

A Brigade Combat Team and the Symphony Orchestra

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When I was 19, I knew it was all over. I assessed there was never going to be a connection between playing a cello and putting food on the table. So what does a college sophomore do when he realizes he's pursuing the wrong major? He changes majors and pursues a different career option. So in light of not making it as a music major, I switched to history and knew I was destined to have a military career — in the Army of course.

Despite changing majors, I remained a fixture in the music department. Later after I'd joined the Army, I went back for a visit. I still knew a lot of people. They all asked, "Mark, you are a very creative person. Don't you find the Army a bit rigid and over disciplined?" They all imagined that anything I learned in the music department and college orchestra would have no application to soldiering. No was my immediate answer. In fact, a lot about being a serious musician and being part of a symphony orchestra are very similar to being in the Army. Huh? Yes, that's right, and as I continued an Army career, I found that there were quite a few parallels/similarities to orchestra life and being a part of a combined arms team.

The modern symphony orchestra is just like a brigade combat team: i.e., it is a combined arms/musical instruments team. A symphony orchestra consists of different sections strictly divided by musical disciplines that can be easily task organized depending on the composition (what in the Army we call the mission). Each section has a separate mission that when combined with other disciplines (Army = branches)

contributes to the unit's overall mission (musical mission = deliberate carrying or supporting the theme of a composition). These different sections (what some in the Army call their "slice") are: strings, brass, woodwinds, and percussion.

Just like a combined arms team, orchestras have an established chain of command, universally and internationally understood doctrine, a distinct professional language, and codes of conduct that apply to each member. The discipline required to be in an orchestra is as equally tough as being in any military organization worldwide. In short, it's not something that just anybody can do. Preparation, training, and ultimately teamwork are crucial. Sound like what is required of a combined arms brigade? There is more.

The "Strings" or Welcome to the Infantry

About the same time European armies were formalizing methodology, doctrine, and procedures (like the then novel concept of marching in step), string orchestras (the nucleus of what would become the modern symphony orchestra) were codifying their "TO&E" (table of organization and equipment) structure and musical missions. Just like the development of heavy/light (and eventually airborne and mechanized) infantry units, composers discovered that a mixture (i.e., perfecting their TO&E) of different voiced string instruments worked effectively together and produced a unique and consistent sound.

The U.S. Army Japan Band and a local orchestra perform during a holiday concert on 11 December 2015.

Photo courtesy of the U.S. Army Japan Band





Photo by Patrick A. Albright

Trainees from 3rd Battalion, 54th Infantry Regiment move to their next objective during Infantry One Station Unit Training at Fort Benning, GA, on 5 November 2021.

The four instruments that won out over other string instruments were the violin, viola, cello, and bass. As listed (small to large) these instruments (just like the Queen of Battle) remain the essential instruments in an orchestra. No strings — no orchestra. Here is where the infantry comparison continues. Orchestral strings are organized in what can legitimately be compared to platoons/squads, each with a defined mission and chain of command. Strings are grouped by distinct sections 1st violins, 2nd violins, violas, cellos, and basses. Each section has a section leader who is in charge of all section operations. He (or she) might be compared to a squad leader. Each stand (where the “music” — or mission details rest) is like a fire team with a fire team leader. Just like 18th century armies learned to march in step and fire as a unit, string section leaders determine when their section will “up” bow/“down” bow, what fingerings will be used, and where on the instrument’s neck the positions will be played that is used to achieve the sound required by the piece of music. Everybody except the section leader is a private — i.e., do what you are told to do and in strict unison.

As a young Infantryman in the Old Guard, what I was being asked to do was no different from what I had experienced being part of a string section: left/right/fix — bayonets — up bow/down bow. The discipline and group effort finesse were the same. No difference except this time it was moving an M14 with the same accuracy and deliberation as a cello bow. To see strings (the orchestral infantry) in action, I recommend viewing a YouTube video of any composition by composers like Vivaldi or Telemann. (*To hear these combinations of instruments, listen to Samuel Barber’s “Adagio for Strings” or Dimitri Shostakovich’s “String Quartet No. 8.”*)

