

## **Queer(y)-ing Technical Practice: Queer Experiences in Student Theater Productions at a Technical University**

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**Abstract:** This pilot study presents a potentially novel way to consider gender and sexual diversity in STEM by attempting to identify sociotechnical practices which might be considered “queer” in a broad sense—by being of, by, for, or regarding queer people—and by seeking to understand how these practices might challenge and complement other technical practice and education. To explore these questions, I conducted participant-observation fieldwork at a student-run theater organization at a mid-sized technical university, identified by students as “outstandingly queer” for both its increased proportion of LGBTQ+ students and its notably welcoming attitude toward them. From examining student-run practices across technical theater, acting, directing, and organizational management, I find that the practices of *identity negotiation*, *performance*, and *flexible democratic decision-making*, situated in an alternative technical-social space, are sociotechnical practices with a queer inflection important to the site. These can help engineering educators in three ways: 1) by simply providing a description of some meaningful sociotechnical experiences of queer students; 2) by beginning to bridge the “diversity-oriented” and “technically oriented” streams in engineering education research through considering how queer STEM students are innovative technologists in their own right; and 3) by contributing to the body of useful cases for potential changes to the sociotechnical environment of engineering education. This paper presents these practices, as well as the role of *in/authenticity*, as some salient aspects of queer student experience as I observed it.

**Keywords:** LGBTQ+, theatrical production, queer students, queer theory, diversity, technical practices, student-led groups, extracurricular activities.

## Introduction

In recent years, some attention has been given to diversifying STEM institutions, workplaces, and cultures in respect to sexual and gender minorities [1]. In practice, this is often considered as a matter of increasing the number of lesbian, gay, bisexual, transgender, and queer (LGBTQ+) individuals—hereafter, queer persons<sup>1</sup>—in these contexts, and improving support for them. Though these goals remain important, the associated approaches to diversification run the risk of tokenizing the participation of already-marginalized queer persons. To avoid tokenization, research has tried to describe the lived experiences of queer STEM students and practitioners so that harm can be systematically identified and responded to. That work has identified a decidedly “chilly climate” toward queer people in STEM fields, and a need to explore how STEM fields might demonstrate increased understanding of and respect for queer persons and their experiences [4], [5]. This present study presents yet another way to consider diversity in STEM, by attempting to identify technical practice that might be considered “queer” in a broad sense—by being of, by, for, or regarding queer persons—and by understanding how these practices might challenge, recapitulate, and complement “non-queer” technical practices and education.

In this paper, *queer* is employed to simultaneously and variably be understood as an umbrella term for LGBTQ+ people; as a descriptor for their experiences or cultures; as an adjective meaning ‘odd’ or ‘unknown’; as a reference to queer theory/queer commentary, a theoretical tradition about breaking binaries and boundaries [6]; and as an often-used verb in that tradition, “to queer”: to make like or become one of these meanings. The term is historically a slur against LGBTQ+ people, but through its engagements in activism and the academy, has undergone a sort

of reclamation toward its more critical usage employed here. *Queer*, as I use it, refers to people, experiences, and processes, and is intended as an empowering term for bringing together these disparate parts under a common heading.

To explore these questions, I conducted participant-observation fieldwork at the University Dramatic Society, a student-run theater organization of about 100 students in a mid-size technical university over the course of multiple productions and several months. This site was selected for its significantly increased proportion of queer students over the university as a whole, its situation within a university of primarily engineering and science students, and the diversity of technical, social, and artistic practices involved in theatrical production. Dissatisfied by the content of “standard” technical practice<sup>2</sup> and its tendency to reproduce old systems of social control and inequality [7], [8], I approached my site asking thematically, “**What might a queer technical practice be?**” a question I hoped both novel and potentially liberatory for queer engineering students. I broke this into two questions that focused my fieldwork: **1) how do STEM students practice and learn technique at the site, and 2) how does queerness, in the broadest sense, intersect with these practices of technique?** Although this paper does not analyze or discuss most of the diverse technical learning practices I observed (that is, fully respond to the first question), engaging with the complete diversity of technique at the site was of vital importance to the analysis presented.

Of course, this work builds from an assumption that there might indeed be “queer” technical practices that are worth identifying and learning about. Far from using this hypothetical category to essentialize “queer” as a personal or organizational identity that reliably modulates “non-queer” technical practice into a genre of technique that educators can systematically describe and reverse-engineer into “improved” technical education, I envision the category as a provocation to the positionality of queer engineering students as outside-insiders, and to the notion that “queerness” and “technicity” have nothing to do with one another, either because they are opposed or because they operate in totally separate spheres. To assume that queer technical practices exist is to claim simultaneously that queer technicians have unique positionality in technical spaces, that they have experiences of oppression and joy that are at least partially unknown to non-queer technicians, that those experiences may result in changes to how they approach sociotechnical work, and that those differences of experience and approach are not only acceptable in but could *belong* in technical work—claims that I wholeheartedly adopt.

To search for such practices, I examined several aspects of student theatrical productions across the areas of technical theater, acting, directing, and organizational management. Observation and participation were augmented with occasional semi-structured interviews to understand the students’ particular views on queerness and technical practice. Special attention was given to understanding how attitudes toward and practices of technique in the theater are different than those in the STEM classroom or workplace. Though data collection did not exclusively focus on students with queer identities, their perspectives and experiences are highlighted in the present analysis.

Through the analytical steps discussed in the methods section, I identified first the importance of understanding the site as a queer space, steeped in a pervasive practice of negotiating queer identities. Considering how these specific negotiative practices play into the technical-artistic production of a performance, I found that the Dramatists engage in practices that challenge technical rationality and make use of novel democratic organizational structures. Furthermore, I

found that key contested figure at the site is that of *in/authenticity* in identities and practices. In this paper, I capture and substantiate these initial themes and present them as starting points for further study of queer students in STEM.

The purpose of this pilot study is to give voice to queer students and their unique perspectives on technical work. It will serve as a basis for future research among queer engineering and science students, with an ultimate goal of empowering them through identifying their perspectives, experiences, and presence as assets to technical institutions and workplaces. This study therefore can complement both existing studies about queer students in STEM fields and other studies of diversity. By attempting to articulate how queer students' own technical practices respond to those already well-known to engineering institutions, I hope to move the conversation about queer persons in STEM beyond narratives of representation and toward ones of respect for difference.

