

# Vegetarian Nerds Watching the Super Bowl



In 2005, when the Patriots didn't make it to the Super Bowl, I lost interest. We had been spoiled in Boston with a remarkable streak of Super Bowl wins for three out of four years. But when the streak came to an end, for many in New England, the Super Bowl seemed pointless.

Even though the game was pointless, my technological friend wanted someone to watch it with on his big TV. His TV is a device with a high-definition screen, surround sound, and extensive attachments. To turn it on, you don't just flip a switch. You type a list of commands on the complex keyboard. My technological friend is very proud of the keyboard because it can do many things. After about 10 minutes of fidgeting with the commands to accomplish things (I'm not sure exactly what), he finally gets to the command of interest: turn on TV. The sequence is so complicated that it takes another five minutes for the device to warm up. In comparison, my ancient TV at home is a little easier, having one "on" button and no activation keyboard. It turns on within about three seconds. Then you have to adjust the bunny ear antennae for proper reception because I don't have cable.

So I didn't really want to watch the game, but I didn't want to let down my friend either. Besides, the TV (once it's finally on) is really impressive. The speakers are so well placed behind where you sit that it seems like the sounds from behind you are coming from behind you. The layout of the TV space is perfect, featuring a slouchy array of comfy couches and footrests. There is probably no better place in my neighborhood to goof off than this TV room, and the Super Bowl was as good an excuse as any. Also, we are both Type A++ personalities, his being extreme technological, and mine being Luddite, so any excuse to goof

off while slouching in the comfy sofas is something to cherish.

Other than admiring the TV, however, I should admit that watching football is not an activity that we excel at. This is because we're nerds. For starters, my technological friend is a vegetarian. Normally when you watch the Super Bowl, you're supposed to have roast ribs and other kinds of flesh. All over town, and probably the rest of America too, viewers made mewling sounds while gnawing on remains of dead animals. In this primeval scene, as the pigskin chasers pounced on the flat screen TVs, streams of barbecue sauce dribbled down unwashed, stubbled chins, mixed with beer.

We had some barbecue sauce on our chins, too, but the roast ribs were made of tofu. It's really not the same.

Football games have a lot new of technological gizmos to interest nerds, even vegetarians. There's that computer-generated yellow line on the field that tells you where the first down is. This is neat stuff—the computer figures out graphic interferences with the players and moving objects in real time, so it looks like the yellow line is painted on the field. I would say to my son, “Dan, look how they painted the first line marker on the field,” and he would roll his eyes. Today's first-down demarcation line on TV is presented in sharp technological contrast to the old way of doing things—the chains. On TV, you see a solid yellow line that conveniently moves with the football. On the actual playing field, there's no yellow line, and it's back to the 1950s as the mechanical first-down chains are physically moved back and forth. With all of the nanotechnology available, you wonder how the referees can get it right, or even measure it at all, when they determine that there's an inch to go for first down. Maybe the measurements are somewhat subjective. Maybe the technology doesn't need to be that precise.

Even with all the opportunities of instant replay and precise precision, things often get a bit subjective. When we weren't watching the Super Bowl, we saw the finals of the national spelling bee on ESPN (and I'm not sure how a spelling bee qualified to be on ESPN, but that is a digression for another time). In this competition, middle school students would be challenged to spell difficult words, and the five judges would decide if their renditions were correct. A simple exercise to judge, you would think, not much ambiguity here. For one particularly difficult word, a seventh-grade boy clearly stated the letter “e” when it should

have been “o”. He was toast. But the judges took about 10 minutes to determine that the word was, in fact, misspelled. They carefully conferred and debated while the TV showed and reshown instant replays of the action. We watched the poor boy sweat and resweat, all from different camera angles.

Clearly, camera shots at different angles are of value. When you watch the Super Bowl, the TV shots are great, probably a lot better than anything you’d see live in the stadium. The best camera is held up by a complicated tension structure that suspends the device directly above the field. The camera is held by a series of transverse and longitudinal wires that provide support, but also move the camera along the playing field. The result is a series of sweeping, swooping video shots that move forward in the direction of play. The halfback runs with the ball, and you seem to be running with him as the suspended camera lurches forward. This is pretty impressive, especially the design of the wires.

It is interesting to think of football as an exercise in engineering. When I attended MIT, they started a football team. MIT wasn’t known for excellent football then, and I think this is still true today. When it came time for football cheers, the students didn’t know what to do. One student in the stands called out:

“Give me an M”

We spectators responded with an “M”

He cried: “Give me an “A”.

We responded with an “A”.

He cried: “Give me an “S”.

We responded with an “S”.

Twenty-five minutes later, we spelled “Massachusetts Institute of Technology.” By then the players had left the field, and it was part way through halftime.

Sadly, not a lot of engineering input and mathematics was involved in cheering, so the students decided to get creative. Before a Harvard–Yale football game, the MIT students buried a black, uninflated weather balloon in the field. During the second quarter, one student flipped a switch. The balloon started inflating, and it popped out of the ground, stopping play. Classic photos in the MIT Museum show the delighted, bemused, and horrified looks of the football players and fans as the giant black balloon, decorated with the letters “MIT,” inflates and eventually bursts.

Back at my technological friend's house, the Super Bowl was almost over. One of the two teams was in the lead. My friend offered me some slabs of leftover tofu, which were congealing in the cold barbecue sauce. A funny commercial came on, something about a man working in an office full of chimpanzees. All over America, spectators were winding down their Super Bowl viewing ritual. Many would quickly turn their TVs off. But in our case, it would take a complicated command sequence on the keyboard and another 10 minutes before the lights on the TV dimmed.