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LOUIS APPIA (1818-1898): PIONEER OF HUMANITARIAN SURGERY AND CO-FOUNDER OF THE INTERNATIONAL RED CROSS

Nowadays, countless surgeons all over the world, and in particular plastic surgeons, engage in humanitarian missions to offer their skills and help the neediest in countries that do not have the financial and human resources to ensure the treatment of a number of patients. These interventions, often coupled with providing teaching to local surgeons, have improved health, body integrity, and quality of life for children and adults who would otherwise never have had access to this care. While some surgeons are involved on a personal basis, sometimes expatriating for a long period of time, most often the missions are organized and financed by charitable associations and focus on one or another area of a surgical specialty.

As far as plastic and maxillofacial surgery is concerned, the book by Dr. Hervé Bénateau, *L'Humanitaire en Chirurgie Maxillofaciale et en Chirurgie Plastique* (Humanitarianism in Maxillofacial and Plastic Surgery)¹, written by a number of French-speaking surgeons, gives a good idea of the history, organization, experience, and complexity of plastic surgery missions in African countries. It is also important to recall the foundation in 1956 of the Flying Doctors, also called African Medical and Research Foundation (AMREF), by three exceptional plastic surgeons - Sir Archibald McIndoe, Dr. Thomas Rees, and Sir Michael Wood - accounted with

talent by Dr. Rees in his book *Daktari, a Surgeon's Adventures with the Flying Doctors of Africa*².

WAR SURGERY

Surgery on the war-wounded, whether performed on combatants or civilians, is not strictly speaking a humanitarian surgery. Indeed, since the earliest times, surgeons who were hired to accompany the troops in battles did not engage voluntarily but were incorporated in the militaries, usually as officers. This practice was well developed in the Roman armies, as it is recalled in several ancient Latin texts³. With the introduction of firearms and the advent of bullet wounds, a few highly renowned surgeons of the Renaissance, such as the Italian Bartolomeo Maggi (1477-1552) or the French Ambroise Paré (1510-1590), left us testimonies of their intense activity and experience in the care of the war-wounded. The best example of a military surgeon has been given 300 years later during the Napoleonic Wars by Baron Dominique-Jean Larrey (1766-1842), generally regarded as the originator of modern military trauma care and of what would become known as "triage". He placed surgical teams near the front lines to shorten the time elapsed after injury and instituted specially designed horse-drawn "flying ambulances", in which the

wounded rode with an early version of emergency medical technicians. Larrey was beloved by the French soldiers for his dedication to the troops in the coldness and desperation of the battlefields. As other war surgeons of his time, he would exceptionally treat civilians or wounded from the enemy camp, but he was principally a military officer at the service of the French Emperor.

LOUIS APPIA

The life trajectory, contributions, and motivations of surgeon Louis Appia related to war surgery several years after Larrey, are very different (Figure 1). Born in Hanau, Germany,



Figure 1. Surgeon Louis Appia

he obtained his doctorate at the University of Heidelberg with a thesis on esophageal stenosis. He first settled in Frankfurt where he treated the underprivileged population, participated in the fight against alcoholism, and opened an ophthalmological dispensary. An expert in first aid, he then went to treat the wounded during the revolutions of 1848 in Paris and Frankfurt. Settled in the city of Geneva since 1849, he quickly

became involved actively in the local medical society and published several studies on eye vision, and chronicles on the diseases affecting the canton of Geneva. In the spring of 1859, the Italian War broke out, pitting the Sardinian and French armies against those of Austria-Hungary. Sensitized to war surgery by his former experiences, he left for Solferino in 1859 to help the Italian military surgeons. He visited the hospitals in Lombardy, recording the results of his medical observations.

On his return, he published in French a whole treaty on war surgery, *Le chirurgien à l'ambulance ou quelques études pratiques sur les plaies par armes à feu, suivi de lettres à un collègue sur les blessés de Palestro, Magenta, Marignan et Solférino*, which was later translated in English and published in 1862⁴. He also designed inflatable splints, to secure the fractured limbs, and a device for transporting the wounded (Figure 2). Back in Geneva, he



Figure 2. Ambulance and care of the wounded on the battlefield, drawn by Louis Appia.

launched immediately through the newspapers a collection for the wounded soldiers.

