



A Planetary Scientist's Guide to the Trans Experience

There's an old saying: if you put 40 geologists in front of an outcrop, you will get 40 different interpretations. Each interpretation is developed through the framework of the geologist's own disciplinary knowledge and experience. Many interpretations may use an existing framework and differ only in detail; others may adopt radically different frameworks with radically different views. These alternative frameworks often provide the insights and breakthroughs that ultimately forge a new path.

In this pamphlet, I want to talk about the transgender perspective. I will be leaning on on a "consensus" description of this experience, but be aware that there is an extremely diverse range of perspectives on transgender issues within the transgender community itself. I am not (and inherently cannot be) the sole authority on this issue.

To start, I think it is helpful to address the concept of 'gender'. Until recently, it was standard to think of female and male as paired opposites. These concepts are linked to an idealized biological description of two sexes. This biological description takes on a social dimension with specific behaviors expected from male or female.

For example, women may be biologically responsible for carrying a child to term, but expectations around child-rearing are largely social in nature. There

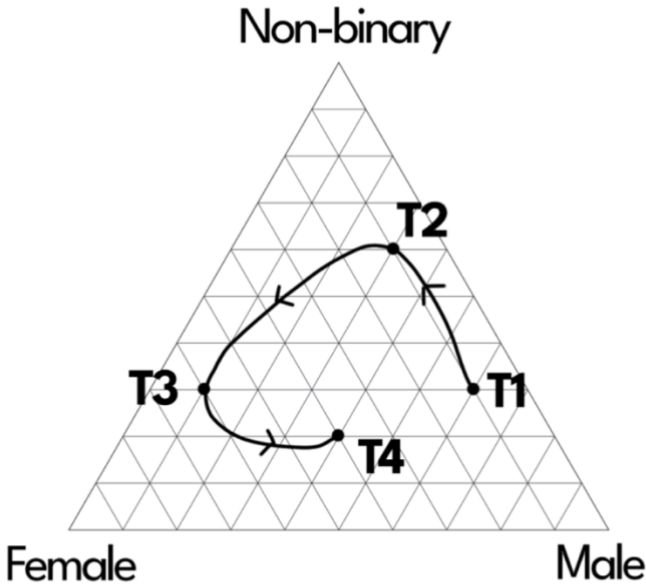
is no biological reason why a man can't bottle feed a baby or change a diaper, but performing these actions is often socially discouraged as 'un-masculine'.

Once we recognize gender as a distinct concept from sex, we reach the idea of a 'gender binary' - a spectrum of an individual's affinity to behaviors associated with a particular gender. The transgender experience initially has its roots in this concept - people born and assigned to one sex and gender, but associating more strongly with the body and gendered behaviors of another.

However, other relationships to gender also exist. Consider 'non-binary' people - people who have no affinity to gender at all. From that, we could create a 'gender ternary' with male, female, and 'non-binary' on the three axes of the diagram. One's relationship to gender may also change over time - people who move around within this parameter space could be described as 'genderfluid'.

These concepts are somewhat independent of one another, and so may overlap within a single individual.

Transgender experiences are shaped by a disconnect from sex assigned at birth, both in terms of the physical attributes caused by that sex and the gendered expectations following from that assignment. This disconnect creates a constellation of behaviors and feelings collectively described as 'gender dysphoria'. Common signs are distress with the primary and secondary sexual characteristics of one's body, a pervasive feeling one "faking" their birth gender, and a sense of absence from one's own body. These are not the only ways in which dysphoria manifests, and these experiences are not a requirement to be transgender



You have heard of the 'gender binary', now get ready for the GENDER TERNARY!

Notes for Allies

When someone comes out to you, they are placing their trust in you. The information they are sharing can profoundly alter their safety and life situation if handled carelessly.

After a coming out conversation, be sure you are clear on the settings where it is unsafe to use that person's new name and pronouns. Treat anyone that person is not out to as a potential safety hazard, even if you believe that person is safe. Unintentionally outing a person creates the possibility of that knowledge reaching a hostile party.

You may not be able to fix a discriminatory environment by yourself, but you have the opportunity to create spaces where transgender people feel safe, respected, and appreciated.

