

## BRASS TACKS

**T**revor,  
When my grandmother learned of my budding interest in the sciences, she passed on to me her collection of science fiction magazines—*F&SF*, *Galaxy*, *Astounding*, and probably a few others that today's readers never heard of. Yes, it was a long time ago. Back in the heart of the Cold War, we never knew if today would be the last before nuclear annihilation. So I enjoyed the writers who wrote about a better future, not a future in which we were scratching our way back out of the apocalypse. The stories were not necessarily ones in which aliens, nanites, or what-have-you have taken over and given us an awesome world to live in. But they certainly were not the dystopic stories that Sam J. Miller seems to find so many people wanting today ("Someone Else's Apocalypse," in the December 2016 *Analog*.)

I think that humans are intelligent enough to overcome those things that are pointing us down the road to the apocalypse. So, I would like to read stories that are consistent with that view. Am I the only one? I realize that the recent election may falsify my views and that we may soon find ourselves goose stepping down that road. Still, let's not write about only that. After all, I might eventually be proved correct.

Keep up the good work.

Jack Ryan

Sir:

I'd like to suggest a few names to the list of possibilities as mentioned in the "On the Money: Scientist and Inventor Wanted" editorial by Rosemary Claire Smith in the November 2016 issue of *Analog*, for use on the fifty-dollar bill:

- Jonas Salk, who discovered and developed the first successful polio vaccine.
- Raymond Damadian, inventor of the first Magnetic Resonance scanning machine.
- Theodore Maiman, inventor of the first

working laser.

- Cyrus McCormick, who developed the first successful mechanical reaper.
- Robert Fulton, inventor of the first successful steamboat.

Others come to mind, of course, but have potential disqualifiers: Samuel Colt (firearms) and Eli Whitney (cotton gin—expanded use of slavery).

Some food for thought.

Jim Hall  
Colchester, CT

Dear Trevor,

"One Man's Dignity," by Mark Niemann-Ross, in the November 2016 issue was a great story that reminded me of vintage Heinlein. But I have an issue with one of the finer points of the story. The space station produces 1 g at the rim at 2 RPM. That would require a diameter of about 450 meters. That's a big space station. In contrast, the ISS is "only" about 109 by 76 meters with a pressurized volume of about 915 cubic meters. Building something 450 meters in diameter, big enough to cover 38 football fields, especially in space, would be expensive and difficult, and the ROI wouldn't be realized for decades, if ever. We used to talk glibly about O'Neill cylinders kilometers in length and diameter, but they're just not that simple. Further, it was determined in the 1970s that the maximum rate of spin humans could tolerate for long periods was 1 RPM. This remains the recommendation of the National Space Society (<http://www.nss.org/settlement/nasa/75SummerStudy/Chapt3.html>). That would multiply the diameter of the station by a factor of four, to nearly 2 kilometers. I realize that the central emphasis of the story was on Captain Jerwin's emotional journey and Jacob's life journey, but I like my stories with reliable science. That's why I read *Analog*.

David Phelps,  
St. Louis, MO