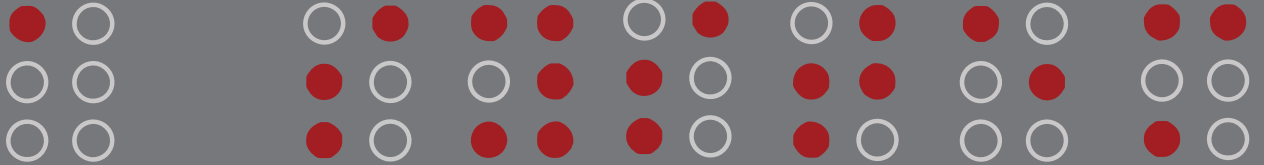


# A S Y S T E M



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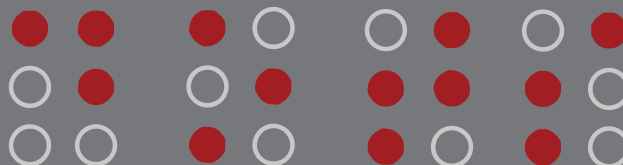


Louis Braille

**R**eading is a wonderful way to learn. But how can you read if you cannot see? Thanks to Louis Braille, people who are blind can use their hands to read.

The system that Braille developed and that is named for him uses small, raised dots on a piece of paper. Each character—a letter, a number, or a symbol such as “+”—is represented in a cell. Each cell is made up of two columns and three rows and can hold up to six raised dots. Each of the first 10 letters of the alphabet (“A” through “J”) has a pattern of dots using only the top two rows. The second set of 10 letters (“K” through “T”) repeats the first pattern of dots with one dot added in the bottom row. The last set of letters of the alphabet (“U” through “Z”) repeats the original pattern but uses two dots in the bottom row—with the exception of “W,” which was not introduced to the French alphabet until the mid-1800s. People who have a visual disability read the raised dots with their fingers.

# O F D O T S



Louis Braille was born with sight in France in 1809. When he was almost four, he was playing in his father's leather workshop. Young Louis accidentally stabbed himself in the eye with his father's *awl*, and it became infected. The infection spread to his other eye, and Louis lost his vision entirely.

At that time, not every child attended school. Children with disabilities had an even unlikelier chance of getting an education. But Louis's parents were determined that their son would have an opportunity to learn. His father taught him the alphabet by hammering nails into wood to form letters that Louis could feel. Louis also briefly attended the village school with one of his three older siblings.

In 1819, just after Louis turned 10, he left home

An *awl* is a hand tool similar to a big needle that is used for piercing holes in leather.

## BRAILLE

A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				
.	,	?	!	'	-	CAPITAL	#	0	
1	2	3	4	5	6	7	8	9	



**Learning how to read braille introduced Helen Keller to a much wider world.**

**Embossed** means printed with raised letters.

A **stylus** is a pointed instrument used for writing, marking, or engraving.

I'll never look at dots the same way!



to study in Paris at the Royal (or National) Institute for Blind Youth. The school—the first of its kind in the world—was established in 1786. It offered traditional subjects, such as grammar, history, and arithmetic, and it also taught skills to help the students earn a living.

The school had 14 **embossed** books for students to read. Valentin Hauy, the school's founder, had invented that method of printing, and it had become the official French system for teaching people who were blind to read. But the letters had to be far apart to be clear. They also were so large that it took two hands to feel each letter. One page might have only a few sentences. The books themselves were enormous.

A couple of years later, a French army captain, Charles Barbier, visited the school. Barbier had invented a way for soldiers on the

battlefield to read their orders at night without a lamp. The system used raised dots, each one representing one of the 36 sounds in spoken French. There were no numbers, punctuation, symbols, or spelling. Barbier called it “night writing.” He thought it might be a useful method for the school to know, and he demonstrated it for the students. The students liked the idea of being able to write using a **stylus** to make dots, but the system was too complicated.

The teenaged Louis was particularly intrigued by Barbier's idea. He spent all his free time working to improve it. He used a slate and slide ruler to make straight lines. Instead of using raised dots to represent sounds, he used them to stand for individual letters. He made each cell of dots small, so they

could be read with one finger. He added numbers, capital letters, punctuation, and music and math symbols. The students at the school found Louis's code easy to learn and to use.

Louis graduated from the institute in 1828. He stayed as a teacher, living at the school for the rest of his life, except for visits home. He didn't just teach, though. He worked with a former student, Pierre Foucault, to make a machine that would print and emboss letters so that people with sight and people without sight could write to one another. Their machine was introduced more than 20 years before the typewriter was invented!

Louis Braille died of tuberculosis at age 43 in 1852. Nothing was printed in the Paris newspapers about his death. At the time, his system of writing for people who were blind was used only at the institute. Two years later, in 1854, France adopted his system as the national standard. By 1879, the braille system was spreading all over the world. Today, there are braille codes for just about every language so people can read and write in the language that they speak. ●



**Braille can be handwritten with a stylus (ABOVE), or it can be typed with a braille typewriter (BELOW) that has nine keys: one for each of the six dots in a cell, a space bar, a backspace key, and a paper advance key.**

