"JUST A LITTLE GAY": HOW SEXUAL ORIENTATION COMES IN DEGREES[*]

INTRODUCTION

You can be a little gay or a lot gay. You can be mostly heterosexual. You can be somewhat lesbian. You can be bicurious. You can be hetero*flexible*—heterosexual in some circumstances but not others.[1] You can be sexually fluid. (*Test for fluidity*: are you into one sex/gender in some contexts and another sex/gender in others?) What I am saying is: sexual orientation comes in degrees. This point is well-established in sexuality studies[2] but largely neglected by philosophers.[3]

[1] The urbandictionary.com definition of heteroflexible: "I'm straight but shit happens."

[2] For a small sample of the literature, See Alfred Kinsey, Wardell Pomeroy, and Clyde Martin, *Sexual Behavior in the Human Male* (Philadelphia, PA: W. B. Saunders Company, 1948); Fritz Klein, Barry Sepekoff, and Timothy Wolf, "Sexual Orientation: A Multi-Variable Dynamic Process," *Journal of Homosexuality* 11, no. 1–2 (September 25, 1985): 35–49; James D. Weinrich and Fritz Klein, "Bi-Gay, Bi-Straight, and Bi-Bi: Three Bisexual Subgroups Identified Using Cluster Analysis of the Klein Sexual Orientation Grid," *Journal of Bisexuality* 2, no. 4 (September 2002): 109–39; Elizabeth M. Morgan and Elisabeth Morgan Thompson, "Young Women's Sexual Experiences Within Same-Sex Friendships: Discovering and Defining Bisexual and Bi-Curious Identity," *Journal of Bisexuality* 6, no. 3 (December 2006): 7–34; Elisabeth Thompson and Elizabeth Morgan, "'Mostly Straight' Young Women: Variations in Sexual Behavior and Identity Development," *Developmental Psychology* 44, no. 1 (2008): 15–21; Zhana Vrangalova and Ritch C. Savin-Williams, "Mostly Heterosexual and Mostly Gay/Lesbian: Evidence for New Sexual Orientation Identities," *Archives of Sexual Behavior* 41, no. 1 (February 1, 2012): 85–101; April Callis, "Bisexual, Pansexual, Queer: Non-Binary Identities and the Sexual Borderlands," *Sexualities* 17, no. 1–2 (January 2014): 63–80; Sari M. van Anders, "Beyond Sexual Orientation: Integrating Gender/Sex and Diverse Sexualities via Sexual Configurations Theory," *Archives of Sexual Behavior* 44, no. 5 (July 2015): 1177–1213; M. Paz Galupo, Johanna Ramirez, and Lex Pulice-Farrow, "'Regardless of Their Gender': Descriptions of Sexual Identity among Bisexual, Pansexual, and Queer Identified Individuals," *Journal of Bisexuality* 17, no. 1 (January 2, 2017): 108–24.

[3] Of the contemporary metaphysics of sexual orientation, only Edward Stein and Robin Dembroff highlight the continuous nature of sexual orientation. (See Edward Stein, *The Mismeasure of Desire: The Science, Theory, and Ethics of Sexual Orientation* (Oxford University Press New York, 2001); and Robin A. Dembroff, "What Is Sexual Orientation?," Philosopher's Imprint 16, no. 3 (January 29, 2016): 1–23.) However, both of these accounts are underdeveloped, for reasons I explain later.

The on-off (or absolutist) model of sexual orientation, which is implicit in most philosophical theories of sexual orientation, misrepresents social reality. I aim to correct this state of affairs. I propose a theory of sexual orientation that is fundamentally *scalar* and *multidimensional*: scalar, because sexual orientation comes in degrees; multidimensional, because there are various dimensions of sexual orientation—desire, disposition, duration, etc.

Here is the plan. I start by describing non-binary sexual orientations; I also argue that theories of sexual orientation must account for such orientations (§I). Then I show that existing theories of sexual orientation fail to perspicuously describe non-binary sexual orientations (§II). For the rest of the paper, I lay out my positive theory. I represent the basic structure of a theory of sexual orientation and argue that a good theory should be multidimensional and scalar (§III). I end by showing how sexual orientations can be conceived geometrically, as regions in (what I call) sexual orientation space (§IV).

<center>I. NON-BINARY SEXUAL ORIENTATIONS</center>

There are two senses in which sexual orientations might be non-binary. In the first sense, an orientation is non-binary just in case it (or the properties determinative of it) comes in degrees. In the second sense, an orientation is non-binary just in case it is not reducible to some combination of heterosexuality and homosexuality. In what follows, I discuss both senses of non-binary sexual orientation and explain why theories of sexual orientations ought to account for them.

I.1. Quantitatively Non-Binary Sexual Orientations. Larry Craig, former United States Senator, could not have predicted that he would someday make a bathroom stall famous. The circumstances were unfortunate (for him). He was widely known as an anti-gay legislator before being arrested for soliciting sex from an undercover male cop in a public restroom. His first order of business was to declare his innocence—he insisted that he was *not* gay. His second order of business was to fight the legal charges against him, a battle he lost after a prolonged struggle. The public response to the incident led to his resignation. He was not simply criticized for breaking the law. He was criticized for being a politician who was secretly gay but promoted anti-gay legislation. The bathroom stall involved in the incident briefly became a tourist attraction before being demolished. Craig's case is part of a time-honored tradition in American and British politics: supporting anti-LGBTQ legislation before being discovered to "secretly be" a member of the LGBTQ community.

Craig's actual sexual orientation is a mystery to me, but the media response to his incident demonstrates the popular perception of a one-

drop rule for sexual orientation. Many newspapers at the time portrayed Craig as a closeted gay man.[4] In response to Craig's case and similar political cases, sociologist Eve Shapiro writes:

> It's a one-drop rule for sexual engagement - one second of same-sex eroticism and the truth about one's self is called into question. Any example of same-sex sexual behaviour reveals the 'true' nature of these men, regardless of their own declarations of identity, lived experiences, or social and political allegiances.[5]

If a man has any sexual desire for another man, or at all engages in sexual activity with another man, he is deemed gay *simpliciter*. The perception exists even if the vast majority of the man's sexual behavior is stereotypically straight. Being gay is sometimes perceived to be an all-or-nothing affair. You cannot be just a little gay.

