

in the final analysis

“The list could surely go on, and there is nothing more wonderful than a list, instrument of wondrous hypotyposis.”

—Umberto Eco, *The Name of the Rose*

While I like to think of myself as having a reasonably robust vocabulary and while I love the turn of a clever phrase as much as the next writer (especially the phrases that I turn), I have to concede that I had no clue as to the meaning of “hypotyposis”—in or out of the context of the above quote. Is it a physiological condition? A psychological one? An extractive technique? Rhetorical point, game, and match to Umberto Eco (per usual). Defeated, I had to go to the dictionary. Ahhh, hypotyposis means to describe something with particular vividness. What a handy new term for my elocutionary toolbox! As a lover of lists, I’m aligned with Umberto that a well-assembled list can speak with great eloquence. Which leads me to, surprise, a list.

This list came to my email as a U.S. Department of Energy (DOE) press release. In broad terms, it itemizes the top ten DOE highlights from 2018. I’m intrigued. TMS has about 400 professional members at more than ten DOE national labs throughout the United States. The three largest national laboratory member hubs are Oak Ridge National Laboratory with 89 members, Los Alamos National Laboratory with 74 members, and Sandia National Laboratories with 59 members. Many of these folks are quite active within TMS as volunteers (thank you for that!). With such an important constituency being represented, I pay attention whenever news of the DOE system comes our way. Depending on how liberally we cast the net, there is almost always a materials and, hence, TMS member consideration in any such system-wide aggregation. While not hierarchical despite the numbering, the DOE reports being particularly proud that they are:

1. Improving global energy security through exports (think fossil fuels).
2. Promoting cybersecurity by creating the office of Cybersecurity, Energy Security, and Emergency Response (CESER).
3. Partnering on energy across the globe by use of strategic partnerships.
4. Advancing supercomputing and artificial intelligence, noting that Summit at Oak Ridge National Laboratory and Sierra at Lawrence Livermore National Laboratory were 2018’s highest-performance computing resources, respectively.
5. Innovating in quantum science, including investment in the Quantum Science Initiative and funding quantum information science. The National Quantum Initiative Act was also signed into law.
6. Modernizing the grid by funding research in such areas as large-power transformers, solar, big data, and machine learning with grid sensors.
7. Environmental management, particularly with regard to nuclear waste cleanup.
8. Investing in all-of-the-above energy, including advanced vehicle technologies, offshore wind research, advanced nuclear technology projects, and solar manufacturing.
9. Addressing water challenges, including funding research on solar desalination technology.
10. Supporting American manufacturing to produce more with less energy and promote manufacturing competitiveness (e.g., the Sustainability in Manufacturing Partnership and the Manufacturing Innovator Challenge).

For more on the materials elements featured within these initiatives, we can keep reading TMS periodicals like *JOM* and attending TMS meetings. These are among the principal places where the talented and dedicated materials scientists and engineers working within the national laboratory system report their advancements . . . and where those members will surely continue to report the next-generation accomplishments that will feature in the 2019 DOE list. That’s my kind of hypotyposis!

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James J. Robinson
Executive Director

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