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THE PERILS OF COMING OUT: TRANS SCIENTISTS SPEAK UP

To mark Pride month, transgender scientists recount transition experiences as political landscapes turn increasingly hostile in many places. By Sophia Chen

efore coming out as transgender at work, Lisa procured the ultimate academic protection: tenure. A geochemist in her thirties, she found a faculty job at a university in the southwest of the United States. It was 2002, and she knew of many transgender people who had lost their jobs after transitioning. At the time, media depictions cast transgender people largely as freaks, the butt of jokes or hatecrime victims. With job security assured, she told her colleagues she was transitioning - but she did not anticipate their reaction. "The department chair wanted to have a meeting with all the students and announce it," she says. "I was like, 'Do we have to do this?"

They did. Lisa (not her real name) nodded

along as the chair declared her newly public identity to some 50 people – undergrads, graduate students, faculty members and staff. "I guess he thought it was important that everyone know, and [the situation] was not that unusual," says Lisa, who is now 60 and a professor at a university in Massachusetts. "Some people are trans; some people are French Canadian,' that kind of thing. 'Our colleague is looking a little different. What's going on is completely normal. We all know about this, and we completely support her."

Still, the spotlight was a bit much for her. "But it was very nice to see I was being supported," she says. "I didn't expect that."

At the time, stories of transgender scientists, let alone workplaces that were supportive of them, were rare. But if you know where to look, the names of transgender researchers are scattered throughout the scientific record. The British botanist Elke MacKenzie, known for her studies of Antarctic lichen, came out as trans around 1971, at the age of 60. Lynn Conway, a pioneering computer engineer, was fired in 1968 from IBM after she transitioned. (IBM publicly apologized in 2020.) And in the early 2000s, the neuroscientist Ben Barres overheard a colleague praising Barres's work over his sister's, not realizing the 'sister' was Barres before his transition.

"There's this mainstream belief that trans people are constantly brand new, and the issues that affect us are also constantly brand new," says historian Mar Hicks, who researches

Work/Technology&tools

transgender history at the Illinois Institute of Technology in Chicago, "That's just not true."

But public conversations about gender have become more open – and more scientists are out at work. A 2022 study estimated that at least 1.6 million people in the United States identify as transgender, or as having a gender identity that doesn't match the sex they were assigned at birth (J. L. Herman et al. How Many Adults and Youth Identify as Transgender in the United States?: Williams Institute, 2022). Another 2022 study found that 44% of people in the United States know someone personally who is trans (see go.nature.com/43trrsi). Several countries, including the United States, Canada, Australia, India and Nepal, allow gender options beyond male and female on passports.

Beth Gould, a cosmology PhD student at Newcastle University, UK, works in a research group with three non-binary scientists. "I chose this place, partly because I felt that it was somewhere where being a trans and non-binary physicist was not only tolerated, but actually valued," Gould says.

For Pride month (celebrated in June in the United States and July in the United Kingdom), several transgender scientists shared their academic experiences with Nature. Through sharing these stories, they want colleagues to accept their existence and their right to be full members of the scientific community (see 'Transitioning stories').

Even with more societal awareness, many transgender scientists find workplace support to be patchy and unpredictable. They must navigate interactions with clumsy and sometimes disrespectful colleagues, and cope with administrative policies that often overlook them and their experiences.

Such obstacles cost a lot of time and energy. says physicist Juani Bermejo-Vega, a postdoc at the University of Granada in Spain. During the COVID-19 pandemic, another researcher tried to kick her out of the women's toilets at work. She's also struggled with the time-consuming process of changing her name on academic papers. An updated name can help to prevent misgendering or misnaming by others, a common harassment technique. It can also help transgender scientists to move forwards with a new identity. "I gave up," she says. "It's more important for me right now during the tenure process that my CV doesn't get messed up."

Trans rights repressed

Despite some progress in certain countries, many transgender scientists work and live in places with an increasingly hostile political landscape regarding trans rights. In the United States, Republican-led state governments are spearheading legislation that targets transgender people. Nine states, including Indiana and Florida, have passed laws making it difficult for schoolchildren to use their

preferred pronouns. Florida's and Oklahoma's state governments have made providing gender-affirming care for minors a possible felony. Conservative lawmakers in the United Kingdom are considering redefining the term "sex" in an anti-discrimination law to mean "biological sex". This would make it easier to exclude trans people from certain public spaces and groups, according to the Equality and Human Rights Commission, a public entity advising the government on matters affecting people from sexual and gender minorities.