## Methods

Starting with the assumption that queer technical practices might exist, my approach to finding them can be roughly broken into four steps: first, to identify the practices and learning of technique, broadly construed, at the student-run University Dramatic Society; second, to compare them when I can to other technical (learning) experiences students may have had outside of “the Dramatists”; third, to articulate student understandings and my own insights of how queerness, broadly construed, intersects with these technical practices; and last, to use these findings to recognize the contributions queer students and queer technical practices may have to a broader STEM community. Although not all of these steps are discussed in this paper, the complete process is provided to show continuity of the analysis, and to acknowledge that there are *several* techniques and aspects of student learning observed at the site and considered that this paper does not analyze—especially ones closely resembling practices well-known in the technical classroom.

These parts of my analytical process are intended to come together to build both what Glaser and Strauss called substantive theory and formal theory [9]: substantive, insofar as I am interested in learning about and documenting the lives of queer engineering students; formal, insofar as I am interested in how power shapes experiences in intersecting social organizations and material realities. Though both of these goals were present while performing this research, I tried to keep my analysis as close to the case as possible, and to try to build toward theory that would support future descriptive endeavors, not to build theory itself. My intentions forced me to grapple with the limited nature of fieldwork analysis itself, as per Atkinson and Hammersley:

“It is not possible to give an exhaustive account of any locale. In producing descriptions we always rely on criteria of selection and inference.... Even in the most descriptively oriented study the case investigated is not isomorphic with the setting in which it is located.” [10, p. 32]

I used ethnographic methods to develop my understanding of the University Dramatic Society. I participated in and observed several activities in their space, the Barn Theatre. Especially important were my observations of “work parties” with 30–70 students in attendance, held almost every Friday night across multiple productions, and rehearsals during “tech week” (the final week before a show opens) of one small production of two short plays, performed by a cast of five students and a core crew of an additional eight. During my periods of participant-observation, I “floated” from job to job, learning about the diversity of Dramatists' experiences

and observing many different social and technical aspects of dramatic production and life in the Dramatists. I augmented my observations with occasional interviews with students, including especially a longer interview with the director and assistant director (Jacob and Austin) of the small production, both of whom identify as queer men.

In addition to my ethnographic work, I occasionally found it necessary to give historical attention to the physical location of the Dramatists—The Barn Theatre that they administer and use, and to a lesser extent a secondary performance space in a nearby academic building—in order to cogently address the ways in which their spaces symbolize and interact with the social worlds of my analysis. My theoretical approach to the incorporation of place and the importance of non-human aspects of sociality draws upon feminist, new materialist, and (to a lesser extent) actor-network approaches, though relations to these literatures are not specifically discussed [11]–[14]. Historical work was done using the university’s archives and secondary historical texts about the campus. To protect the identity of the institutional site, these works are uncited in this piece.<sup>3</sup>

While interviewing and observing Dramatists, I intentionally did not ask students if they identified as queer or not, both to respect the privacy of students and to embrace the emerging theme in my fieldwork that queer identities, especially at the site, are not static. Students occasionally did identify themselves to me using one or more queer categories (among them, gay, lesbian, bisexual, grey/asexual, pansexual, transgender, non-binary, and gender-non-conforming), especially after I had introduced the subject of my research, but generally students did not feel compelled to make such identifications. If pressed, I would estimate that 20–40% of the Dramatists explicitly hold queer identities, although I have no way to confirm it. Even so, the Dramatists’ widespread comfort with discussing queer issues is significant by itself and leads me to assert that, for the present study, it matters to a lesser extent than one might expect who held which queer identities. This is not to say that individual differences make no difference, but that the Dramatists as an organization can be treated as embracing several overlapping queer identities and ambiguous identifications. My position on this is supported by the general attitude that explicitly-queer people, both within and outside the organization, have toward the Dramatists. As one Dramatist told me, the Dramatic Society “is a place where people know they can be comfortable, like shouting about how gay they are. ... It’s welcoming, visibly queer.”

## Literature Review

The traditions of queer theory, especially in its intersection with disability studies and manifestation as “crip theory,” have demonstrated the prevalence of compulsory efficiency, heterosexuality, cissexuality, and ability in society at large [15]. Queer theory has further indicated that these imperatives construct binaries, and are constructed as a response from powerful actors to perceived threats based on naturally occurring difference, a reactionary political move intended to maintain power relations or revert them to a more hierarchical past [16]. Looking to engineering studies, Donna Riley and other members of the Liberal Education/Engineering and Society division of ASEE have demonstrated that similar imperatives are created in the mainstream of engineering, likely as a result of the militaristic origin and continuing reality of engineering employment, though they promisingly note that it does not have to be so [7], [8], [17].

A useful theoretical distinction that I make use of in this analysis is the one between *performance* and *performativity*. An analytical focus on *performance* foregrounds the actions of artists and

other actors in the limelight (*e.g.*, a professor lecturing or a doctor *performing* a diagnosis). The notion of *performativity*, on the other hand, interrogates where performances stop being “showings” and become “becomings”—*e.g.*, the utterance “I do” at a wedding—acts that both describe and enact a situation [18]. In the social life of the Dramatic Society, Dramatists certainly *perform* queerness, but in so doing, they work out what queerness *means* and bring about that meaning.

This present study is positioned in conversation with engineering education research, which, in my view, has two major areas: studying how best to teach/learn engineering, and studying how to increase diversity in engineering institutions. Other researchers have attempted to bring together these two areas, for example, by identifying technical problems likely to be relevant to a broad group of people [19], or by describing particular epistemological barriers dominant technical education presents to some groups [20]. By focusing on “queer” technical practice, this paper seeks to provide another vector of connection between the two areas, by explicitly considering how practices originating from gender and sexual diversity may have implications for more “technical” engineering education.