In Craig's case, the media adopted an *absolutist* theory of sexual orientation. From an absolutist's perspective, every person is either absolutely heterosexual, absolutely homosexual, or absolutely bisexual. Deviating from both absolute heterosexuality and homosexuality—however those orientations are defined—makes you bisexual. Many people are absolutists, but there are at least some non-absolutists among us. Consider the phenomenon of "straight girls kissing."[6] Young women in colleges will engage in sexual activity, and even have some sexual desire for, other women, but they are still considered heterosexual if their orientation toward women is low enough. There are several reasons why some contexts are absolutists and others are not.[7] The current question is: is sexual orientation best understood in a way that

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[4] The headlines are informative here. See Emily Friedman, "'Sen. Larry Craig May Be in Denial', Psychologists Say," *ABC News*, 2007, https://abcnews.go.com/US/story?id=3538418&page=1. See also: Susan Estrich, "Senator a Hopeless Hypocrite," *The Sun News*, 2007.

[5] Eve Shapiro, "Straight Indiscretions or Queer Hypocrites: Public Negotiations of Identity and Sexual Behaviour," in *Sexualities: Past Reflections, Future Directions*, ed. Sally Hines and Yvette Taylor (New York: Springer, 2012), 121.

[6] Laura Hamilton, "Trading On Heterosexuality: College Women's Gender Strategies and Homophobia," *Gender & Society* 21, no. 2 (April 1, 2007): 145–72. Leila J. Rupp and Verta Taylor, "Straight Girls Kissing," *Contexts* 9, no. 3 (August 1, 2010): 28–32. Jamie Budnick, "'Straight Girls Kissing'?: Understanding Same-Gender Sexuality beyond the Elite College Campus," *Gender & Society* 30, no. 5 (October 2016): 745–68.

[7] Perhaps the public has different attitudes regarding being a little gay (as a male) and being a little lesbian. Also, there is also evidence that the public has different attitudes toward being mostly heterosexual versus being mostly homosexual. Jane Ward describes the phenomenon of *heteroexceptionalism*, in which homosexual desires and behaviors among heterosexuals are rendered irrelevant to one's sexual orientation. See Jane Ward, "Born This Way: Congenital Heterosexuals and the Making of Heteroflexibility," in *Sexualities: Past Reflections, Future Directions*, ed. Sally Hines and Yvette Taylor (New York: Springer, 2012), 91–108.

classifies everyone who slightly deviates from absolute heterosexuality and homosexuality as bisexual? No. Largely heterosexual people and absolutely heterosexual people have more in common (with the respect to sexual desires and behaviors) than people who are equally sexually oriented toward men and women.[8] This is not to imply that being bisexual "really" or solely consists of having equal amounts of sexual desire for men and women. There are multiple ways to understand bisexuality, as I will discuss later. My claim, for now, is that absolutist classifications fail to group people in ways that capture relevant similarities.

The exacting nature of absolutism is out of step with how we ordinarily use language. It is as if you said "The ball is round" and someone responded: "That is false because there are no perfectly round objects in nature!"[9] Touché. A more reasonable view of sexual orientation goes like this: one has a sexual orientation just in case one meets a certain threshold of sexual attraction, desire, or whatever contributes toward being sexually oriented toward others. Call this the *threshold view* of sexual orientation category membership. For a man to be gay is for him to be sexually oriented toward men to a sufficiently high degree. For a man to be just a little gay is for him to be oriented toward other men somewhat, but not enough to meet the threshold for being absolutely gay. The threshold theory is analogous to Lockean theories of belief in which to believe a proposition is to have a sufficiently high degree of belief.

Threshold theorists have two theoretical options. *Option 1*: take being absolutely heterosexual to be compatible with being a little gay. *Option 2*: take being absolutely heterosexual to be incompatible with being a little gay, but claim that ordinary ascriptions of heterosexuality—like "Max is straight"—are not about absolute heterosexuality. Option 2 is akin to thinking "The ball is round" is true even if the relevant ball is not perfectly round, while Option 1 is like taking the property of *being a round ball* to be compatible with the ball having dents. Either option suffices, for the current purposes. The threshold view gives a more perspicuous account of sexual orientation than absolutism. For example, it groups together those who are absolutely heterosexual and those who are largely heterosexual. However, it still overlooks the intermediary sexual orientations between absolute heterosexuality and absolute homosexuality.

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[8] Note that largely heterosexual people and people who are equally sexually oriented toward men and women are similar if we introduce sexual identity into the picture. I will address the distinction between sexual orientation and sexual identity later in this paper.

[9] This someone might be Peter Unger, "A Defense of Skepticism," *The Philosophical Review* 80, no. 2 (1971): 198–219.

However one captures the details of the threshold view, one must presuppose a scalar view of sexual orientation. If being gay means being sexually oriented to a certain degree, then there must be an account of what those degrees consist in. So we have reason to think that there are non-binary sexual orientations, where a non-binary orientation is one that either comes in degrees or the properties that make one possess the orientation comes in degrees. I call this *quantitatively* non-binary sexual orientation because the differences between such orientations and binary sexual orientations—like absolute heterosexuality and homosexuality—are differences in degree.

I.2. Qualitatively Non-Binary Sexual Orientations. There is a stronger sense of non-binary sexual orientation, however. A *qualitatively* non-binary sexual orientation is one that cannot be naturally reduced to some combination, or degree of, heterosexuality and homosexuality.

I start with the case of online dating applications—websites that help people find sexual and romantic partnerships. Many years ago, when I was on the online dating scene, there was generally no way to indicate that you were non-heterosexual. And even when you could indicate that you were non-heterosexual, you were restricted to identifying as either homosexual or bisexual. Today, users of dating apps have many ways to describe their sexual orientations. For example, OkayCupid now offers dozens of sexual orientation options, including queer, pansexual, questioning, heteroflexible, homoflexible, asexual, gray-asexual, demisexual, reciprosexual, akiosexual, and so on.[10] OkCupid is not unique in this regard. The dating app Tinder lets people choose up to nine options, including demisexual, pansexual, queer, and questioning.[11]

Some of these sexual orientation categories are closely related to the binary categories. Heteroflexible, for example, could be understood as a kind of restricted heterosexuality. One is characteristically heterosexual in most circumstances but willing to delve outside of heterosexuality on occasion. Many of the other categories, however, are not fundamentally understood in terms of heterosexuality and homosexuality.