Brass — Heavy Cavalry

Towards the latter half of the 18th century, composers started adding brass instruments like trumpets and French

horns to what was up until that time predominantly a string orchestra. With the permanent addition of brass instruments, orchestras truly became combined arms teams. Still because of the technology limitations, brass instruments were used like cavalry — i.e., not committed until the Infantry needed support on a flank — or in the case of an orchestral composition to add to a theme that was being played by the strings. Towards the latter half of the 19th century, brass instruments evolved so they could actually play or augment a theme and their mission (i.e., ability to contribute to the composition) evolved to more prominence. Imagine brass players counting measure after measure waiting to be committed, very much like 18th century cavalry waiting to be told what side of the battlefield they were going to be committed to as the Infantry developed the main fight. (*To hear this combination of instruments, listen to Aaron Copland’s “Fanfare to the Common Man” and/or Richard Strauss’ “Also Sprach Zarathustra.”*)

Woodwinds — Light Cavalry

Woodwind instruments include all the higher range instruments (however, some are lower range like bassoons) that can cover the same octaves as the first and second violins. Modern woodwind instruments — flutes, piccolos, clarinets and oboes — are fully capable of taking the lead or carrying the melody of an orchestral composition. Why are they identified as light cavalry? In the days when light cavalry were asked to secure objectives like bridges (critical pieces of terrain), woodwinds perform similar thematic musical missions. They figuratively fly in out of nowhere, secure an objective (i.e., take the musical lead from the first violins for short periods), and then disappear from whence they came. They are the section closely resembling a flight of “birds” (think Air Cav) when employed. They sound so much like a musical flock of birds (i.e., swooping in) that I once ducked during a performance of Korsakov’s “Scheherazade” when the woodwinds came in out of seemingly nowhere. (*To hear this combination of instruments, listen to Mozart’s “Serenade for Woodwinds.”*)

Lower Brass, Tympani, and Bases — Artillery

By the middle of the 19th century, brass instruments had technically advanced to a point where strictly wind instruments were very popular (now known as bands) and cross-over brass (like the tuba and the trombone plus the baritone) were starting to be regularly used in used orchestral compositions. These instruments combined with the tympani (kettle drums had been around since the 18th century but technology allowed them to be “tuned” to specific notes and more than just two were now regularly used). In some instances combined with the largest string instruments — the bass



Photo by SSG Alan Brutus

Combat engineers assigned to the 25th Infantry Division emplace a Bangalore torpedo during a fire support coordination exercise at Pohakuloa Training Area, HI, on 5 June 2021.

— this group combines to make a very loud, formidable combination. Why are they the artillery of the orchestra? Usually most composers write for them where something loud and distinctive is needed. To the listener when these instruments are employed, it is literally a sudden booming. There is no missing it when they suddenly explode into the piece of music. (To hear this combination of instruments, listen to the third movement of Hindemith's "Symphonic Metamorphosis" or select Rossini overtures.)

Percussion — The Engineers

If it can be beaten, hit, struck, banged together (like cymbals), shaken, or played with a mallet or stick, it's a percussion instrument. Many, many different types of percussion instruments are used in modern orchestral works. They are truly the jack of all trades and the engineers of the orchestra. Just like brigade engineers are used to create obstacles, create effects, or shape the battlefield, percussionists are asked to do the same type of musical missions. Unlike other musicians, percussionists are required to play a huge variety of instruments and usually don't perform the same mission twice, even in the same piece of music. Patience and precision (professional percussionists are some of the best musicians) are the hallmark of percussionists. For example, cymbal players will count and wait an entire piece just so they can deliver a cymbal crash precisely when the conductor cues and wants it delivered and for how long. Just like engineers wait for the command to blow a crater or open a lane — percussionists work under the same mission execution standards: "hurry up and wait/stand by." (To hear this combination of instruments, listen to E. Varese's "Ionization.")

Command and Control — The Conductor

When a commander enters the tactical operations center (TOC), everyone stands; when the conductor walks into the concert hall, the orchestra stands and only sits when the conductor indicates. The level of authority of the two figures is very similar. Just like a commander is responsible for everything his/her unit does or doesn't do, the same can be said of a conductor and the orchestra's performance. In short, it is his or her job (and reputation/career) to perform the orchestral work via the musical abilities of the orchestra. I once heard a famous conductor say "The _____ orchestra is a marvelous instrument" — i.e., talking about the orchestra in the "singular." His comment was not necessarily an exaggeration. In short, he was saying

that orchestra was so proficient and unified its members executed his intent as if they were a single entity. Quite a statement and it isn't said often.