Within engineering education, this work builds upon the insights generated by previous scholars analyzing the experiences of queer students and faculty in engineering educational contexts. For example, Leyva, Massa, and Battey’s 2016 literature review [21] demonstrated how the social/technical divide and its resulting division of labor that Wendy Faulkner had previously identified as influential in structuring womens’ experiences [22] similarly affects the experiences of LGBTQ+ engineers. The work of Erin Cech, Tom Waidzunus, and Stephanie Farrell has also been informative in locating the sources of queer engineers’ oppression: from an association of homosexuality with technical incompetence and the additional labor queer students must do to fit into a heterosexual environment [23]; to the depoliticization of engineering education [24]; to the more structural aspects of institutional (non)support for queer students [5]. These sources of oppression and their results have been documented widely across institutional contexts, revealing that they are deeply a part of engineering culture [25].

This present work is also similar in site and scope to a 2018 paper by David DiBiasio, Kristin Boudreau, and Paula Quinn [26]. These authors examined theatrical experiences as Worcester Polytechnic Institute (WPI) as a part of the school’s humanities capstone program, especially including experiences around a recent showcase of LGBTQ+-themed plays at the university. Their paper began from and substantiated the same starting point as this present study: that theater experiences at a technical university provide a space that supports a “culture of inclusivity.” However, their study focused primarily on showing how WPI’s theater program contributes to such a culture and focuses on implications for liberal education, while this present one is more provocative in stance, asking how the University Dramatic Society that I study could inform sociotechnical practice more broadly. Furthermore, the papers diverge in methodology: while DiBiasio and colleagues began from survey results and developed interview questions to explore themes more in-depth, this present study begins from an ethnographic account of student theater experiences, supplementing with interviews as necessary. Finally, while the context DiBiasio and colleagues describe is seemingly structured primarily by student-faculty interactions, my site is entirely student-run. Despite these differences, their work provides important background for contextualizing my own.

### **Setting the Stage: The Barn Theatre as a “Queer Space”**

At the University I investigate, the campus has long had a physical divide between “academic life” and “student life.” Examining campus maps from the school’s founding to the present, one can invariably draw a solid (if snaking) line between places for courses, professors, and administration and places for student living and recreation, as new buildings went up and old buildings were re-purposed. The Barn Theatre, the building the University Dramatic Society uses and manages, has invariably been a part of the “student life sphere,” though it has, while staying in place for 70 years, shifted from being at the far side of the students’ sphere to a defining part of the boundary between the two. Today it is surrounded by four towering academic buildings (megalithic monuments to high technology and education), built atop former athletic and recreational fields. This physical divide is a materialization of a pervasive *symbolic* divide, additionally reified by the organizational structure of the university, which, like most other schools, separates the processes of earning degrees and performing research from the processes of living. However, though these boundaries might appear to be somewhat symmetrical, the sheer towering size of the buildings in the academic sphere contrast with the comparatively meek size of the student life spheres’ buildings, communicating which side dominates the other.

I point to this division to provide background scenery for the action I analyze, the activities of the University Dramatists. In my pre-fieldwork investigations, I found that many students at University consider the Dramatists to be an “outstandingly queer” organization: it has a lot of queer (i.e., having a non-heteronormative sexuality) students in it, and is recognized as such. This stands somewhat in contrast from the more traditional queer support organizations and activities on campus, especially the Pride Association (a student group), an LGBT campus radio program, the counseling/student health centers, and the Student Life office’s diversity and inclusion initiatives, all of which explicitly try to support queer individuals or build a queer community. In contrast, the Dramatists apparently just happen to have an atypically high proportion of queer students in comparison to other campus organizations; this is likely because, as one student told me half-joking, half-proud, “theater is gay” (a remark discussed later). Yet, as I found, the University Dramatic Society is a distinctly queer organization in other ways as well, especially in the ways it organizes itself and engages with topics of sexuality and gender. The Dramatists are also importantly distinguished from all other student groups and campus organizations by having near-autonomous control of an entire building.

The Barn began life during World War II as a USO building on an airfield in another state. The university purchased it, along with some other buildings, shortly after the war ended to accommodate the postwar (predominantly male) enrollment boom, and it was moved to the campus. Once in its current location at the University (it replaced a recreational field near the dormitories), the building served as “The Campus Lounge” for 30 years before the Dramatic Society formally were able to claim it as their own, recognizing how their control of the space had grown since their first show there in the 1950s. The building was majorly renovated around this time, further establishing it as a place for theater.

Standing in the Barn today, it is easy to imagine it as it once was: *a band playing on the stage, a dance on the open floor where GIs would fall in love with local girls (or so they would claim), concessions being sold in the box office, people smoking and chatting on the couches in the corner.* ... Doubtless, the scene, both a symbol of compulsory heterosexuality in the military and of homosocial recreation, is one that contributed to the creation of the homo/heterosexual binary that emerged in the 1940s and the redefinition of gay culture to which the war contributed [27], [28]. The fact that it served a similar role in its early days on the University’s campus (notably,

while the University had almost no women students at all) gives the place a distinct historical spirit: young men, exhausted from work in the military/university and surrounded by their male compatriots and occasional “outsider” women, coming to the building to escape, relax, and maybe find that special someone. Whether on the edge of a wartime airfield, or the University’s campus, the building has always been a sort of escape—though that escape has been recontextualized amidst a changing political-cultural reality.

Continuing from this past, the Barn Theatre now serves as both an artistic reserve and an oasis for students. Dramatists, who have 24-hour key-card access to the otherwise-closed building, spend time in the Barn’s lounge at all hours, relaxing or doing light work throughout the week. The lounge’s sofas and tables are regularly occupied with friends chatting, students doing schoolwork, folks watching Netflix and reading, and people working on sets and costumes. The Barn comes alive with activity each Friday night for a “work party” open to the community, during which Dramatists come to contribute to the next show (or clean up from a previous one), have production meetings, socialize, and eat free pizza. Students described the Barn to me as a place to take breaks between classes and an escape from the “pressure cooker” of the University’s technical education. As the director of the small show, Jacob, told me:

*Jacob:* It’s an escape from like, I mean everybody is still a technical person but like it’s, doing things with the Dramatists, it’s like an artistic space I guess, and that’s different. It’s in contrast to math and equations that go on, even though we still talk about that stuff in the Barn. It’s a physical space that is separate from you know, academic spaces. [29]