Being transgender is criminalized in at least 13 countries, including the United Arab Emirates, Malaysia and the Gambia, according to a 2020 report (see go.nature.com/3qehrjd).

"Most people are never going to understand that's a lost cause. You want them to accept you."

Nature did not talk to any transgender scientists from these countries, but the laws can pose complications for transgender scientists who live elsewhere, too. "Moresenior members in my department will suggest that I go to some conference, and I'll be thinking, 'It's illegal to be trans in that country,' or 'I do not feel safe as a trans person in this country," says Gould. It makes her feel "a bit awkward, but also sad", she says. "One of the perks of academia is the opportunity to travel to interesting places, and have these amazing experiences, but I feel restricted in my ability to do that."

Even in more-progressive countries, being trans presents challenges. In Brazil, transgender people can change their legal identity fairly simply – without needing medical

documentation, which is required in the United Kingdom, says Gabrielle Weber, a physicist at the University of São Paulo in Lorena, Brazil, However, more trans people have been murdered in Brazil than in any other country for 13 years in a row. The victims are disproportionately Black trans women, as is also the case in the United States.

Still, many trans people choose to transition because it is a matter of life and death. Lisa says that most trans people recognize how difficult transitioning will be before they start the process. "You'll run into lots of jerks; lots of people aren't going to support you; you may lose friends; you may lose your job. You had to get to the point where you're like, 'I have to do this or I'm going to die."

When Shannon Bros, an emerita ecologist at San Jose State University in California, transitioned at around the age of 40, she was married to and had children with a cisgender woman. "With a lot of people, there's a huge break in trust," says Bros. "They thought they knew you all your life, and all of a sudden, they didn't."

As she rebuilt her work and personal life, Bros found that it was more important to connect emotionally with people than to push facts and "insist on pronouns". She says that the latter approach was useless. "Most people are never going to understand - that's a lost cause. You want them to accept you."

Slipping through the cracks

Even when individual colleagues are supportive, many academic workplaces might overlook trans scientists' needs because their administrative processes assume two unchangeable genders. For example, universities might not have clear HR protocols for how to handle a trans scientist's coming out, leading to ad hoc processes similar to Lisa's debut. Weber had trouble working out how



Gabrielle Weber worked with her university to officially change her identity.

to change her identity officially with the university. An administrator wrote to her, saving: "You are not our first case, but we do not have a standard way of dealing with trans people." Fortunately, once the university had developed a protocol, her information was updated within a week.

It can be unclear whether gendered scholarships or events welcome transgender students, says Jasmine Thomson-Cooke, a physics PhD student at the Dublin Institute for Advanced Studies, As an undergraduate, Thomson-Cooke wasn't sure whether it would be acceptable to attend an event for women in physics. The department head e-mailed the organizers about the issue, but Thomson-Cooke did not go because the clarification took too long.

As the mother of a two-year-old, Bermejo-Vega says that her colleagues do not seem to understand her at-home duties. They often ask her to complete work tasks with short deadlines. "Have people understood that I'm a mum, or do they still see me as a dude and assume that my partner is taking most of the responsibility at home?" she asks.

One challenge, she says, is simply the lack of other trans colleagues. "I have not been able to compare this experience with anyone," because there are so few trans women - and even fewer trans women who are mothers in research, says Bermejo-Vega. A 2022 study found that, for transgender undergraduate students who intend to major in science, technology, engineering or mathematics (STEM), the proportion who remain in that track is about 10% less than it is for cisgender students (J. Maloy et al. CBE Life Sci. Educ. https://doi.org/kfd3; 2022). "I think many trans people don't reach the PhD level," says Bermejo-Vega.

Both Elijah Beevor, an astrophysics master's student at the University of Hertfordshire in Hatfield, UK, and Thomson-Cooke say that it's important for senior researchers to treat trans students no differently from others. "On the one hand, treat them normally like you would any other student," says Thomson-Cooke. "On the other hand, maybe be more patient, because trans people disproportionately have mental-health problems and might need more time to complete a task." After Brianna Ghey, a 16-year-old transgender girl, was murdered in the United Kingdom in February, Thomson-Cooke and Gould talked about how "it ruined our productivity for the day", Thomson-Cooke says.