Consider the orientation *demisexual*. Person X is demisexual just in case one develops a sexual attraction to another person Y only after X has developed an emotional connection with Y. Demisexuality cannot be naturally defined in terms of homosexuality or heterosexuality

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[10] Emanuella Grinberg, "OKCupid Expands Options for Gender and Sexual Orientation," *CNN News*, November 18, 2014, https://www.cnn.com/2014/11/18/living/okcupid-expands-gender-orientation-options/index.html.

[11] Ashley Carman, "Tinder Now Lets People Identify Their Sexual Orientation," *The Verge*, June 4, 2019, https://www.theverge.com/2019/6/4/18651161/tinder-sexual-orientation-identify-product-profile.

because demisexuality seems orthogonal to the binary sexual orientations. Or consider asexuality in general. Asexual people are often characterized by their general lack of sexual attraction to others. The full story of what it means to be asexual is more complex than this rough description, but the point is that being asexual, however the details go, will not be about particular genders or sexes.[12]

Lastly, think about bisexuality. From a binary perspective, it is easy to assume that bisexuality can be defined using only the concepts used to define homosexuality and heterosexuality. This assumption is questionable. Here are just a few ways that bisexuality has been defined.

1. Being oriented toward the two binary genders/sexes only.
2. Being oriented toward at least two genders/sexes.
3. Being oriented to all genders/sexes.
4. Not being oriented on the basis of one's gender/sex.

With the possible exception of definition 1, none of these definitions can be fruitfully understood purely in terms of binary gender/sex distinctions. For example, we cannot reduce definitions 3 and 4 — which themselves are sometimes considered alternative definitions of *pansexuality* — to heterosexuality and homosexuality because the latter categories are defined in ways that do not acknowledge more than two genders. And definition 2 — what is often called *plurisexuality* — arguably presupposes the existence of more than two genders/sexes.

The case of pansexuality highlights a general problem with the binary sexual orientations: namely, that they do not adequately capture sexual orientation when the individuals of interest have non-binary or non-cis genders. In a study of sexual identity, Galupo et. al. asked sexual minorities—*e.g.,* LGBTQIA+ people—to identify themselves in relation to the binary categories.[13] Subjects were presented with the Kinsey scale, a measure initially introduced to make sense of the seemingly continuous nature of sexual orientation.[14] On this scale, full heterosexuals and homosexuals are rated 0 and 6, respectively; bisexual orientations are located in the middle of the range. When tasked with placing their sexualities on such a scale, participants reported the following:

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[12] For a recent philosophical intervention on the subject of asexuality, see Luke Brunning and Natasha McKeever, "Asexuality," *Journal of Applied Philosophy* 38, no. 3 (2021): 497–517. Also see: Julie Sondra Decker, *The Invisible Orientation: An Introduction to Asexuality* (New York: Simon and Schuster, 2015).

[13] M. Paz Galupo, Kyle Davis, Ashley Grynkiewicz, and Renae Mitchell, "Conceptualization of Sexual Orientation Identity Among Sexual Minorities: Patterns Across Sexual and Gender Identity," *Journal of Bisexuality* 14, no. 3–4 (July 3, 2014): 433–56.

[14] Kinsey, Pomeroy, and Martin, *Sexual Behavior.*

I have that part of me that identifies more as a man than a woman to begin with. Am I a bi-leaning-gay woman or a bi-leaning-straight man? I don't really know. Nor do I think it strictly matters at the moment. (bisexual, woman - trans⋆)

I am a queer FTM attracted to people who fuck with gender from femme queer women, genderqueer bois to hypermasculine gay men ...the lack of nuance in the scales to account for gender identity's interaction with attraction makes it impossible to rate myself. (queer, man - trans⋆)

As a genderqueer individual, hetero and homo don't work for me—they are both dependent on the idea that everyone is M or F. What is homosexual orientation for me? One in which I'm only attracted to other genderqueer femme bois? What is a heterosexual orientation for me? My ID says F and my primary partner's says M, but we have the queerest relationship this side of the Castro. (queer, genderqueer - trans⋆)[15]

In each case, people struggle to locate their sexuality on the Kinsey scale and similar measures. Even when we assume heterosexuality and homosexuality comes in degrees, these scalar classifications will be inadequate for people who are not cis men or women. This is because the paradigm cases of heterosexuality and homosexuality are applied to cis men and women. Either heterosexual does not apply in cases of genderqueer or trans people, or the category applies in a way that is imperspicuous.[16]

It is difficult to understand non-binary sexual orientations because most existing theories of sexual orientation are qualitatively binary models of sexual orientation; as such, they take the sexual orientations *heterosexual* and *homosexual* to be fundamental and derive all other sexual orientations from them. This fundamentalism distorts our understanding of qualitatively non-binary sexual orientations.

I.3. The Significance of Non-Binary Sexual Orientations. We need a theory of sexual orientation that accounts for both quantitatively and qualitatively non-binary sexual orientations. But what kind of theory? And why?

I am to give a *descriptive theory* of sexual orientation, a theory that aims exclusively to capture the nature of sexual orientation. Descriptive theories of sexual orientation can be contrasted with theories of sexual orientation that have political or ethical desiderata. One might reject

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[15] Galupo et al., "Conceptualization of Sexual Orientation Identity Among Sexual Minorities: Patterns Across Sexual and Gender Identity," 441-442.

[16] For an account of genderqueer as destabilizing the man/woman binary, see Robin Dembroff, "Beyond Binary: Genderqueer as Critical Gender Kind," *Philosophers' Imprint* 20, no. 9 (2020): 1–23.

the binary model for non-descriptive reasons. There is a tradition of feminist theorizing in which theories can be rejected, not for failing to describe reality, but for promoting socially unjust or morally bad states of affairs.[17] While this approach may be legitimate, I will argue against the binary model on purely descriptive, empirical grounds.

