

# What's the T, Cis? Discussing Gender Identity and Sexual Orientation

Matthew Korey



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While TMS does not currently have metrics on how many of its members identify as lesbian, gay, bisexual, transgender, or any other identity under the queer umbrella (LGBTQ+), recent estimates suggest that anywhere from 3.0±0.5% of the U.S. population identifies as LGBTQ+.<sup>1,2</sup> Per the 2017 TMS Annual Report, if we apply these metrics to our Society we would anticipate anywhere from 325 to 455 LGBTQ+ members. Similarly, applying this same metric to attendance at the TMS 2019 Annual Meeting & Exhibition (TMS2019) would indicate 112 to 157 attendees identify this way. When expanded to the current population of the United States, similar estimates would indicate that five to eight million working Americans identify as LGBTQ+.

While it is possible for many LGBTQ+ people to hide their sexual orientation or

gender identity in the workplace or other professional settings, such as a TMS annual meeting, many people cannot. This is because they physically wear their identity at work or at a conference, such as people who are mid-transition and people who identify outside of the gender binary (e.g., genderqueer).

As this information in the scientific literature is becoming more readily available, it is increasingly important for our discipline to continue to discuss methods to make our international meetings and individual workplaces more inclusive to people who identify as LGBTQ+. In October 2018, the TMS Board of Directors approved a new strategic plan—TMS Aspires. The primary goal of this plan, “TMS aspires to be a highly inclusive Society,” creates the perfect opportunity to leverage this growing body of research on LGBTQ+ inclusion. (To learn more about this and other TMS strategic goals, visit [www.tms.org/TMSAspires](http://www.tms.org/TMSAspires).)

## The TMS2019 Diversity Symposium

There was significant discussion of LGBTQ+ topics during the Diversity in STEM and Best Practices to Improve It symposium held at TMS2019. Three speakers gave descriptive, unique explanations of their experiences not only within TMS, but also within the discipline. Throughout the symposium, many different figures were used to help explain complex gender identities with which people identify to a materials science and engineering audience. One speaker used chemical bonds to illustrate the difference between *cisgender*, where one's experience of gender matches their assigned gender, and *transgender*, where

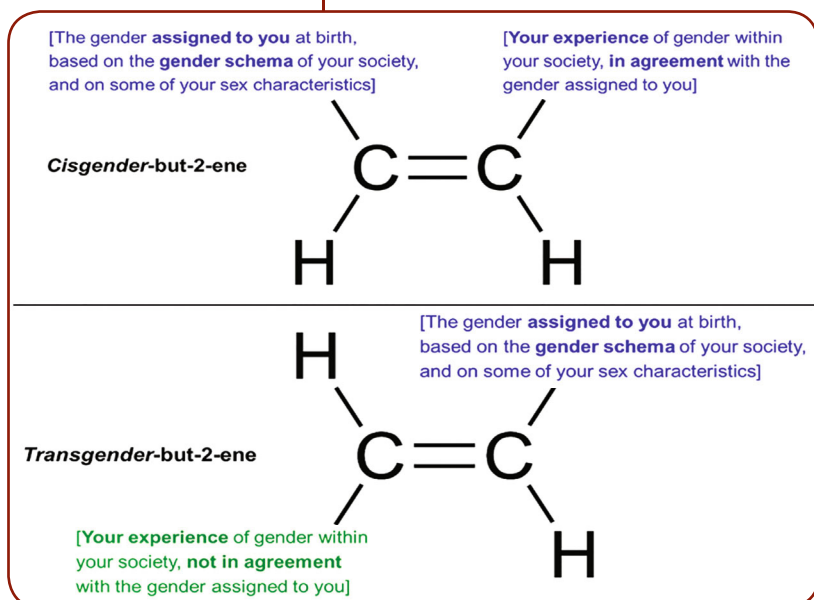


Figure 1. Using *cisgender*- and *transgender-but-2-ene* to explain gender identities.<sup>3</sup>

one's experience of gender does not match their assigned gender (see Figure 1).<sup>3</sup> To describe the absurdity of the concept of binary gender, the speaker parodied a phase diagram to help make their point that gender is not a binary (see Figure 2).<sup>3</sup>

One speaker addressed the needs of transgender individuals as outlined by Reisner et al. in a review of global transgender population health. The needs that act directly upon transgender individuals may be thought of in terms of broad categories—psychological, social, legal, and medical—though there are many external factors that affect whether an individual can meet those direct needs.<sup>5</sup> This interconnectivity of needs, known more generally as *intersectionality*, was addressed by many speakers during the diversity symposium. For transgender individuals, gender affirmation (a key indicator of their health) only happens when psychological, social, legal, and medical needs intersect positively (see Figure 3).<sup>3</sup>

### Lessons Learned

The needs of LGBTQ+ individuals are not significantly different from other populations of people. Increasing the visibility and providing opportunities for LGBTQ+ people to connect to each other

