A unique association joins Guillaume Apollinaire, Blaise Cendrars and Louis Ferdinand Céline. All of them were French, played a crucial role in literature in Paris and were neurologically injured in world wars. Surprisingly, they also changed their artistic production due to acquired neurological conditions.

**GUILLAUME APOLLINAIRE (1880–1918)**

Guillaume Apollinaire is considered one of the most important literary figures of the early twentieth century. Apollinaire was born in Rome but by the age of eighteen, he had settled in Paris. In 1914 he joined the French army, volunteering to defend his adopted country in World War I. In spite of goodwill, a sad event would ironically mark his life and career. Apollinaire was hit with a shrapnel fragment in the right temporal region just after receiving the acceptance of his naturalization (Figure 1). Fortunately, trauma was rather superficial and required only minor interventions. After 2 weeks, he presented progressive headaches, balance problems, and fatigue. An episode of loss of consciousness followed by left hemiplegia made him undergo neurosurgery which probably revealed a chronic subdural hematoma. After discharge, the sequels were not obvious, but in the eyes of close friends like Andre Breton, Apollinaire was not the same. His personality changed and his emotions were unstable. The joyful, extraverted, witty Apollinaire seemed to have been replaced by someone sad, embittered, angry and distrustful. The author of Le Pont Mirabeau became emotionally indifferent and with marked affective flattening. Apollinaire himself was aware that his brain had changed: “I am not anymore who I was, in any way, and if I listened to myself, I would now become a priest of a religious person”.

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before the wound, after the trauma he wrote short, nonemotional notes asking her not to visit him anymore\textsuperscript{1,2}. This fascinating change in the life of the French poet would give rise to the eponym 'Apollinaire syndrome' to designate neurobehavioral changes with preserved cognition and no other neurological dysfunction after right lateral temporal lobe damage\textsuperscript{2}.

Apollinaire’s artistic output did not show less poetic quality from poems written before the war. Nevertheless, some specialists argue that Apollinaire’s creativity was influenced somehow by brain damage. After the trauma, he painted several watercolors depicting personal scenes, still lives, war activities, and poetic topics\textsuperscript{3}. This shift towards a new form of artistic creativity has already been reported in certain cases of neurological disorders occurring in artists\textsuperscript{4,5}.

**BLAISE CENDRARS (1887-1961)**

Frédéric Sauser, who used the pseudonym Blaise Cendrars, was born in Switzerland and settled definitively in France before World War I, where he gained prominence in the European modernist movement. At the beginning of the war, he registered the Légion étrangère and soon he became a French citizen as well as Apollinaire. In 1915, during a conflict in Champagne, Cendrars was shot in the right forearm and doctors decided to amputate the limb\textsuperscript{6} (Figure 2) From that moment, the author of Prose du Transsibérien would be tormented ‘day and night’ by a severe stump pain all his life. At that time, he compared his bandaged missing limb to a ‘big baby’ or a ‘foreign thing’. A painful phantom arm could not be better described by him: ‘A phantom can be seen but does not exist, while a phantom limb exists but cannot be seen.’ Cendrars compared the pain as a sharp needle or a knife being introduced into his flesh. Curiously, in his pre-war texts, Cendrars had made several allusions to missing hands and amputations, which later would sound like a premonition\textsuperscript{1,6}.

If the impact on his artistic production is difficult to be measured, for Cendrars, the phantom hand indeed had mutated poetry into a phantom. After the amputation, Frédéric dramatically stopped writing poetry and began a new career as a novelist\textsuperscript{7}. Interestingly, after his wound, Cendrars would write one of his most famous fictional stories, La main coupée, which was published twenty years later. While he had been perhaps the most revolutionary of the pre-war avant-garde poets, his new style and image after the war completely changed his image as a writer, both in the public and among other writers. His interest in poetry left him together with his right limb\textsuperscript{3,6}. 

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*Figure 1. Guillaume Apollinaire in 1916 with head bandaged after traumatism.*

*Figure 2. Blaise Cendrars in 1916 after his amputation.*
LOUIS FERDINAND CÉLINE (1894-1961)

Louis-Ferdinand Destouches, whose pen name was Louis Ferdinand Céline, is one of the most famous French-speaking writers of the twentieth century. He developed a personal style of writing that changed French literature. Céline was enlisted in a cavalry regiment in 1912 and fought for France in the Great War. In 1914, while he was out of a trench to transmit an order to an infantry colonel, he was severely wounded by a bullet in the right arm leading to radial nerve paralysis. Céline also started to complain of hyperesthesia in the radial nerve sensitive territory: “The bullet shattered the bone on 4 to 5 centimeters. However, the nerves have been painfully affected”. Neurosurgery was indicated but no further improvement was observed. Céline needed electrical treatment to stimulate the recovery of his right radial nerve. In 1939, a medical report confirmed the persistence of neuropathy and would grant him an invalidity pension: “Radial paralysis. Long intervention scar on the dorsal side of the arm. Paralyzed extensors. Dropping hand. Severe pain reactions in the sensitive radial nerve territory triggered by hand movements”.

It is reasonable to speculate that war and neurological damage could have influenced Céline’s work. He used his personal experience with electrotherapy to write Voyage au bout de la nuit. In the novel, the war hero Bardamu received electric therapy: “That, Bardamu, is how I mean to treat my patients, electricity for the body, [...]!” After the war, Céline’s personal history in the World War also become part of his texts, including many descriptions of “war neurosis” and shell-shocked soldiers.

The examples of Guillaume Apollinaire, Blaise Cendrars and Louis-Ferdinand Céline reveal the surprising (and fascinating) intimacy Neurology can share with art and history.

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