One might think non-binary sexual orientations exist but are too marginal to require our theories of sexual orientation to account for them. Call this the *descriptive defense* of binary models of sexual orientation. This kind of argument is expressed by Kathleen Stock, who says "homosexual and heterosexual dispositions have the largest range of interesting causal consequences out of all the sexual preferences, and so are of the most interest and likely to remain so."[18] This argument fails for four reasons.

One. We do not have decisive reason to believe that non-binary sexual orientations are actually (statistically) marginal. To start, we have reason to believe the people with non-binary sexual orientations are a significant subset of the population. Social scientists Vrangalova and Savin-Williams report that "recent investigations across various countries have shown that up to 25% of women and 10% of men report 'a small degree' of same-sex attraction, fantasies, or behavior"[19] Additional research has shown that many non-heterosexual people are not exclusively or fully attracted to the same gender (or sex).[20] While these studies do not show that people with non-binary sexual orientations are dominant in our society, they need not be dominant in order to be significant. If one out of every four women have a non-binary sexual orientation, this would be something our theories should account for. We should also recognize that the data on non-binary sexual orientation membership has significant gaps. Given that homosexuality (and non-heterosexuality more generally) is criminalized in many nations and punishable by death in some, many people refuse to volunteer infor-

[17] For ameliorative accounts of sexual orientation, see Dembroff, "Beyond Binary"; Esa Díaz-León, "Sexual Orientations: The Desire View," in *Feminist Philosophy of Mind*, ed. Jennifer McWeeny and Keya Maitra (New York: Oxford University Press, 2022), 294–309; Matthew Andler, "Public Health, Political Solidarity, and the Ethics of Orientation Ascriptions," *Ergo* 8, no. 27 (2022).

[18] Kathleen Stock, "Sexual Orientation: What Is It?," Proceedings of the Aristotelian Society 119, no. 3 (October 2019): 295–319, 315.

[19] Vrangalova and Savin-Williams, "Mostly Heterosexual and Mostly Gay/Lesbian," 86.

[20] See Kinsey, Pomeroy, and Martin, *Sexual Behavior*; Klein, Sepekoff, and Wolf, "Sexual Orientation"; Weinrich and Klein, "Bi-Gay, Bi-Straight, and Bi-Bi"; Morgan and Thompson, "Young Women's Sexual Experiences Within Same-Sex Friendships"; Thompson and Morgan, "'Mostly Straight' Young Women"; Callis, "Bisexual, Pansexual, Queer"; van Anders, "Beyond Sexual Orientation"; Galupo, Ramirez, and Pulice-Farrow, "'Regardless of Their Gender.'"

mation about their sexual orientations.[21] Another reason we lack data is that study participants are typically asked to choose from categories used by the binary model, as opposed to more graded or multidimensional models of sexual orientation.[22] This is all to say that people with non-binary sexual orientations are not simply fringe cases.

Two. Even if those with non-binary sexual orientations are actually statistically marginal, we have reason to believe they will become increasingly *less* marginal (at least in some countries). In 2020, a Gallup poll reported that 22% of Generation Z adult Americans, defined as having being born between 1997 and 2002, identified as LBGTQ. Among those adults, over half identify as being sexually oriented toward more than one gender or sex[23] In contrast, they found that only about 6% of all adult Americans identify as LGBTQ. Due to the challenges of data collection mentioned earlier, we cannot assume that previous generations have fewer people who are LGTBQ. But we can assume that, if the trend continues, then near future generations of Americans will have large portions of non-heterosexual people. And as I mentioned earlier, research on non-heterosexual people has shown that their sexual orientations are often not best understood along the binary model.

Three. The binary model necessarily overlooks many historical and non-Western sexual orientations that are often non-binary in nature. There are Indigenous people who identify as sexually *two-spirited*, where being two-spirited is similar to, but not identical with, being bisexual.[24] Even the general notion of two-spirit is imprecise, as it is understood differently among different segments of Indigenous people over time— Native American, Indigenous African, contemporary Maori, etc.[25] In-

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[21] For discussion of these methodological problems, see: John E. Pachankis and Richard Bränström, "How Many Sexual Minorities Are Hidden? Projecting the Size of the Global Closet with Implications for Policy and Public Health," *PLOS ONE* 14, no. 6 (June 13, 2019): e0218084; Suntosh Pillay, Joachim Ntetmen, and Juan Nel, "Queering Global Health: An Urgent Call for LGBT+ Affirmative Practices," *The Lancet Global Health* 10, no. 4 (April 1, 2022): e574–78; Amanda Pollitt, Karen Blair, and Pamela Lannutti, "A Review of Two Decades of LGBTQ-Inclusive Research in JSPR and PR," *Personal Relationships* 30, no. 1 (March 1, 2023): 144–73.

[22] Galupo et al., "Conceptualization"; Galupo, Ramirez, and Pulice-Farrow, "'Regardless of Their Gender.' "

[23] Caitlin O-Kane, "1 in 6 Generation Z Adults Identify as Something Other than Heterosexual," *CBS News*, February 25, 2021, https://www.cbsnews.com/news/lgbtq-identification-generation-z/.

[24] Margaret Robinson, "Two-Spirit and Bisexual People: Different Umbrella, Same Rain," *Journal of Bisexuality* 17, no. 1 (January 2, 2017): 7–29.

[25] See Sue-Ellen Jacobs, Wesley Thomas, and Sabine Lang, *Two-Spirit People: Native American Gender Identity, Sexuality, and Spirituality* (Champaign, IL: University of Illinois Press, 1997); Clive Aspin and Jessica Hutchings, "Reclaiming the Past to Inform the Future: Contemporary Views of Maori Sexuality," *Culture, Health & Sexuality* 9, no. 4

sistence on the binary model threatens to view all of human sexuality through a contemporary Western lens.