At the physical boundary between students’ technical and social lives, the Barn is a liminal space that exists simultaneously as a place to relax and work, a place to be technical and artistic. Borrowing from Pola Bousiou [30], I find it useful to describe the Barn as a “queer place” on three levels. On campus, it is associated with queerness (as a category for sexual and gender identity and behavior); it is distinctly atypical (that is, “queer”) at the University as a student-controlled place, let alone as a place that is artistic and technical, technical and social, work and play; and it is a place with performance and performativity actively woven into the sociotechnical fabric, lending itself to a queer theoretical analysis. To summarize these levels, the Barn is *queer as in gay*, *queer as in strange*, and *queer as in theory*.<sup>4</sup> In contrast to the towering academic centers that surround it, the Barn Theatre functions as a different sort of center—a *subversive* one—*sub-* for its place beneath the others, and *-verse* for its turn from the way things are.<sup>5</sup>

### **“Oh, You’re a Gay Woman with a Boyfriend Too?” Negotiating Queer Identities**

One day, as I was working in the dressing room of the Barn ripping out stitches from a skirt, Jessica, an actress who was working on a sewing machine next to me, excitedly exclaimed “Oh, you’re a gay woman with a boyfriend too?” She was turned to a non-actor, Sara, who had just swung by the dressing room to pick up a piece of fabric and instead found herself chatting about significant others. The two were comfortable acquaintances, but not close enough to have ever broached the topic. Both seemed pleasantly surprised to recognize that they were not alone in their situation. It turned out they each had come to understand themselves and identify as lesbian a few months after they started dating their current significant others, leading to what may seem backwards from the outside but worked for them. “I’m just not really interested in men,” Jessica said, “but I just love him so much that we stay together. He understands that it’s a special deal

just for him.” Sara did not audibly respond beyond an acknowledgment, leading me to wonder just how similar her situation was. Then again, Jessica had a tendency to be fairly gregarious.

Contrast this situation, of identifying as lesbian despite cultural markers that would claim otherwise, with a discussion I heard the very same night, from a gathering of several women in the lobby. Sitting in comfortable physical contact on a couch, they asked “what does being a lesbian entail?” the question emerging from an offhand comment about a snapback cap. Inflected by the affectionate, caring, and physically playful mode of conversation that I often saw among close friends in the Dramatists, a few definitions were thrown around, from “all women who play saxophones are lesbians” to “all women are lesbians.” The couch ended up with a seemingly straightforward consensus: “Lesbians are homosexuals. By definition.” Yet the irony of this position was not lost on them; the “straightforward” conclusion, along with the specifics of the conversation, indicated that their consensus was to mask uncertainty, and expressed how some felt that searching for “essential” lesbian-ness was just as absurd as such circular reductions.

I highlight these experiences to suggest that individual Dramatists’ experiences and viewpoints there are diverse, overlapping, and conflicting experiences within the Dramatic Society. But I also mean to demonstrate, at least in an initial way, the theme of *negotiation* of queer and gender identities. Discussion of queer stereotypes was a regular occurrence in the Barn, though these were probably the most-extreme obvious examples. Consider how the assistant director and director of the small show discussed the connection of queerness and the theater:

*Austin:* “I mean like yes, theater is gay. It’s like, the stereotype exists, it’s like (singsong voice) ‘You go to Broadway’ and you do the, you know. And I guess the Dramatists lends itself you know, to that, to queerness, on account of doing Theater, which is you know, queerer than other things.”

*Author:* “But why is theater gay though?”

*Jacob:* “Well OK. Well I think for men, cause it’s like, men are, especially gay men, are encouraged in society, I mean *discouraged* in society to show, really, aspects of themselves at all, but theater is a way you’re supposed to express a lot of emotion, I mean in acting specifically, all at once. And I would say like, I don’t know exactly how true this is but in my experience, technical theater has been a lot more gender equal. Like there’s an opportunity, whereas you don’t see a lot of women on construction sites, there’s a lot of women in technical theater constructing things. I think it’s a lot more inviting, in different ways, to people who deviate from ‘the norm,’ and queer people are people who deviate from ‘the norm.’”[29]

These quotes should not suggest a definitive answer to why both Austin and Jacob thought that the Dramatic Society, and theater in general, were queer spaces (though they make good points!), but rather they should serve as an example of the process by which understandings about queerness, masculinity, and gender relations were constructed and built upon through conversations. These sorts of conversations happened alongside the technical hustle and bustle of the Barn. Listening to the particular progression of Jacob’s statement, I suspect that he was doing his own sort of negotiation as well, trying to determine how best to present his point of view, and constructing it as he went.

The commonality of these negotiative processes should not lead one to believe that all practices in the Dramatists are perfectly reflexive, or even always positive. One practice that refused to be either purely queer or normative was the tradition of conferring special “awards” upon show

members—membership into the “Canned Hams” and the “Society of Blondes.” These awards were to recognize a select few cast members as memorable and a part of larger multi-show trends of (for the Hams) wackiness and (for the Blondes) ditziness. As one Dramatist put it, “Hams are boisterous and ob-NOX-ious—the person who chews the scenery— [while blondes] are just kind of ditzy people.” These awards have no eligibility criteria and are awarded to two Dramatists from each show (one for each award), as elected by the cast and crew of that show. The winners’ names are put on a “wall of fame” in the backstage area of the Barn. Yet despite their apparent flexibility, the Hams are almost entirely men, and the Blondes are almost entirely women.

To an extent, the gendering of the groups is related to a ritual in which the director introduces new Dramatists to the two awards before curtain on opening night. The director calls out “do we have any Hams here tonight?” and all cast members who have previously been named Canned Ham step forward to perform boisterous, obnoxious one-upmanship, while the director says “if you know anybody who’s like one of these people, nominate them for Canned Ham.” The same happens for Blondes, only current Blondes perform stupidity and capriciousness. The self-referential structure of the groups reinforces certain cultural stereotypes. However, performing exaggerated versions of those stereotypes, along with the occasional award given “cross-gender,” willfully plays with the gendering aspects of the groups. In this way, the Hams, Blondes, and the way they’re selected/performed, function something like prototypical drag performances. In a “true” drag context, performers neither comfortably fit as “gender radicals” or “gender conservatives,” but allow complex new gender formations to occur [34]. Something like this is going on in the conferral of these awards, as their ritual includes hyper-performative versions of the kinds of masculinities and femininities common to the Dramatists, centering gender performance as a way of poking fun at them; but the process rarely explicitly engages queer gender formations, making it far less radical. Even so, as with many social processes in the Dramatic Society, the performative aspects of this practice make it an active part of cultural construction, while its negotiative aspects leave it more open to interrogation and change than it might otherwise be.