- If you slip up with names or pronouns, just correct yourself and move on. We know mistakes happen. Making a long apology puts us in the spotlight and draws more attention to the mistake.
- Unsolicited questions about genitals, sexuality, medical procedures, and personal history are extremely invasive.
- Socially transitioning is an emotionally taxing process, and a little extra patience goes a long way.
- We are generally very conscious of our bodies and gender presentation. If you want to complement us, please complement our fashion, not our bodies.
- A trans woman who hasn't shaved isn't any less a woman; a trans man who hasn't concealed his breasts isn't any less a man.
- Please respect a person's pronouns. A trans man using 'he' is not a 'they', and neither is a trans woman using 'she'.
- 'Deadnames' are an abandoned given name. They are called that because the given name is what families often choose to put on a grave over that person's wishes. If a person no longer uses their given name, do not keep using it. If they introduce themselves under a chosen name, no one needs to know their given name.
- We do not 'identify as', we are.

Anti-Trans Laws

This pamphlet was spurred by the wave of anti-trans bills being drafted across the United States. These bills do not have to become law to have personal and professional repercussions. The inflammatory rhetoric that accompanies them is crafted to otherize us, spread misinformation about who we are, and paint a target on our backs.

When anti-trans activists and politicians talk about bathroom bills, notice that they are sexualizing our bodies in non-sexual situations to paint us as a predatory presence. When they attempt to limit our ability to have our gender legally recognized, notice that they argue we are stubbornly 'denying biological reality' to paint us as delusional or mentally ill. When they talk about regulating "drag performances", notice that they are conflating our choice of everyday dress with adult-oriented entertainment. When they bring up the high rates of depression and suicide within the trans community, notice that they are absolving themselves of any blame for creating a culture with an atmosphere of impunity for anti-trans discrimination and violence.

You have transgender colleagues and colleagues with transgender children. Please realize when we are searching for career opportunities, we are forced to consider the political environment for the assignment, today AND tomorrow. These environments determine our ability to remain comfortable in our own skin, safely exist in public, and access our medical care.

These laws are far-reaching. LGBTQ- friendly cities and university town bubbles do not provide protection from discriminatory state laws. When politicians tell you they intend to pass these laws, understand they do not intend to stop until these laws are permanently in place.

Take a moment to think about the career opportunities available in just Texas and Florida alone. This conference. Two NASA centers. Contractors and subcontractors associated with those centers. Universities with prominent planetary science and engineering programs. The political environment in these states essentially makes those career opportunities non-starters.

Situations can change overnight. On January 5 of this year, Ohio Governor Mike DeWine signed an executive order directing the state Department of Health to explore changing the standards for facilities to provide hormone replacement therapy (HRT). Under the proposed rule, all facilities offering HRT would be required to hire additional psychiatrists, endocrinologists, and medical ethicists to

develop new care plans and evaluate patients. These new standards threatened to greatly decrease the number of providers capable of delivering these services, in addition to increasing the cost of care. While these rules were ultimately not adopted, they illustrate the precarity of our ability to receive care. A series of near-misses with no intervention will eventually land a hit.

I initially wanted to write an explainer about these laws and how they specifically function to make our lives difficult, but found it too painful. I would deeply appreciate if you could take some time to explore the anti-trans laws which have passed or are currently under consideration in your own states. The following QR code will take you to an American Civil Liberties Union tracker summarizing anti-trans bills which have been proposed in the last few years.



<https://www.aclu.org/legislative-attacks-onlgbtq-rights-2024>

Nominative Determinism

There is nothing of ourselves in space. The cosmos is utterly alien; what artifacts of humanity lie beyond Earth are constructed in our minds and with our bodies. Our understanding is imposed. Imperfect.

There is no such thing as a planet, a sandstone, an asteroid, or a black hole. These are not names the universe has applied to these objects. They do not call themselves anything. They simply are. Those are our words, our labels. Categories with definitions and edge cases. We use these words until they become inconvenient, and in this inconvenience we find discovery and deeper understanding.

Insisting that definitions can be perfected until no more edge cases remain is to impose a false sense of intellectual security on the universe. A category is only a correlation between process and an outcome, a well-trod pathway within a vast parameter space. When we see an outcome which cannot be reached along those paths, we search for a new path.

Ninsi'anna, Jin-xing, Nok Ek, Shukra, Hokulua, Zuhara, Kinsei, Lucifer, Venus: a single world with innumerable names and stories of its life.