Four. Even if those with non-binary sexual orientations are actually statistically marginal and not becoming less marginal, metaphysical theories about the nature of sexual orientation are not bound by statistical facts about the actual world. The mind-body problem is not primarily about whether actual minds and bodies are actually connected, but about their potential separability; it is about the mind in general, not only actual minds. I take it that a metaphysical theory of social orientation aims to give an account of sexual orientation, in general, not just (if at all) the sexual orientation categories that most people actually ascribe to one another.

In summary: we should abandon the binary model of sexual orientation, and we need theories that provide a way for us to do so.

II. PHILOSOPHICAL AND SCIENTIFIC THEORIES OF SEXUAL ORIENTATION

Philosophers and scientists have given various accounts of sexual orientation. My claim is that these accounts fail to capture the metaphysics of non-binary sexual orientation.

II.1. Philosophical Theories. What do existing philosophical theories of sexual orientation say about non-binary sexual orientations? If we consider a representative sample of these theories, we find that none of them are satisfactory.

I start with the most unapologetically absolutist and binary theory of them all—Kathleen Stock's biological theory of sexual orientation. She takes sexual orientation to be a matter of same-sex or opposite-sex attraction, where sexes are biological rather than social.[26] The two fundamental sexual orientations are *heterosexual* and *homosexual.* She takes all apparently non-binary sexual orientations to just be bisexuality, and bisexuality itself is understood as a combination of heterosexuality and homosexuality. She writes:

> At first glance, [bisexuality] sounds like a third wholly distinct disposition, in addition to homosexual and heterosexual dispositions. However, on grounds of parsimony I think it preferable to treat bisexuality as a compound disposition, comprising homosexual and heterosexual dispositions simultaneously.[27]

(July 1, 2007): 415–27, Ifalade Ta'shia Asanti, "Living with Dual Spirits: Spirituality, Sexuality and Healing in the African Diaspora," *Journal of Bisexuality* 10, no. 1–2 (April 2010): 22–30; Stephen O. Murray and Will Roscoe, *Boy-Wives and Female Husbands: Studies in African Homosexualities* (SUNY Press, 2021).

[26] For another recent defense of the biological theory, see Simon LeVay, *Gay, Straight, and the Reason Why: The Science of Sexual Orientation* (New York: Oxford University Press, 2010).

[27] Stock, "Sexual Orientation," 299.

One immediate problem with the biological theory is that it assumes sexual orientation is solely a matter of sex, not gender. At least for many people, gender, not only (if at all) sex, is a crucial part of sexual orientation. And even if you set this aside, the biological theory ignores non-binary sexual orientations by lumping together under the umbrella of bisexuality. This theory is a version of absolutism.

A more promising theory is Robin Dembroff's *behavioral disposition-alist* theory. Their account is as follows.

> A person S's sexual orientation is grounded in S's dispositions to engage in sexual behaviors under the ordinary condition[s] for these dispositions, and which sexual orientation S has is grounded in what sex[es] and gender[s] of persons S is disposed to sexually engage under these conditions.[28]

Dembroff takes sexual orientation to be a disposition to sexually engage with others on the basis of their sex or gender. They also explicitly acknowledge the possibility that sex and gender may come in a continuum, and that non-binary genders (like genderqueer) and sexes (like intersex) are additional dimensions of sexual orientation.[29]

Despite the promise of Dembroff's account, however, it does not take the gender or sex of the person into consideration, only the gender or sex of the person one is sexually oriented toward. So the theory does not allow one to capture the sexual orientations *heterosexual* and *homosexual*, only orientations like *female-oriented* and *male-oriented*. This aspect of Dembroff's theory has been heavily criticized in the ensuing literature.[30] Some of these criticisms involve normative considerations. I will simply point out that the theory is descriptively inadequate, as it does not allow us to capture dominant sexual orientation categories. While Dembroff's theory better captures non-binary sexual orientations than some theories, it fails to capture binary orientations like *heterosexual*.[31]

Other philosophical theories of sexual orientation do not fare much better. For example, Esa Díaz-León argues that sexual orientation

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[28] Dembroff, "What Is Sexual Orientation?" 18.

[29] Dembroff, "What Is Sexual Orientation?" 23.

[30] See Díaz-León, "Sexual Orientations"; Andler, "Public Health"; T. R. Whitlow and N. G. Laskowski, "Categorical Phenomenalism About Sexual Orientation," *Philosophy and Phenomenological Research* 106, no. 3 (2022): 581–96.

[31] There is one version of Stein's scalar theory of sexual orientation that is similar to Dembroff's. It says that your sexual orientation consists of (*a*) the degree to which you are attracted to men and (*b*) the degree to which you are attracted to women. (See Stein, *The Mismeasure of Desire*, 59.) It faces the same problems as Dembroff's view, plus it ignores non-binary genders and sexes. A different version of the view says that your sexual orientation consists of (*a*) the degree to which you are heterosexual and (*b*) the degree to which you are homosexual. This view does not seem much better off than Klein's scalar theory.

should be understood in terms of a disposition to have sexual desires (not sexual behaviors). Here is her *desire dispositionalist* view.

> A person S's sexual orientation is determined by the sex[es] and/or the gender[s] of persons for whom S is disposed to have sexual desires under the relevant manifesting conditions, plus S's own sex and/or gender.[32]

The account is interesting and makes sense of the intuition that one's sexual desires matter to sexual orientation. However, it does not give us a way to understand non-binary sexual orientation.

Against all forms of dispositionalism, Whitlow and Laskowski argue that sexual orientations are fundamentally categorical properties. Specifically, we are disposed to behave in certain ways *because* of feelings of arousal invoked by people of certain sexes and genders. Here is their *categorical phenomenalist* account.

> What it is for *x* to be sexually oriented to *y* is for *x* to phenomenally experience sexual arousal in response to *y* in virtue of the features that constitute *y*'s manhood, womanhood, etc.[33]

While categoricalism may fix problems with dispositionalism, it still does not answer make perspicuous sense of the phenomenon under discussion: non-binary sexual orientation.