THE FOUNDATION OF THE ICRC

A few weeks after the testimony of Appia, another citizen of Geneva, the businessman Henry Dunant, traveled to Italy to meet the French emperor Napoléon III. When he arrived in the small Italian town of Solferino, he witnessed the aftermath of the Battle of Solferino where, in a single day, about 40,000 soldiers on both sides died or were left wounded on the field. Henry Dunant was shocked by the terrible aftermath of the battle, the suffering of the wounded soldiers, and the near-total lack of medical attendance and basic care. Back in Geneva, he decided to write a book entitled *A Memory of Solferino*⁵, with the help of Louis Appia for medical matters. In a Europe shaken by conflict, the vision and founding principles of the Red Cross emerged, as written in Henry Dunant's book. Thanks to the meeting of five Genevans - Henry Dunant, Gustave Moynier, the Swiss General Guillaume-Henri Dufour, Théodore Maunoir, and Louis Appia - who were united by the same indignation at the fate of wounded soldiers and an equal determination to act, these

principles were to take root in action. This **Committee of Five** constituted itself as the founding International Committee of the Red Cross (ICRC) on February 13, 1863, and convened a first international conference in October. During this constitutive conference, Louis Appia proposed that all relief workers wear the same white armband (the



Figure 3. The red cross armband, promoted by Appia.

“Red Cross”), that healthcare was to be neutral without taking care of the soldier's appurtenance, and that voluntary civilians could participate in the sanitary care (Figure 3). Soon after the creation of the ICRC, Louis Appia was the first delegate sent by the International Committee to a theater of war. On this mission in Schleswig, during the Duchy War (1864) between the German Confederation and Denmark, he was greeted by Marshal Wrangel, commander of the Prussian army, with these words, “*The sign you are wearing [the red cross armband] is a sufficient recommendation; we know what it means, you are here for the general welfare.*”

This experience fed into the report on the first steps of the institution that Louis Appia sent to the ICRC on the eve of the Diplomatic Conference of August 1864, where 12 States signed the *First Geneva Convention for the Amelioration of the Condition of Wounded in Armies in the Field*. Commissioned in 1866 by the Red Cross of Milan, Appia returned to the front line in 1866, at the head of an ambulance that went to the wounded of the Italian army led by Giuseppe Garibaldi¹ in Bezzacca, in the Tiarno valley. Three years later, he returned to the field during the Franco-Prussian war of 1870.

THE HERITAGE OF LOUIS APPIA

Louis Appia spent the rest of his life practicing medicine and surgery in Geneva. Author of medical publications, often inspired by the experience acquired in the theaters of war, he established himself as a leading theorist of military humanitarianism. As a witness to the suffering endured

by populations during armed conflicts, he took a position very soon after the creation of the ICRC, and against the advice of his peers, in favor of extending the institution's mission to civilians. Appia was not only a theoretician, a defender of the principle of neutrality which was to become the cornerstone of the International Red Cross, he was also a man of the field, a war surgeon.

Each mission is reported in detail in publications. His humanitarian commitment, served by a great evangelical faith, did not stop at the Red Cross. He was an ardent promulgator of public hygiene and the care of children. He advocated ventilating rooms, avoiding stagnant water, and frequently washing children. Following closely the progress of science, and promoting the fight against infections, he wrote in 1883, *“Let us greet the new era that is opening for hygiene and let us end with this war cry: death to microbes.”*

“What would I say to men like you, whose sublime mission is the relief of suffering humanity? To you, whose devotion has contributed so much to alleviate the sufferings of my wounded comrades – may God bless you and all the men who belong to your holy institution. I will be happy if you want to consider me, forever, your devoted and grateful confrère.”

G. Garibaldi

(Letter from G. Garibaldi¹ to Louis Appia, originally written in French)

FOOTNOTE

1. Giuseppe Garibaldi was an Italian General and revolutionary who contributed to Italian unification.

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