It is hard not to interpret the nomination and voting processes for these “honors societies” as institutionalized popularity contests and sites of a kind of gendered violence: in many ways, each show votes for its own prom king and queen, and deviations from gender norms are done for laughs. This perspective shows that these negotiative processes are not innocent, and in fact do particular work towards the exclusion of persons who fall too far outside of the explicitly identified in-groups. They also surely force some students to conform to structures originating outside of the Dramatists, including those based ultimately in problematic gender and sexual relations that Judith Butler refers to as the “heterosexual matrix” [35]. Furthermore, this activity depended on specific sexual relations coded as *white*, contributing to the entanglement of sexuality, gender, and race more broadly in this space.<sup>6</sup>

Yet, this could be an overly cynical view of the process. Austin, for whatever reason, had not previously noticed the de facto gendered nature of the two groups, despite himself being a Ham. During our interview, he sat in absolute shock that he had never recognized it before, not necessarily concerned, but fascinated that he had missed it. Jacob, on the other hand, had noticed it before, notably when showing the list of awardees with outsiders touring the Barn. Perhaps students like Austin never noticed this dynamic because the few cross-gender cases actually made sense, making it seem that each group was truly a collection of personalities, and that gender had nothing to do with it. And maybe students like Jacob had noticed it but did not think

it was worth mentioning because the practice was more enjoyable than problematic, if it was even considered to be ‘problematic’ at all.

The conferral of these “awards” surely occurs because the Dramatists empowered to continue it find it fun and meaningful. But the fun intentions of a particular identity-interrogating process does not necessarily make it so for all involved. The case of these awards and their associated rituals is an instance of how the problematic structures responsible for reproducing gender and heterosexuality in technical universities (and society at large) take on new, yet not entirely separate, meanings when modified by the queer cultural practices of the Dramatists.

The negotiation of queer identities is surely a part of what makes the Dramatists a comfortable place to be for most Dramatists. This is evidenced by the prevalence of one-off jokes referencing queer sub-cultures, from a quip about “bears and otters” (generally positive terms for hairy, gay men of varying sizes), to one suggesting to “get you a guy who can do both” (in context, referring to people in both the Canned Hams and Society of Blondes—giving the joke another dimension of gender/sexuality meaning). Or a few Dramatists discussing over pizza different “gay best friend” characters in film, and how their relationship to that trope changed since high school. These examples of playful identity work adjacent to technical work meaningfully informed the *technical* practices discussed in the next section. These moments come together, not as essentializing performances of queerness, but to make the space performative of a particular queerness unique to the site.

### **“I’m Happy I Made it Gay”: Queering Identities for the Stage and Democratic Decision-Making**

Perhaps the most explicitly “queer” practice I could locate in the practices of the Dramatists were those oriented around showing queerness on the stage. The small production that Jacob and Austin directed consisted of two short one-act plays, *English Made Simple* and *The Universal Language*, by David Ives [38]. Both plays, as with all in the collection of Ives’ plays Jacob used to find them, focus on playing with the English language. In *English Made Simple*, two characters (“Jack” and “Jill”) ‘go through the motions’ of an archetypical small-talk interaction at a party. A third character (written in the play as a disembodied “Loudspeaker”) gives them instructions on what to do, as if a narrator for a book on tape titled “English Made Simple.” In *The Universal Language*, a con man (“Don”) tries to teach a made-up “Universal Language” that matches English cadence/phonemes in a slurry of bad puns to an unsuspecting, paying, student (“Dawn”). In both plays, the two matched characters fall in love, despite an odd intervening force that they overcome (in the former, the controlling Loudspeaker, in the latter, the setup of con man/mark and a nonsense communication medium). As might be imagined from the names of the characters, Ives seems to have written each show to display heterosexual love. But Jacob and Austin saw no reason that the characters should keep the gender they were implied to have by the script, and cast both shows “gay”:

*Jacob*: “These shows, they’re written with a man and a woman, both of them. But they’re not really written like they have to be, like there’s no real references to specific aspects of either character’s gender. And something that I liked making about these shows gay was that really I didn’t have to change anything, because like, these dynamics work, no matter who the genders of the people in them are. I wasn’t make any grand statements, but there is something to be said for the fact that everyday situations that happen to straight people also happen to all other kinds of people, it doesn’t really matter what the genders of the characters are, it’s the same situations.

Both of them had to do partially with romance, but it wasn't straight romance, it was just romance. And the other situations that occurred were totally non-sexuality-related. It was so easy to do, why not just do it? Cause you know, it's sort of representation. It's not written representation, but it's performed representation." [29]

For the directors of the show, their position as performers (even ones behind the scenes) enabled a space for such play. I see this as an artistic confrontation with the demands of high modernism. Philosopher of technology Andrew Feenberg has argued that modernity, especially in regards to technological production, is characterized by a technical and intrinsically normative rational culture [39]. For Feenberg, technical rationality as the dominant mode of cultural and technological production and reproduction; the logic of technical rationality demonstrates a formal bias that prefers the way things *are*, and articulates certain values such as "efficiency" and "compatibility" as the way things *ought to be*. Perhaps unsurprisingly, University students recognize the demands of technical rationality on their experience as training technologists, at least when they are able to practice alternatives.

*Austin*: "Well, in Engineering, there are wrong answers. There are a lot of wrong answers. There are things that are just wrong. But in theater, eh, you know, a lot of times, really the only wrong thing is to say nothing. ... I mean obviously if you made a platform that can't hold weight—"

*Jacob*: "Yes, there are some wrong answers in theater. ... I also think that in technical theater, and also in acting, intention matters a lot more than in other spaces. In the places where there are really right or wrong answers, it matters, if you got it right or got it wrong. But in theater, you can do something like make costumes that are not for the period the show was written ... and in a very literal sense, that's wrong because it's not the way it's supposed to look, but if your intention was to make it look this way for a reason, then it is the right answer because it's an artistic choice that you made. ... If you make those 'mistakes' intentionally, then it adds something. I would say it's even less wrong than if you had done the 'right' thing because you made the choice."