Against all of the previous accounts, Matthew Andler argues that we should use sexual orientation categories according to what they call the *Queer Categorization Scheme* (QCS). QCS categorizes individuals in a way that

> Includes the categories *heterosexual*, *homosexual*, *bisexual*, *asexual*, and *queer*, [d]istinguishes between attractions to sex features and attraction to gender features, and [a]llows an element of interpretation, such that individuals have authority over whether their attractions to sex features and/or attractions to gender features determine their orientation.[34]

Andler argues that such a classification scheme better serves the aims of LGBTQIA+ social movements. QCS also allows for a more fine-grained account of sexual orientation, as it permits two individuals to have the same kind of attraction while having different sexual orientations (due to a possible interpretative difference). Such flexibility can help us make sense of non-binary sexual orientations.

I believe Andler's QCS points us in the right direction, but it is worth noting that Andler's main goal is ameliorative. Andler shows how ignor-

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[32] Díaz-León, "Sexual Orientations," 302.
[33] Whitlow and Laskowski, "Categorical Phenomenalism," 591.
[34] Andler, "Public Health," 114.

ing non-binary sexual orientation can be morally and politically harm-
ful; they also explain why QCS can be helpful for LGBTQIA+ social
movements. I do not disagree with their claims, so understood. How-
ever, my main task is descriptive. If we interpret QCS in a descriptive
manner, it does not account for scalar sexual orientation. It also does
not obviously account for sexual orientations that are at least partly de-
pendent on one's sexual behavior rather than one's sexual desires. That
said, I will later suggest that some elements of QCS can be fruitfully
incorporated into a descriptive theory of sexual orientation.

There is much to say about all of these views, but the current point
is that they struggle to make sense of the diversity of non-binary sexual
orientations. Each theory seems compatible with the idea that sexual
orientation comes in degrees, but as we saw earlier, scalar theories
do not automatically capture all non-binary sexual orientations. Many
questions would need to be answered. What do the degrees represent?
How many dimensions of sexual orientation are there? And so on.

II.2. Scientific Theories. The existing philosophical literature does not
give a perspicuous account of non-binary sexual orientations. Social
scientific theories of sexual orientations are better in this regard. Be-
yond the simple Kinsey scale, many researchers have proposed multi-
dimensional scalar measures of sexual orientation. These measures are
scalar because they posit that sexual orientation comes in degrees. They
are multidimensional because they take sexual orientation to involve
many different dimensions. For example, the Multiple Continua Model
of Sexual and Relational Orientations framework takes sexual orienta-
tion to involve desire of sex characteristics (genitalia preference), desire
of gender expression (e.g., masculine), sexual and relational interest
(low/high), gender orientation (e.g., male-gender-oriented), and sexual
identity (e.g., heterosexual-identifying).[35] Table 1 summarizes influen-
tial and recent multidimensional, scalar measures of sexual orientation.

While these measures are better positioned to account for non-binary
sexual orientation, they are not well-placed as philosophical (or meta-
physical) theories of sexual orientation. Some purported dimensions of
sexual orientation are not obviously essential to sexual orientation. For
example, according to Sexual Configurations Theory, partner number
is a basic dimension of sexual orientation.[43] But is it *really*?

The "Is it really?" question is not necessarily important for social
scientists and clinicians, who are the main producers and consumers of

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[35] Jeffry Moe, Stacee Reicherzer, and Paula Dupuy. "Models of Sexual and Relational
Orientation: A Critical Review and Synthesis." *Journal of Counseling & Development* 89,
no. 2 (2011): 227–33.

[43] van Anders, "Beyond Sexual Orientation."

Measure	Dimensions
Klein Sexual Orientation Grid[36]	Sexual attraction, sexual behavior, sexual fantasies, emotional preference, social preference, lifestyle, sexual identity. The measure also incorporates temporal information.
Relative Frequency of Same-Sex Attractions[37]	Sexual identity, sexual attraction, sexual behavior.
Attraction/Intimacy Assessment Inventory[38]	Sexual attraction, sexual intimacy. Each dimension has physical, emotional, and commitment components.
Multiple Continua Model of Sexual and Relational Orientations[39]	Desire of sex characteristics (genitalia preference), desire of gender expression, sexual and relational interest (low/high), gender orientation, sexual identity.
Sexual Configurations Theory[40]	Gender/sex, partner number, eroticism/nurturance, additional sexual parameters (like kink-preference)
Sexual-Romantic Scale[41]	Sexual attraction to: same-sex, other-sex. Romantic attraction to: same-sex, other-sex.
Gender-Inclusive Scale[42]	Attraction to: same-sex, other-sex, masculine, feminine, androgynous, gender-nonconforming.

Table 1. Measures of sexual orientation.

these measures. But it is important to the philosopher or metaphysician, who aims to give a parsimonious, relatively systematic theory of sexual orientation. The empirical measures simply do not have the form of a definition of sexual orientation.[44]

This is not to say that the empirical literature is false or wrongheaded. In fact, my work implicitly builds on the rich set of distinctions created by the empirical literature. Although the science does not straightforwardly reflect the orientation facts, this does not mean the empirical literature is completely irrelevant. An adequate theory of sexual orientation must at least be compatible with the scientific facts. I go even further because I take the multidimensional scalar measures of sexual orientation to reflect a deep metaphysical fact about sexual orientation: namely, that it is multidimensional and scalar.

III. THE MULTIDIMENSIONAL SCALAR THEORY

We are being pulled in two directions. We need to give a theory of non-binary sexual orientation, but we also need to account for the existence and nature of binary sexual orientations like *heterosexual* and *homosex-*

ual; we need such a descriptive account even if we also want to give a separate ameliorative account of what sexual orientation categories we ought to use. Could a single theory account for all types of sexual orientations without taking the gender binary as fundamental? Pessimists say: no. Sexual orientation is fundamentally binary.

I am more optimistic. My basic idea is that a person's sexual orientation is complex, with several dimensions that admit of various degrees; we can model sexual orientations as regions of a multidimensional qualitative space. If we do this, we will find that the binary sexual orientation categories are merely one way of carving up the space of possible human sexual orientations. The resulting view will be a multidimensional scalar theory of sexual orientation.

The multidimensional scalar theory is quite complex, however. (It even *sounds* complex.) Instead of jumping into the deep end, it will be useful to first clarify the structure of a theory of sexual orientation. We will use one-dimensional, non-scalar theories as a starting point. Once we get our feet under us, we will turn to the multidimensional scalar theory.

