an 8-year-old girl who had been run over by a military lorry and an adult civilian who had fallen off his cart and sustained fractures of the ribs and clavicles, among others. Even for the soldiers, not all surgeries were due to trauma. Smith describes treating hydrocele, inguinal hernia, and appendicitis.

*Interestingly, as antibiotic resistance is on the rise, 21st century medicine may be coming full-circle to renewed appreciation of antiseptic wound care, with recent research suggesting washout with "antiseptic is superior to antibiotic" for prevention of surgical implant infection.(17)

Rounds at the Chateau

Most interesting and challenging were the battlefield injuries- penetrative wounds from shrapnel, broken bones, and exploded body parts. Initially, Smith chafed under the chain of command .British Captain Dr. Ernest Gerald Stanley, the permanent staff surgeon, hogged these "good cases", limiting Smith's involvement to performing perioperative dressing changes.(2, p.37) During his first 6 weeks at the Chateau, Smith spent a good deal of time wandering the countryside and playing tennis, or repetitively writing in his diary, "nothing doing." But once Stanley left on vacation, Smith took charge. He describes doing multiple surgeries each day, repairing fractures, opening and scrubbing out wounds. One of these cases was an occult urotrauma, a man with lumbar spinal fractures from shrapnel, who died within a day of hospital presentation and was found on autopsy to have an avulsed right ureter.(2, p.44)

> "About 4 P.M. a man shot in many places by shrapnel came in. His lumber [sic] spinous processes were shot away, with possible involvement of peritoneum. He was in much shock. I anesthetized him, cleaned him up quickly, put in Carrel's drip…Called at 4 A.M. because of spine man. Thought he had peritonitis and was getting ready to operate when he died. Autopsy showed that one ball had passed through right kidney, tearing away pelvis. Not much hemorrhage. No peritonitis."(2, p.44)

From this and other patients described in his diary, Smith noted several lessons learned the hard way which are now surgical commonplaces: to maintain a high index of suspicion for wound infection, managing such infections aggressively; and that penetrating projectiles will often cause injury at a considerable distance from their entry sites, meriting generous use of exploratory surgery, and X-ray or other technologies when available. The Chateau had limited resources, but Smith occasionally traveled to neighboring hospitals in order to learn new techniques, such as the use of a Hirtz compass which, in conjunction with X-ray, helped surgeons to find shrapnel within the body, pioneering the same principles that we use to optimize percutaneous renal puncture for nephrolithotomy today. (19)

Perhaps because of his fractious relationship with Dr. Stanley or out of the characteristic kindness that was marked in his eulogy at the AUA some 50 years later, Smith was generous in sharing operative opportunities with colleagues when he was empowered to delegate. (20) He describes administering general anesthesia so that another surgeon could operate, even though he found that particular colleague to be a rather obnoxious personality (an assessment with which the nurses agreed). Smith quoted the very British Sister Bateman as saying of Dr. D--- "A most objectionable old *parson*!" (in her English accent.) (2, p.41,43) Smith was a sensitive and thoughtful observer of those around him, both in and out of the hospital, and his diary devotes considerable space to describing not only his coworkers and patients, but the travelers, civilian and soldiers whom he encountered along the way.

The Iniquities of War

Smith particularly admired the military units that seemed to him more exotic: the Spahis, cavalry recruited from the Arab and Berber populations of France's North African colonies, especially Morocco; the Zouaves, infantry troops from Algiers; and the Chasseurs, or rangers. The contribution of these African soldiers and of other colored participants to the Allied war effort and ultimate victory has often been overlooked.(21) Smith's diary is a salutary reminder of their participation and heroism, and of the importance of recognizing and honoring a diversity of races, ethnicities, and cultures. Failure in this can lead to some awkward moments. During his journey across the Atlantic, for example, Smith sang in a sing-along the popular Stephen Foster tune "Old Black Joe," about an enslaved African-American. He realized only after the fact that this was a microaggression against the Haitian representatives to the USA who were sitting next to him.(2, p.6)

GG Smith Goes Back to Washington

After his 3-month voluntary tour of duty, Smith returned to the United States, to his family and position at MGH. His diary ends here, but his involvement with the war effort did not. The third HSU, which served principally at the hospital in Camiers from May to September of 1916, was led by Hugh Cabot.(13) This required the urologists who remained on the home-front to take up his mantle. Smith served as Acting Chief of Genitourinary Surgery until he too was brought back to the warfront, this time as a surgeon for the American military, as by then it was 1917 and the US had entered the war. Smith made it home safely, and in the years that followed his career in urology flourished. He turned the pain of participation in the war into academic productivity, publishing articles on the management of venereal disease and a book

to familiarize non-specialist physicians and surgeons with urologic care.(22,23) This commitment to sharing medical knowledge characterized not only Smith's work, but also his leisure time, part of which he devoted to the Massachusetts Society for Social Hygiene (MSSH), a group established to promote sexual education. The skill in leadership that he initially developed at the Chateau d'Annel in Dr. Stanley's absence reached its fruition in the decades between the world wars. He served as President of the AUA from 1935-1936, Chair of Urology at MGH from 1938-1945, and President of the MSSH from 1937-1945 (Figure 6).(5)

Figure 6. G G Smith later in life, having served ably as AUA President from 1935-1936 and MGH Chair of Urology at MGH from 1938-1945 (Massachusetts General Hospital, Archives and Special Collections.