Unlike a brigade combat team that maintains constant digital and radio communication with the commander, the conductor executes his/her command and control (C2) via very well understood hand, body, facial, and arm signals.



Photo by SSG Joel Salgado

The 3rd Infantry Division Band commander directs his Soldiers during a ceremony at Fort Stewart, GA, on 18 November 2021.

Why? Because his or her primary job is to communicate (to the orchestra) a musical conception of how the piece is supposed to be executed. Visual C2 is so critical to an orchestra; a conductor will not lift his baton to begin until all eyes are on him. Just like subordinates are never supposed to break radio contact with higher, orchestra members have to read the music and maintain observation of the conductor's visual guidance. Soloists (within a particular piece) literally are cued by the conductor when to start. Woe be to a soloist that misses the cue.

The conductor is so much the overall commander that when the piece is concluded, the audience is not supposed to begin to clap until the conductor puts down the baton. Only then will he or she turn around and acknowledge the appreciation. If satisfied with the performance, he or she will turn back around and ask the orchestra to rise and receive the audience's applause. If a curtain call is demanded, only the conductor and the soloists will return to the stage, but the orchestra always remains in place.

Chain of Command

As stated earlier, an orchestra has a formalized chain of command and rank structure just like a brigade. The conductor is the brigade commander, but he/she also has an executive officer (XO) and staff. An orchestra's XO sits right next to the conductor; he/she is the principle of the first violins but also has other duties so he/she goes by a special title — the concert master. Five minutes before the performance begins, the concert master will walk on stage. If he or she is a well-known violinist, the audience will briefly applaud. The audience knows the music will begin shortly so they become silent as the concert master prepares the orchestra for the imminent arrival of the conductor. The concert master walks to his or her seat and stands facing the orchestra. Very silently raising his or her instrument, the concert master places it under chin and sounds the official concert "A." The entire orchestra tunes to that "A," or if deemed necessary for the piece, the oboist's "A." Once the concert master is satisfied the orchestra is tuned, he or she will sit down and await the conductor. In a brigade combat team what just happened with the orchestra would be the equivalent of a net opening radio call and a status check (by the XO) prior to the commander SPing with the tactical command post.

But the conductor and concert master aren't the only personnel operating the orchestra and they sit in the immediate vicinity of the podium (main TOC equivalent) — they are the closest thing the orchestra has to a staff. Rank structure in an orchestra is easy to analyze — the closer one sits to the podium, the more significant and higher rank are the musicians. As such all section principles sit right at the base of the podium. The conductor can easily cue the orchestral infantry (strings) because they are literally within arm's length and certainly within visual range.

All conductors have a preference how the orchestra is arranged, but typically orchestras are seated in a fan. First row is always (from left to right) 1st, 2nd violins, and violas

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with cellos on the far right. This arrangement can vary sometimes — a conductor can put the cellos in the middle and flip flop the first and second violins. But that's just the first row. Behind them are the upper brass, woodwinds, lower brass, and the string basses. The percussionists are always in the back with the tympani. Under this arrangement, the conductor can see everyone and control what he wants to happen and when.

Symbology and FM 101-5 Equivalentents

Unlike the military (which literally took centuries to standardize symbology and terminology), music terminology/symbology has been standardized for centuries. In fact, it's so standardized it is a legitimate form of international communication — some would even opine it's even a separate unspoken language.

As such, musical notation is the same from one side of the world to the other. Being able to read music means one can sit and play with someone who doesn't speak your language but you can (and without saying a word) make music together. However, there is a standard language for music details — Italian. Yes, Italian is the language connected with all music symbology — each piece of symbology has an Italian phrase or word connected to it. It's the equivalent to an international Field Manual 101-5. Trained musicians know what they all mean at a glance. Being able to do so is basic/advanced required knowledge to be part of the professional music world. These are one of the tools conductors will use to adjust how they want to interpret (perform) a particular piece of music.