III.1. Sexual Orientation Profiles (or, the Basic Structure of a Theory of Sexual Orientation). Recall the desire theory.

> A person S's sexual orientation is determined by the sex[es] and/or the gender[s] of persons for whom S is disposed to have sexual desires under the relevant manifesting conditions, plus S's own sex and/or gender.[45]

It is useful to break down the aspects of this theory into components. Let the *profile* of the desire theory consist of the following.

Dimensions: disposition to sexually desire

Agent types: sex, gender

Patient types: sex, gender

Centered dimensions: male sex is disposed to sexually desire female sex, male gender is disposed to sexually desire female gender, etc

The *dimension* of the profile consists in what fundamentally makes someone have the sexual orientation that they do. According to the dispositional desire theory, it is a disposition to sexually desire individuals on the basis of their gender and/or sex. According to the behavioral dispositional theory, it is a disposition to engage in sexual activity on

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[45] Díaz-León, "Sexual Orientations," 302.

the basis of one's gender and/or sex. According to the categorical phenomenalist, the dimension concerns feelings of arousal. And so on.[46]

The *agent type* and *patient type* of a profile specify the categories relevant for the sexual orientation relation *Agent A is sexually oriented toward patient B*. Sexual orientation is not merely an orientation toward individuals, but an orientation toward individuals insofar as they inhabit certain categories. Dembroff's behavioral theory tells us that the agent of the sexual orientation relation can be sexually oriented toward the patient in virtue of their sex or gender; however, it does not permit the agent to be oriented toward the patient on the basis of the agent's own gender or sex. In contrast, the desire theory allows for the agent's sex or gender to be part of the basis for being sexually oriented toward another person. Against both theories, the biological theory does not allow gender as an agent or patient type. And finally, there might be additional agent or patient types not mentioned here that could be part of sexual orientation, like gender presentation.

The *centered dimension* of a profile consists of some subcollection of every possible combination of the dimension and patient and agent types. Here is a useful schema for theories of sexual orientation.

> Agent x is sexually oriented along dimension d to patient y partly in virtue of the fact that x is agent type A and y is patient type P.

For example, the biological theorist takes the relevant dimension d to be sexual disposition or desire. They then take the agent and patient types A and P to be sex categories. These centered dimensions are rather simple. Things get more complicated if you have multiple dimensions or multiple agent or patient types. You may have cases in which the agent is sexually oriented toward the patient because the agent has a certain gender and the patient has a certain sex. These are mixed-type centered dimensions, as the agent and patient types differ.

Mixed-type centered dimensions are worth highlighting because they illustrate the way in which even the broad concepts of *heterosexual* and *homosexual* are descriptively inadequate. Matthew Andler notes that distinguishing between sex and gender attraction will generate a capacious definition of *homosexual*. Using male/female as sex categories and man/woman as gender categories, Andler writes:

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[46] I should note that, at this point, I am taking a dimension to be something very specific. For example, Dembroff (in "What is Sexual Orientation?") calls their theory of sexual orientation bidimensional because it considers sex and gender as patient types, but this theory will not be considered two-dimensional, given my current definition of "dimension."

an individual is *homosexual* just in case their orientation is grounded by the attractions in exactly one of the following sets: {female-to-female attractions}, {woman-to-woman attractions}, {female-to-female attractions, woman-to-woman attractions}, {male-to-male attractions}, {man-to-man attractions}, {male-to-male attractions, man-to-man attractions}.[47]

Andler is interested in an ameliorative theory of sexual orientation, so this classification is a recommendation. While such a broad category may be useful for certain purposes, it will be descriptively inadequate in many cases; the category encompasses people who are different in ways that may be important in a context. Furthermore, the descriptive inadequacy would not be resolved by simply adopting a single narrow definition of *homosexual*; a narrow definition would be useful for some purposes but not others. The point is that we need flexible forms of classification, and the need for such forms will be necessary even when we make conservative assumptions — like the existence of a sex/gender distinction for men and women.

The profile of sexual orientation consists in four features: dimensions, agent types, patient types, and centered dimensions. Now consider a specific individual's "sexual orientation." By this phrase, we could be referring to two things: (*a*) a person's *total sexual orientation*, as determined by the centered dimensions of their sexual orientation, or (*b*) the *folk sexual orientation categories* they are members of. By "folk sexual orientation categories," I am referring to the categories that ordinary people—*viz.,* non-philosophers, non-scientists—take individuals to be members of. The former determines membership within the latter but the former is not identical to the latter.[48] For example, suppose the desire theory is correct. Imagine two people. One is attracted to others purely on the basis of sex, not gender. Another is attracted to others purely on the basis of gender, not sex. They might both be classified as homosexual if they are of the same sex or gender they are exclusively attracted to. However, these two people clearly have different total sexual orientations. Total orientations are more fine-grained than folk sexual

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[47] Andler, "Public Health," 117.

[48] Matthew Andler makes a similar distinction between sexual orientation and sexual orientation categories. (See Matthew Andler, "Sexual Orientation, Ideology, and Philosophical Method," *Journal of Social Ontology* 5, no. 2 (August 2019): 205–27.) Sexual orientation concerns the relevant dimensions of sexual orientation. Sexual orientation categories are what I call folk sexual orientation categories, and they concern the public taxonomy of sexual orientation. Andler also distinguish orientation-first and taxonomy-first theories of sexual orientation, where these are views about the epistemic priority of beliefs about sexual orientation and sexual orientation categories. To avoid confusion, I should emphasize that the current discussion does not assume the *epistemic* priority of sexual orientation over orientation categories, but it does assume that the *metaphysical* priority of the former over the latter.

orientation categories, and there may not be words available to describe such fine-grained orientations. In any case, standard theories of sexual orientation suggest that we can classify individuals into folk categories once we know their total sexual orientations.

