

# MIND TO MIND

*Creative writing that explores the abstract side  
of our profession and our lives*

*Carol Wiley Cassella, M.D., Editor*

## The Terracotta Warriors

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A select number of terracotta warriors from China are making a tour of prominent museums around the world. These warriors have been on guard outside Xian, China for more than 2,200 years protecting the serene after-life of their Emperor Qin Shi Huang who unified China and died in the year 210 BC at the age of 49. The warriors have their eyes open, hands on spears, poised to resist any enemy who would dare to assault the Emperor's tomb, located about 2 kilometers from their garrison (fig. 1). Over 1000 warriors together with their horses and chariots are on view, but several thousand more reside peacefully underground, undisturbed, but still vigilant. The bulk of the warrior army is thought to reside closer to the Emperor's tomb but much of the mausoleum has not been excavated.

The terracotta warriors are always ready for combat; they are alert but totally quiet, and they never sleep. For all these years they have remained devoted to their Emperor and even today they continue their silent watch, though they have never been called into action.

Our patients, too, have miniature warriors widely distributed in their bodies. Similar to the real terracotta warriors, they are always awake and ready for action. They go by scientific names such as thermal, mechanical, and polymodal specific nociceptors. And like the terracotta warriors they never let down their guard, even when their "Emperor" is sleeping. Over 300 million

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Written for my wife who doesn't understand what I do when I go to work.

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**Fig. 1.** Rows of terracotta warriors in Pit 1 at Qin Shi Huang's tomb complex. The warriors are life sized and each one is unique. A messenger on horseback would carry out communications with the Emperor (see lower left). This Pit contains 50 chariots and 88 horses. Photograph by the author.

of these miniature warriors are ready for combat at any time in any one patient. Most are located at the frontier, where the body meets the outside world—the skin. Some reside within the body near the vital organs. Surprisingly, there are no warriors within the Emperor's residence—the brain. Many of these warriors will never see combat; they will die with their Emperor, unrewarded by the thrill of battle.

An attack on this army might take the form of an abrasion or it might result from a ladder fall. When this occurs the warriors spring into action. They release local chemical mediators and communicate through a string of wires to their Emperor who explodes into action using all resources for combat. Strong muscles engage the enemy in battle. Hormones activate other organs and increase the strength of the counter attack. The pupils dilate for better vision and blood flow accelerates to bring food and oxygen to the muscles in mortal combat.

Although most humans will never be seriously attacked, worldwide the miniature warriors suffer millions of attacks daily. Approximately 650,000 of these attacks occur every day as a result of major surgical interventions designed to benefit patients. When the surgeon's knife slices into them, the warriors cannot be informed that this is a benevolent invader. They cannot be instructed to lay down their weapons and cooperate with the perceived enemy.

Although the Emperor's *subordinates* have tactics for calming the troops if they perceive a trivial assault, when a surgeon's knife penetrates through the frontier then urgent messages will be successfully sent to the central command. The warriors cannot discriminate

between good or evil intentions, and the ensuing battle compromises even a life-saving intervention. There is no effective intrinsic mechanism to call the warriors off once their front lines have been penetrated.

Fortunately there is a third army, directed by a clever General. This third army neutralizes the battle, but does so neither by destruction of the warriors nor by halting the surgeon's knife. Instead, the General mitigates the damage done by the invading army and scrambles the communication lines between the warriors and their Emperor. The warriors battle on, but their commands go unrecognized—the message on the other end is never received. The General's army is composed of herbs, vapors, and chemicals. Some of the herbs enhance the effectiveness of the subordinates in their effort to suppress the reaction to the invasion. This third army is directed in battle by the wise General himself, who looks into the eyes of the Emperor and counts the pulse to gauge the impact of the surgical trauma.

Sadly, some of the warriors die and some become permanently deranged, sending urgent messages to the Emperor warning that an invasion is underway long after the attack has been terminated, as if one terracotta warrior were sending messages to Qin Shi Huang that an attack had begun when, in fact, no enemy is present.

There are around 200,000 of these clever Generals extant in the world, but that number is woefully inadequate to contend with all the planned surgical procedures plus the billions of unplanned accidental and hostile attacks on the planet's seven billion humans. Nevertheless, the Generals are remarkably smart and efficient and they provide their service for millions of Emperors daily.

Being a General is a dangerous profession because the herbs and vapors in their armament can have adverse effects on the Emperor's body. The Generals have studied the communication lines between the warriors and the Emperors and know which ones to disconnect and which ones to leave intact, though they often disagree about the best methods to interrupt the wires. Nevertheless, these wise Generals almost always negotiate an amicable standoff between the warriors, the Emperor, and the surgeon. At the end of the day, everyone is quite elated, including the Generals, also called Anesthesiologists, who are surprisingly humble about the miracles they perform.