Speaking of control. Musicians have a copy of "their" part of the composition sitting on their stand written just for that instrument. Unlike individual instruments, conductors have on their stand what legitimately could be called a decision support template (DST). They have a reduced-in-size version of what every instrument is playing (the score) and can visually see what is supposed to happen next. Conductors use that to cue soloists and special instruments. As the individual musicians are reading just one line of music, conductors are reading all of them — simultaneously. As such, one easily can see why conductors are extremely talented and skilled musicians. Just like brigade commanders, they have to know what is happening everywhere. I had several brigade commanders who had memorized the DST and the synch matrix prior to startex and executed intricate and compli-

cated plans just staring at a map. They had the whole battle and the parts associated in their head. Many conductors will conduct pieces of music solely from memory and never miss any significant cues for critical solo instruments. They have the ability to see the entire score (DST) in their head.

Rehearsals

When I was a brigade S2, my section made countless terrain boards (sand tables) so our brigade could have meaningful rehearsals. We would construct elaborate details for particular objectives or even do enlargements of objectives so the brigade commander could ensure his subordinate commanders understood his intent. He would always use this phrase: “We will go into excruciating detail.” He expected his commanders to arrive at the rehearsal fully conversant with the brigade order and ready to talk details. This concept was not new to me based on years of orchestral participation.

While battalions/brigades usually only have time for one major rehearsal, orchestras have the option to take rehearsals to the next level of excruciating detail. Just like a brigade staff prepares the brigade for the rehearsal (orders distribution, terrain board, etc.), a conductor expects orchestra members to arrive at rehearsals ready to take the piece to the next level of interpretation. Just like I had all intelligence products complete before the battle staff met, the orchestra chain of command/staff had better have the orchestra ready to work when the conductor steps onto the podium. As such there is “practice” (which an orchestra member does privately) and there is a “rehearsal.” The two are mutually exclusive in the music world. Rehearsals cost money so woe to a musician who shows up not ready to rehearse. Although I was never a professional musician, I have seen college orchestra conductor eruptions that equaled any of the commanders’ I worked for during my Army career. I once met a professional musician who said this about rehearsals

(via referencing his French horn): “I blow in this end (pointing to the mouth piece). If the right notes don’t come out of this end (pointing to the bell), my family doesn’t eat”.

The commander’s intent paragraph is a key part of the brigade order. He must make it clear and decisive so subordinate commanders clearly understand what is to happen and how. On a good day, a productive orchestral rehearsal is used for the conductor to explain his intent via rehearsing select portions of a piece. Just like officers take extensive notes when the commander speaks, a key feature of every music stand includes a pencil to make musical annotations when the conductor issues guidance. In both a combat brigade and orchestra, the guidance is solely directive in nature.

Conclusion

Think all this comparison is a bit silly and far-fetched? There are quite a few crossover terms/concepts the Army uses that are directly borrowed from the professional music world. For example, within the first few hours of arriving at Fort Benning, we had drill sergeants telling us that the purpose of basic training was to “get everybody on the same sheet of music.” Later as a staff officer, I was introduced to such concepts as developing a realistic “battle rhythm” for orders production and how as a staff we needed to “synchronize” the unit’s effort based on our commander’s “intent.” It all sounded very familiar. There is a whole lot of musical philosophy crossover in a modern combat brigade than one might first suspect.

LTC (Retired) Mark A. Farrar had an interesting Army career that crossed two branches and took him from private first class to lieutenant colonel. In 1981 (the same year he joined the Army), he graduated with a degree in history from America’s sixth oldest college, Moravian College, in Bethlehem, PA. Over the course of his career, he had a variety of worldwide assignments with units such as the 3rd U.S. Infantry Regiment (The Old Guard), 3rd Infantry Division, 1st Cavalry Division, 2nd Infantry Division, and III Corps. He started out in the Infantry as a 11B. After Officer Candidate School, he served as a Bradley platoon leader and 4.2 mortar platoon leader. As a Military Intelligence officer, he worked in staff assignments all the way from battalion through corps. He earned the Expert Infantryman Badge, Ranger Tab, and Tomb of the Unknown Soldier Identification Badge number 262. Now retired, he plays cello/bass in the University of Campbellsville Symphony, Campbellsville, KY.

Author’s Note: The musical selections suggested in the opening paragraphs were selected by Saulo Moura, a professor at Campbellsville University, where he is also the main conductor of the university orchestra.

A Soldier from 1st Stryker Brigade Combat Team, 4th Infantry Division conducts registration and calibration for the M777A2 howitzer weapon system in Syria on 30 September 2021.

Photo by SPC Isaiah J. Scott