*Austin*: "In the software industry, lately people have been pushing towards more the concept of failing quickly and failing often so that you can learn from your mistakes and move on, and that is counter to the way that IT has been done for years and years. ... Accepting failure and doing things wrong, and loudly and wrongly, so that you can learn from being wrong, has been in theater forever. I mean, you can't get any emotional anything from theater unless you're willing to screw it up."

*Jacob*: "I don't know if it's just STEM, or if it's just sort of the professional culture in general of not being wrong, but I think it has sort of translated into theater now." [29]

In this exchange, we can see the demands of technical rationality being identified as an unavoidable part of science, technology, engineering and mathematics (STEM). The idea of "right and wrong" occurs in varying ways in the Dramatists for these students, first as a categorization that does not matter in the face of artistic expression, then as a categorization that only matters in the face of material constraints and safety, then as a category that is useful for tuning performances, and finally as a thought style that has invaded the theater from purer technical cultures. I think that the place of "performance," and the position of the theater as a rightful place for performance, enables these students to step outside technical rationality in ways they otherwise might not have.

Despite Jacob and Austin's agreement that they "didn't have to change anything," it was clear that some things needed to be at least considered on stage given the portrayal of same-gender

couples. I spoke to Alexis, the hair, makeup, and costume designer for the smaller show, who said she thought about it a lot:

*Alexis:* “In [*English Made Simple*], I didn’t want LeAnn and Cameron to look like sisters; I wanted them to look like lovers. I wanted them to match. So the green motif, kinda keep them together, but I could do Cameron with pants and a flannel while LeAnn could wear a cute dress with tennis shoes. I didn’t do much with their hair, because it was mostly fine. I did put Cameron’s in braids to mute it a bit more and match the flannel. And then for makeup, I wanted the opposite roles of the outfits, so LeAnn has very soft, very natural makeup, while Cameron has these fierce eyes. The show’s lit pretty neutrally so I didn’t have to worry too much about it.”

For *The Universal Language*, the design took a lot less effort: the ‘professor’ was supposed to look like a professor, though maybe with something a bit ‘off’ (bellbottom pants and a slightly-too-big jacket), while the student was supposed to look like a disheveled student: jeans and half-tucked collar shirt. Makeup for the guys was practically non-existent: “boys on stage too often look like dolls,” Alexis told me.

The realities of the small production made for other bends in the usual rules for shows. Due to some problems at the beginning of the semester, the cast only had four weeks to learn and perform the shows. They had to stage it in a nearby academic building, because the “mainstage” at the Barn was being prepared for a larger production. The smaller production size allowed for ‘training configurations’ of the crew: two first-years co-designed and hung the lights, a first-year student served as set designer, dresser, and properties master, they had a sophomore managing the stage, a first-time producer, and the director and assistant director had a model that was more like co-directing. Everybody in the crew had theater experience, but they were mostly all taking on new roles, subverting or changing the way the technical roles are usually distributed to work for their particular show.

Jacob and Austin spoke about the usefulness of these established technical roles, and expressed their wish for similar structures to be more prevalent in engineering projects. The Dramatists seemed to have a consistent role-based infrastructure that different plays run atop of, each play assigning its own roles to actors and making its own demands of the different technical positions. I recognized this model as being analogous to an engineering administrative one: assigning a project manager, a software lead, a senior developer for backend, *etc.* Still, the students I spoke to saw the structure as meaningfully distinct. This distinction is perhaps explained by some students’ inexperience with industry teaming structures. However, I believe more is going on.

Perhaps, the particulars of the Dramatists’ system is flexible enough so as to encourage effective teamwork, whereas hierarchies on engineering teams can serve as sites of miscommunication. To illustrate this difference, I share how I was consistently surprised by the how radically democratic forms of governance and organizational configuration that the Dramatists practice. From one perspective, the organization is hierarchical, with the executive board being elected by the membership and making certain decisions for them, including their budget, the selection of each show’s producer, and supervision of shows’ core production team. In the hierarchical model of the Dramatic Society, beneath the Dramatists’ executive board is the “production team” for each show (which can be concurrent and have overlapping membership), which consist of various roles and departments as deemed appropriate for the particular production (*e.g.*, the producer, director, and technical director are “in charge” of the show, and manage the cast of actors, as well as directors of particular technical departments, such as costuming, set design, and

lighting). Within each department is a loosely organized team of Dramatists with variable levels of emergent commitments, from actors who, once cast, are expected to commit to the rehearsal and performance schedule, to people who may come every few weeks to a work party and help out in departments ad-hoc (as I did during my participant-observation).

However, the hierarchical model is a fairly bad one to describe the University Dramatic Society, for reasons should be evident from my “hierarchical” organizational description. In fact, many Dramatists take on multiple roles simultaneously: a single person can occasionally help build a set, serve as Makeup Designer for one production, act in another, and serve on the executive board all at once. Furthermore, departmental boundaries are highly permeable; with multiple “departments” working on a single project and sharing several members, it is hard to consider them truly “parted.” Officers on the executive board and in a core production team are best viewed as connectors and mobilizers, not people “in charge” (though their authority is occasionally used as a method of last resort to get things done). As with my description of the technical organization of the small production, many department leaders across shows and projects explicitly set up their team in “learning configurations,” so that Dramatists working in that department could learn new skills or teach them to newer teammates.