Creating space for themselves

Transgender scientists have formed communities to socialize and talk about science. A few years ago, Thomson-Cooke started an online Discord community for trans and non-binary physicists, which it runs with Gould. The community organizes mostly virtual social events, such as watching the supernatural television

Transitioning stories: 'The walls go away'

Trans scientists bring perspectives to their work that are as varied as their own backgrounds and coming-out stories.

"Folks have so much more awareness" now, says Shannon Bros, an emeritus ecologist at San Jose State University in California, who transitioned in the late 1990s. "I never even knew what a trans person was growing up."

But trans scientists' stories hold a common theme: to be productive, people must be able to express their true selves at work. As an undergraduate at the University of Minnesota, Minneapolis, in the 1970s, Bros told a therapist about how she would dress as a woman. "This person had me write down what I was doing, on paper, and sign it. Then he told me that what I was doing was against the law," she says. "That's the kind of stuff you had going on then."

After a man sexually assaulted her in her twenties, Bros assumed the persona of a "super macho man" for more than a decade, lifting weights and racing motorcycles. But around the age of 40, she couldn't put on the act any more. She thought through how to tell the people in her life, but one day in 1997 she threw away the plan and just told a classroom of students that she was a woman. "You live this really bottled-up life, and then all of a sudden, the walls go away, and there's no way you can put those walls back." Bros says. After transitioning, she says, she connected better with students.

Being young and trans today is a "varied

experience", says Elijah Beevor, who is pursuing an astrophysics master's degree at the University of Hertfordshire in Hatfield, UK. Like many young trans people, Beevor has had difficulty in finding gender-affirming health care. In 2018, aged 17, he joined the waiting list to receive hormone therapy through the UK National Health Service and had his first appointment at 22.

Beevor's family was supportive about his transition, but he has peers whose families don't accept them. "Some days they're living as themselves, and some days as their birth gender," he says.

Jasmine Thomson-Cooke, a physicist at the Dublin Institute for Advanced Studies, identifies as genderless. "It's just not wanting to be categorized in that way." Thomson-Cooke describes the label 'woman' as an "approximation", saying: "I don't know where I fit into that. Part of society welcomes you, as a trans woman, into womanhood, and part of it viciously pushes you out."

Gabrielle Weber, a physicist at the University of São Paulo in Lorena, Brazil, identifies as a travesti, a gender identity in Latin America that was once a derogatory term, but that the community has reclaimed. She realized aged ten that she was trans when she learned about travestis, who in the past were demeaned and associated with sex work. From a young age, she'd wanted to do science, which seemed incongruous with being a travesti. Now, she says, "calling myself a travesti is me facing my fears".

show Beyond Belief: Fact or Fiction together. Members hold a recurring event called Thesis Thursdays, in which one of them presents a written introduction to their thesis and fields questions in the chat. "We don't need to go through the whole rigmarole of, 'Are you on the pills? Are you getting the surgery?" says Thomson-Cooke. "We have more interesting things to talk about."

Bermejo-Vega helped to start a quantumtechnology conference, called Q-Turn, that emphasizes diversity and inclusion. Q-Turn held its first event in Florianópolis, Brazil, in 2018, with 114 participants. In November 2020, the conference took place virtually.

Beevor is goalkeeper for TRUK United, a soccer team formed in 2021 that is inclusive of all genders. On 31 March, International Transgender Day of Visibility, Beevor played in the first-ever match to involve a team made up entirely of trans men and trans-masculine players. The opposition was Dulwich Hamlet FC Supporters Team, a cisgender men's team in south London. His team ultimately lost 8-1, but "considering we literally met each other an hour before, and we were playing against an established team, I think we did pretty well," says Beevor.

"It's a gift that we get to experience something that other people don't," says Bros. The more acceptance and support that STEM workplaces can show trans colleagues, the more those colleagues will feel safe bringing their whole selves to work. "When I finally did come out, it was like a get-out-of-jail card. I was free to figure out who I was," says Bros. "People can go their whole lives without doing a lot of introspection. But as a trans person, you have to understand who the heck you are."

Sophia Chen is a freelance journalist in Columbus, Ohio.

Correction

This Career feature misspelt the name of Brianna Ghey and used the wrong pronouns for Jasmine Thomson-Cooke.