The MCAA conference has evolved to help beginners and experienced Contech people alike. To me, however, the most important sessions were about preparing for the future. Or perhaps more precisely, how to protect the future for the mechanical contractor. I personally believe the biggest threat is that of modular construction, also called DfMA (Design for manufacture and assembly). Between better plans and models (think BIM) and better automation there is a possibility that the mechanical contractor could be replaced: a possible future is that a general contractor can start its own piping fabrication plant and cut us out of the equation. There are several ways to combat this:

- If you listen to Jonathan Marsh (https://www.stitcher.com/podcast/bridging-the-gap-4/e/65302793?autoplay=true), the answer is to make sure we do it better using the most advanced processes in the most efficient ways.
- Another way is to just get better with the way we do it now. Todd Liebbe (https://www.linkedin.com/in/todd-liebbe-98b5281a/) is a fan of this method. He told me that 30% of labor for the mechanical contractor is pipe supports, which we don't do very efficiently. So if we squeeze the best out of that 30% we can squeeze the modular people that have their own set of problems (space, specialized equipment, must be perfectly repeatable).

Another scary session was Brett Young (https://www.youtube.com/watch?v=jmJHOYxd9tw) who took a college kid that had programming skills and had him create a program using machine learning to find the optimal way to layout pipe in a building. He made it look so easy it was scary. We need to find and train kids like this so we can stay on top. The future is an automated world, maybe not completely automated, but that is what we have to do: find the perfect point between manual labor and automation and become the best at it. We don't have to do it overnight, but we also can't just keep still.

Everyone should be pleased with the new expanded MCAA WEBLEM Plus+ (I don't know why they added the extra +): https://www.weblem.org/Account/Login?ReturnUrl=%2F. Now you not only have access to labor rates but also access to other data plus ITM (BIM data) content.

Trimble allowed everyone to try out their XR10, which is their authorized version of the new Hololens. It has a wider field of vision and is much easier to use. Many Chicago friends were there: Troy Harvey (http://passive-logic.com/) repeated the presentation he did for us in September with his futuristic building controls system which uses deep learning to control a building. Nick Espinosa (returning to present locally on Feb. 12: https://www.mca.org/event/feb-tech-byte/) gave two sessions on cybersecurity. Danielle Dy Buncio (presented here as recently as 2018 https://www.viatechnik.com/about/meet-team/) did a great presentation on the value of VDC (virtual design and construction) while also warning about the future. Finally, Mike Zivanovic of Pipefitters LU597 (https://www.linkedin.com/in/vdcmikez/), spoke about field software and UA training.

Overall it was a great program. But for me, I couldn't stop thinking about the future and making sure it still belongs to us.

We also had two other reviewers: Travis Voss (also a speaker at the conference) and Kyle DeWall, both of Mechanical, Inc. Travis underscored the warning of disruption in the industry and that contractors need to be able to be ready to jump in and disrupt themselves or get left behind. Both Travis and Kyle mentioned they liked the speaker and author that keynoted: David Epstein. Epstein talked a lot about Range. Meaning that in order to be able to compete in this fast-moving and complicated industry, you need to have people with multiple skills, not specialists. Travis put it like this, "The theme of having Range, thinking differently, recruiting and encouraging thought from outside the industry and our normal avenues are going to be paramount in the 4th industrial revolution. Continuing the concept of Lean and continuing to work on our companies and industry will be the key. If it's worth doing, it's worth putting someone in charge of, giving them a staff and a budget to get it done."