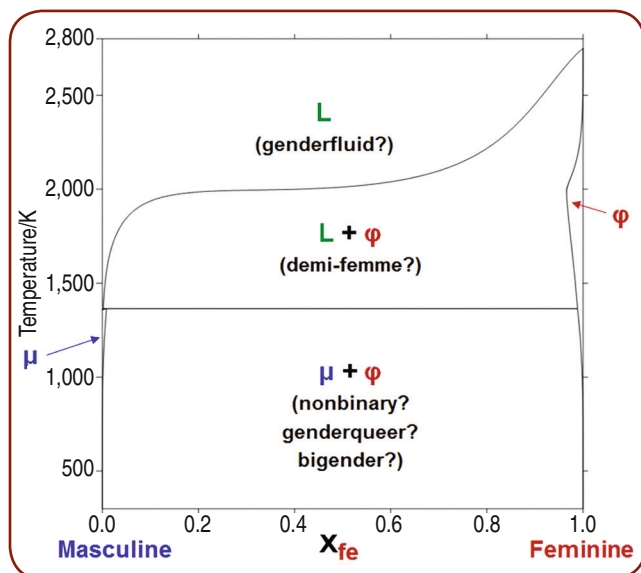
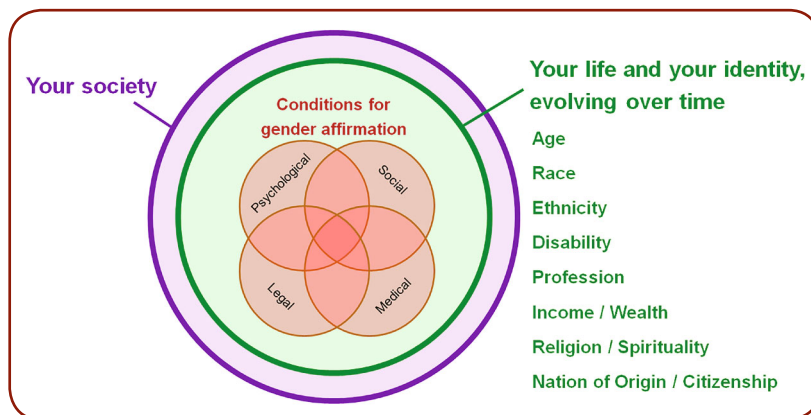


Figure 2. A parody of a phase diagram, used to describe the ways in which the notion of binary gender cannot adequately capture gender diversity. Presented in, “T Time: How to Welcome and Support People of All Genders,” by KC Cunningham at TMS2019.<sup>3</sup> Adapted from “Calculated Cu-Nb Phase Diagram,” by the U.K. National Physical Laboratory.<sup>4</sup>



within our Society can help individuals feel more connected to TMS. However, making sure that transgender individuals have their basic needs met is an important aspect of inclusion within this complex community. TMS is striving to address these needs to ensure that the Society is inclusive of everyone.

In the last year, TMS Pride, a working group created within the TMS Diversity Committee, has begun increasing the availability of LGBTQ+ related programming and visibility throughout the Society, at the TMS Annual Meeting, and at other TMS-affiliated meetings. TMS Pride members have helped organize the TMS Diversity Breakfasts, led symposia, and hosted informal networking events

during conferences. If you are interested in getting involved in this working group, please contact [tmspride@tms.org](mailto:tmspride@tms.org) for further information.

**Matthew Korey is a National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) Fellow and graduate research assistant in materials engineering at Purdue University. Korey is an active member of the TMS Diversity Committee, was on the organizing committee for the 3rd Summit on Diversity in the Minerals, Metals, and Materials Professions, and is a founding member of TMS Pride.**

Figure 3: A visualization for how intersectionality can be used to understand the basic needs of transgender individuals.<sup>3</sup>

### Endnotes

1. D. Johnston and M.A. Malina, “Managing Sexual Orientation Diversity: The Impact on Firm Value,” *Group & Organization Management*, 33, 602 (2008).
2. G.J. Gates, “LGBT Percentage Highest in D.C., Lowest in North Dakota,” *Gallup Poll Briefing*, 2 (2003).
3. K. Cunningham, “T Time: How to Welcome and Support People of All Genders,” TMS 2019 Annual Meeting & Exhibition, San Antonio, TX, March 2019.
4. “Calculated Cu-Nb Phase Diagram” (MData - Phase Diagram Software from the National Physical Laboratory, U.K. National Physical Laboratory, 2010), [resource.npl.co.uk/mtdata/phdiagrams/cunb.htm](http://resource.npl.co.uk/mtdata/phdiagrams/cunb.htm).
5. S.L. Reisner, T. Poteat, J. Keatley, M. Cabral, T. Mothopeng, E. Dunham, C.E. Holland, R. Max, and S.D. Baral, “Global Health Burden and Needs of Transgender Populations: A Review,” *Lancet* 388, 412 (2016).