CONCLUSION

In a conventional, Whiggish recounting, in which history is perceived as a journey from a benighted past to an enlightened present, we would conclude on this triumphal note. But it is both more useful and more honest to end instead with an invitation to consider and embrace not only Smith's professional and personal successes, but also his struggles and occasional missteps. Just as a written diary offers an individual and idiosyncratic view of history, so too is interpretation of that record filtered through the biased perspective of the reader. The use of military metaphors to describe the COVID-19 pandemic has been justly criticized, but in reading Smith's diary, I found resonances with my own experience as a volunteer on one of the many makeshift COVID wards in 2020.(24) I empathized with his combination of tedium and terror, laboring in the face of uncertainty as to whether the care provided to patients would help them, and especially the struggle to honor the dead who passed too young without those who loved them by their side. Like Smith, I made an effort to learn from these experiences and to turn this adversity into productivity. But if I were alive over a century ago, I would have been at most a footnote in the history that is written based on Smith's diary, which definitively characterized young women and Jews like me as 'the other' with whom he chose not to associate. (2, p.5) These are rich source documents, and the diary is a valuable addition to the AUA archives, but equally important is our considered attention to the people and perspectives that manuscripts such as this one cannot represent.

REFERENCES

1. Rubin R. *The Last of the Doughboys: the Forgotten Generation and their Forgotten World War*. 2013, Boston: Houghton Mifflin Harcourt.
2. Smith GG. War Diary. Unpublished manuscript, archived at AUA Didusch Center Museum of Urologic History, 1915. 53p.
3. Paperno I. What Can Be Done with Diaries? The Russian Review 2004; 63: 561-573.
4. Tomes N, Jones KW. Introduction. Journal of the History of Medicine and Allied Sciences 2018; 74(1): 1-14.
5. MGH Department of Urology. History of Urology at Massachusetts General Hospital. [Website, last accessed July 2, 2023] Available from: https://www.massgeneral.org/urology/about/history.
6. JAMA Editorial Staff. Medical Education - Progress of Twenty-Two Years. JAMA 1922; 79(8): 660-662.
7. JAMA Editorial Staff. The Training of the Surgeon. JAMA 1904; 43(21): 1553-1554.
8. Rothstein WG. *American Medical Schools and the Practice of Medicine: a History*. New York: Oxford University Press, 1987. p408.
9. Neiberg MS. *The Path to War: how the First World War created Modern America*. New York, NY: Oxford University Press, 2016. p 313.
10. American Hospital of Paris. Our History. [Website, last accessed July 2, 2023] Available from: https://www.american-hospital.org/en/page/our-history.
11. Sumner I. *The First Battle of the Marne 1914: The French 'Miracle' Halts the Germans*. Oxford: Osprey,

2010. 88p.
12. American Hospital of Paris. The American Hospital of Paris During the Great War. [Website, last accessed July 2, 2023] Available from: https://www.american-hospital.org/en/page/american-hospital-paris-during-great-war.
13. Center for the History of Medicine at Countway Library. Noble Work for a Worthy End: Harvard Medical School in the First World War. Center for the History of Medicine at Countway Library exhibit, 2016. [Digital Collections & Exhibits, last accessed July 2, 2023] Available from: https://collections.countway.harvard.edu/onview/exhibits/show/noble-work-for-a-worthy-end.
14. British Red Cross. British Red Cross Transport During the First World War. [Website, last accessed July 2, 2023] Available from: https://vad.redcross.org.uk/.
15. Hampton E., How World War I Revolutionized Medicine, in The Atlantic 2017. [Website, last accessed July 2, 2023] Available from: https://www.theatlantic.com/health/archive/2017/02/world-war-i-medicine/517656/.
16. Emmons AB. A Collection of Letters from Graduates of the Harvard Medical School. Cambridge, MA: Harvard University Press, 1915. 114p.
17. Chaudhary Y. American socialite was WWI humanitarian hero. U.S. World War One Centennial Commission, 2018. [Website, last accessed July 2, 2023] Available from: https://www.worldwar1centennial.org/index.php/communicate/press-media/wwi-centennial-news/4202-american-socialite-was-wwi-humanitarian-hero.html.
18. Henry G. IPP Infection Control, in American Urological Association (AUA) Annual Meeting 2023: Chicago, IL.
19. *United States Surgeon-General's Office. United States Army X-ray manual*. New York: Hoeber, 1918. 506p.
20. Chute R. Dr. George Gilbert Smith (1883-1963), in AUA Annual Meeting 1964: Pittsburgh, PA.
21. Dean WT. The French Colonial Army and the Great War. The Historian 2014; 76(3): p. 479-517.
22. Smith GG. The Venereal Infirmary at Camp Humphreys, Virginia. The Boston Medical and Surgical Journal 1919; CLXXX(10): 270-272.
23. Smith GG. *Outline of Genitourinary Surgery*. Philadelphia: W.B. Saunders Company, 1919.
24. Wise A. Military Metaphors Distort the Reality of COVID-19. Scientific American 2020. [Website, last accessed July 2, 2023] Available from: https://blogs.scientificamerican.com/observations/military-metaphors-distort-the-reality-of-covid-19/.