This is best exemplified by the open nature of production meetings. In these, every crew member who surpasses a certain level of commitment to that show attends. Each department gives an update to the entire crew, asks for help/information so they can better do their work, and hears from the producer on how to coordinate their activities. Importantly, at the end of the meeting, the producer asks “does anybody have any questions for anybody else?” and a period of open discussion begins. This flattening of production work across a fairly large group (fifty or so, for a large production) is symbolic of the non-meeting production dynamics. Crew members without formal roles regularly speak and work across departments and talk directly to the producer. The structure of the production meeting (and like it, the general membership meeting, and even the executive board meeting) is thus also performative. It acts and enacts certain norms for the University Dramatic Society as a whole: real democracy, friendly interactions, and mutual artistic production.<sup>7</sup>

### **Discussion: In/Authenticity and Technical Practice**

The Barn Theatre is certainly a “queer” site at the levels of its association with non-heteronormative sexualities, its multiple oddities as a student organization’s building in the middle of campus, and its several ways that practices within it are amenable to a queer theoretical analysis, especially its subversion of hegemonic technical practices through an orientation to performance, its performative practices, and the value of negotiation at the limena of the Dramatists’ collective defined experience (to recapitulate, *queer as in gay*, *queer as in strange*, and *queer as in theory*). However, through examining the queerness of the organization, I consistently encountered a figure, sometimes hidden, sometimes visible, of *in/authenticity* in actions, performances, and identities.

*In/authenticity* is a semantic figure that challenges the reader and the analyst not to consider what is or is not authentic, but rather to treat it as a political category that emerges from the field-site. When things are claimed to be authentic, inauthentic, or troubles the boundary between them, when something’s authenticity is questioned, and when these categories, or the categorization itself, are mobilized for political ends, the figure of *in/authenticity* is present. The notion of *in/authenticity* is borrowed from Wendy Faulkner [44]. For Faulkner, the notion of *gender*

in/authenticity is useful to describe the actions of women engineers and their affective relationship to their work and workplace. Her use of it is intentionally not to name what makes an action “gender authentic” or “gender inauthentic,” but to better understand how authenticity is both understood by her participants and can be used to explain their experiences. As a binary, in/authenticity is a useful analytic tool to think through in a queer theoretical analysis of a case, because even when it is not present for our participants, we can ask why it is *not* as a way of understanding how to trouble or subvert the binary when it *is* present. In other words, thinking through binaries can be a mode of developing anti-essentialist theory [45].

At this site, the figure of in/authenticity maps onto the ways in which we can consider the Barn Theatre as a queer space and the Dramatists as a queer community. First is the question raised by the building: when one is a Dramatist, how are they being in/authentically a University student? Existing at the boundary between social and technical student spheres, the Barn is firmly a place for students to relax and prepare for the difficulties of academic life. Yet it is also a distinctly queer (*as in strange*) space: it is closed off from the general student body, its small wooden frame is dominated by giant concrete and brick buildings around it, and it functions as a technical and artistic space for both work and pleasure. Identifying the Barn as a queer space that fits uncomfortably within the social/technical binary, physically and culturally, mirrors the feelings some queer STEM students may feel when in the “chilly climate” of STEM education towards difference [4].

Second, in/authenticity is a salient figure in understanding the negotiations of identity discussed earlier. In fact, the negotiations of identity I observed can be understood as desirable ways of grappling with in/authenticity, in contrast to the pervasive heteronormativity of STEM cultures, its historical inertia, and the physical infrastructure of the University which produce stricter notions of “correct” sexuality. In the areas of both professional and sexual identity, I suspect that in/authenticity has a similar ordering effect for queer students at the University as it can have for women in engineering. Students may ask, “how can I be both authentically queer and authentically technical?” or, “does authenticity in one area indicate inauthenticity in the other?” However, as in Faulkner’s analysis [44], the recognition of in/authenticity as a salient figure in the experiences of queer students need not inscribe a new essentialism—*e.g.*, that feeling “inauthentic” is bad and feeling “authentic” is good. Rather, it becomes apparent that the strict categorization of experiences into either authentic or inauthentic ones is an ordering system that contributes to women and queer engineers’ disidentifications with engineering as an identity or community.

Last, the discussion I had with Jacob and Austin about “right” and “wrong” technical/artistic practice maps onto in/authentic as well, through the questions, “is an artistic engineer being professionally in/authentic?” and “what constitutes in/authenticity in a performance?” The first of these points to the processes of professional identity-building and asks that researchers attend to the technical enculturation. The latter fits more comfortably with earlier studies of queer performance, especially an interest in “camp.” Camp is celebrated inauthenticity; the notion of “camp” pulls us to recognize inauthenticity as a value in itself, or perhaps as a mark of unalienated labor value. Tinkcom suggested that camp has a potential to mark commodities as the product of queer labor, and therefore could hint at alternative values within a hegemonic, capitalist productive system [46]. However, one must wonder if to call camp production within an existing system would simply aid those already empowered, or at least be easily reconfigured by them. McRuer raises these questions in a field of increasingly normative queerness: if

queerness becomes normal, then what pleasure can remain in claiming queerness? Can queerness ever truly be normalized [15]? *In/authenticity* re-emerges in these questions. Does the positioning of the queer as anti-essential re-inscribe a new essentialism? If the Barn Theatre is an increasingly queer (*as in gay*) space, won't at some point it cease to be queer (*as in strange*)? What does this mean for student negotiation of identities? What does it mean for positioning this "queer technical practice" as a meaningful alternative to the dominant practice?

### **Conclusion: Challenges and Potentials for Engineering Education**

Within the above questions are important issues for scholars interested in the intersection of queerness and engineering education/engineering culture. The ways in which the Dramatists' *queer* represent important potentials for engineering education, from their ability to trouble comfortable cultural categories, to their interrogations of gender and sexuality, to their pursuit of technical practice that subverts technical rationality [39], to their alternative democratic practice. However, the question of in/authenticity threatens to turn their unalienated labor and artistic expression to bitter alienation of the sort many students feel toward their coursework.

This paper has summarized several months of participant observation in the "queer space" of a student performance group, the University Dramatic Society. I noticed that Dramatists engaged in several activities that are meaningfully different from "standard" engineering practice. This investigation highlights the need for future research that continues to provide ethnographic accounting of queer students' lived experiences at engineering universities. It also serves as a challenge for changing engineering education: what were the structural conditions that have led to the University Dramatic Society as such a unique technical-artistic space? What would a *queer(er) engineering education* look like (*queer as in gay*, *queer as in strange*, and *queer as in theory*)? Finally, I hope that the account has resonated with queer engineering students, who may see elements of themselves and their circles in the Dramatists' experiences.

What then, are the implications for engineering educators? As with most performances, the practices of the Dramatists are more provocative than didactic. I would hope that the relevance of the space to engineering educators would be self-evident—the fact that engineering students engage in the practices I have identified is reason enough for them to be studied and read. Yet, the Dramatists show specific considerations that engineering educators should take seriously.

First, the subversive and comfortable space of the Barn Theatre and its encouragement in the negotiation of queer identities meaningfully provided a basis for practical technique; in this case, it provided guidance on how to interpretively translate guiding texts into material reality responsive to the concerns of diverse stakeholders. Second, the critique of technical rationality that stems first from the facts of an artistic site and second from the lived experiences of queer students, *co-existing* with the production of technically successful performances, indicates that explicitly critical and/or personal analysis of technique need not compromise technical education. Third, the use of a particular democratic decision-making practice that diverges from "standard" engineering corporate hierarchies exemplifies at least one mode of social interaction conducive to technical work that does not require command-and-control relationships. And finally, the presence of the figure of in/authenticity affirms that this site, and others like it, do not have perfectly straightforward relationships to either "standard" technical practice or the teaching and learning aspects common in traditional engineering education. Doubtless that this site, and the practices of queer engineering students more generally, have countless additional lessons for engineering educators.

My search for a queer technical practice led me first to a queer sense of place: the Barn is not so much a queer place full of queer people doing queer technique as it is a space in-between, subversive of the dominant structures around it, yet firmly embedded at the base of them. The Barn is a place to rest before the arduous journey, the peacock on the pressure cooker. Yet in each of these descriptions is a sense of situatedness: beliefs about a difficult and uncertain future reflect past experiences and narratives, so the present moment of rest contains and is defined in relation to them all (*the peacock is attached to the pressure cooker; it's there because someone knew that steam would be there and would need to be released*). We need not look far to see self-awareness as technologists in the Barn, nor to find people working on their problem sets, nor to find them avoiding their problem sets. The technical practice among the Dramatists is at the same time rest from the remainder of a student's technical practices, and a version of them in their contestations and imperfections. *How queer.*

*Jacob:* "You'd think we would make stuff like, 'Oh, our tech is very technically advanced,' but I think sort of the opposite is true actually, because we don't go to a theater school. We come as a hobby, and it dictates the magnitude of the things we can do.... Something I like about Dramatists as opposed to doing schoolwork is that the Barn is a place where we relax, but that isn't to say that it isn't stressful."

*Austin:* "Yeah, University is not an arts school, but the Dramatic Society is a space where I can let my creative mind go a bit. It's kinda a unique spot on campus for me to be able to do that."

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## Notes

1. Although no students identified this concern at my site, I would like to briefly acknowledge some heterosexual trans\* persons' objections to being labelled "queer." Beyond major qualitative differences in experiences, the grouping of LGB and trans\* persons can be problematic especially for certain histories of trans\* exclusion and transmisogyny in the LGB community and a widespread misconception that trans\* identities are rooted in 'deviant' sexualities. Despite these problems, queer studies and transgender studies have historically been related, if non-parallel, traditions within the academy. To reflect this tension, I have chosen in this paper to critically employ "queer" as a term to include trans\* individuals in a broad heterogeneous grouping, in part because the terms "*queer* and *transgender* are linked in their activist investments, their dissident methodologies, and their critical interrogation of and resistance to gender and sexual norms" [2, p. 172]. Future work must seek to better understand specifically the experiences of trans\* students, both to attend to their specific difficulties and to broaden and nuance research on gender and engineering education [3].

2. I recognize that my usage of a “standard” technical practice throughout this paper is itself distinctly binary and perhaps uncritical. Indeed, the content of “standard” technical practice, its instability, and its internal and external contestations are central to the question of “queer” technical practice. Nevertheless, I make use of it as shorthand indicating technique characterized by “hard science,” technical rationality, rigor, and a strictly enforced division between social and technical domains—recognizing that no actual site fully embodies such a characterization.
3. Interested parties may contact the author for full references to historical materials consulted.
4. Here, I am drawn to read in the infamous queer activist slogan “Queer as in fuck you!” This phrase invokes a queer politics that stands in opposition to the “homonormative” politics that focus on fitting certain sexualities into existing institutions [31, p. 39]. I am unsure how I would consider the Dramatists in relation to such political arenas, or to a radically queer ethics of the sort advocated by Edelman [32]. However, I recognize in the Dramatists an angry activist contingent, mostly evident in some Dramatists’ attitudes toward University administration. This oppositional tendency is certainly an aspect of the Barn’s identity as a queer space, but here I will allow it to be grouped with the atypicalities and performativities of the Barn (*queer as in strange, queer as in theory*) rather than give it a distinct category.
5. “Verse” comes from the Proto-Indo-European language root *\*wer-*, meaning “to turn or bend.” This is the sense in which it is used in the English word *universe*; it also provides a root to *irreverence, avant-garde, pervert, worth, and weird*, among others [33].
6. This paper’s failure to attend much to race regrettably mirrors the site’s tendency to do the same; in part, this is because of race’s absence in my research questions and my fieldwork’s general inattention to the specifically racialized aspects of interaction. Hegemonic whiteness figured heavily in the constitution of the site as well as at the University more generally, but I did not have space in this work to provide this substantial discussion. My inattention to this issue is a *substantial* shortcoming of this analysis. Readers wishing to make use of this work, or otherwise explore the intersections of engineering, theater, queerness, and art, are encouraged to expand upon this direction in particular. A good starting point would be to analyze the racialized ruling relations of the space [36], particularly attending to how race, gender, and sexual identity intersect [37]. Crucially, discussion of “the negotiation of identities” must be re-visited with an understanding of how racial identities are not allowed the same kind of flexibility, yet play a role in those identities which *are* more negotiable.
7. It would be a useful exercise to compare the Dramatists to one of Yochai Benkler’s “working anarchies” [40], a “moral economy” (e.g., [41]), or one of Erik Olin Wright’s “real utopias” [42]. These frameworks are potentially useful points of comparison for discussing the University Dramatic Society’s effective but loosely organized social power, especially as it fits into the University’s hierarchies more generally. Also useful to this analysis would be an understanding of what keeps loosely organized systems from failing: e.g., Graeber’s notion of “imaginary counterpower” [43].

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