To clarify: I do not take there to be a single group of people, called the "folk," that determine sexual orientation classifications across the globe. Robin Dembroff critiques what they call *cisgender common-sense*, "the presupposed concepts and terms built into dominant, trans-exclusive gender ideology."[49] There is a tendency for some philosophers to assume there is a unique folk conception of sexual orientation; this assumption often has the practical consequence of centering trans-exclusive and binary concepts of sexual orientation. My use of the term "folk" is expansive and encompasses the sexual orientation categories deployed by a range of different communities, not simply the communities of the most privileged or powerful. Differently put: there are multiple folk communities, and not all of them use the same sexual orientation categories.

To summarize: a theory of sexual orientation determines a sexual orientation profile. We use this profile to determine an individual's total sexual orientation. And one's total sexual orientation will then determine whether one is a member of the various folk orientation categories—*heterosexual*, *homosexual*, etc—that one belongs to.

III.2. Multidimensional Scalar Theory. The multidimensional scalar theory adds two additional elements to a theory of sexual orientation. First, it makes every centered dimension continuous. Second, it takes there to be multiple dimensions of sexual orientation.

Let us start with the continuous (or scalar) nature of sexual orientation. Consider the dimension *disposition to sexually desire.* This dimension comes in greater and lesser degrees. Most simply: you can have a disposition to strongly desire certain genders or a disposition to weakly desire certain genders. Let us assign numerical quantities to the strength one's desires. Values 1 and 0 represent the strongest and weakest possible sexual desires one might have. The real numbers between 1 and 0, then, represent intermediate values.

By adding continua, we can immediately make new distinctions. Consider two men who are considered gay because they both exclusively sexually desire men, but one person has low sexual desires for men while the other has much higher sexual desires. The former type of person is sometimes called a *gray asexual* or *graysexual*. These are people

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[49] Robin Dembroff, "Cisgender Commonsense and Philosophy's Transgender Trouble," *Transgender Studies Quarterly* 7, no. 3 (2020): 399–406, 403.

who are not entirely asexual but close to it. On my typology, one can be both gray and gay: gray because your level of desire is low; gay because it is male-male based sexual desire.

Now consider various centered dimensions. We can make sense of categories like *largely heterosexual male* in the following way. Focus on the centered dimension *male gender desires female gender*, to keep things simple. Being a largely heterosexual male consists of (*a*) being a person of male gender who is disposed to sexually desire the female gender to some sufficiently high degree and (*b*) being a person of male gender who is disposed to sexually desire the male gender to some sufficiently low degree. We can give similar treatments of *mostly lesbian*, *a little gay*, and so on. I will postpone these more detailed treatments for later. For now, I want to introduce the flavor of the final theory.

The scalar theory associates each centered dimension with at least one continua—one real-number-valued scale. We should explicitly add these continua to the profile of the theory. Suppose we accepted a scalar desire theory. The profile of the theory might look like this.

Dimensions: disposition to sexually desire

Agent types: sex, gender

Patient types: sex, gender

Centered dimensions: male sex is disposed to sexually desire female sex, male gender is disposed to sexually desire female gender, etc

Continua: strength of sexual desire

Before moving on to the multidimensional aspect of my proposal, I should acknowledge a few possible refinements to the current theory.

To start, it is possible for a single centered dimension to be assigned multiple continua. For example, in addition to there being sexual desires having greater and lesser strengths, it is also possible that dispositions can have greater and lesser strengths. This possibility is clearest in discussions of bisexual identity. Paula Rust's study of the diversity of bisexual identity highlights asymmetric patterns of desire and behavior with respect to two genders.[50] For example, a woman may have a strong disposition to strongly desire a man and also have either (*a*) a weak disposition to strongly desire women or (*b*) a strong disposition to weakly desire women. While some women will identify as bisexual in both cases, others will be more hesitant. If we only have one continuum in mind, this may seem surprising; after all, the women have a

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[50] Paula C. Rust, "Two Many and Not Enough," *Journal of Bisexuality* 1, no. 1 (July 12, 2000): 31–68.

strong disposition to desire other women or they have strong desires for women. It is the combination of the strength of one's desires and the strength of one's dispositions, however, that further complicates bisexual identity. Such combinations, and the complications they introduce, simply are not represented in standard philosophical theories of sexual orientation.

Another possibility is that sex and gender themselves come in degrees.[51] You can be partially, fully, or mostly male. If we treat gender as scalar, with 1 and 0 representing being a full male and full non-male, respectively, then we must adjust our centered dimensions to reflect intermediate values. For example, these categories might be: somewhat male, half-male, mostly-male, fully male. Alternatively, you can take each gender category and consider the degree of sexual desire with respect to *each degree of gender*. So one sexually desires to degree 0.6 someone who is male to degree 0.764. Whatever one wants to say about the realism of this account—or the sheer pedantry of the underlying individual's sexual desires—it effectively means there will be an uncountable (*viz.,* real-numbered-many or higher) infinite of centered dimensions.

One last possibility is that one's sexual orientation is indifferent with respect to the agent and patient of the sexual orientation relation. This is clear in Dembroff's theory, in which being male- or female-oriented is independent of the sex or gender of the agent. Informally, we can simply ignore the relevant agent and patient types when thinking about the relevant sexual orientation categories. For the formal treatment of sexual orientation that follows, however, it will be simplest to posit a *null type* that serves as a placeholder for the absence of a specified agent type. For example, we might say that being female-oriented consists in having a disposition toward null-female sexual behaviors. Talk of the null is a useful fiction, here.[52]

All of these aspects of sexual orientation can be accommodated by adding more centered dimensions, adding more continua, and/or adding more agent and patient types, but I will ignore these complications. The general structure of the theory will remain the same, with them or without them.

I have discussed the scalar nature of a theory of sexual orientation. But what about the multidimensional nature of a theory of sexual orientation? Standard theories of sexual orientation are one-dimensional because they take one feature to be central to sexual orientation, but my theory allows there to be multiple dimensions. But if there are multiple

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[51] Dembroff notes this possibility within their theory of sexual orientation. See Dembroff "Sexual Orientation," 23.

[52] The null type is similar to the null object of mereology and empty set of set theory.

dimensions of sexual orientation, what are they? This is a hard question, one that I will only be able to give a provisional answer to. As I see it, the main debate about the nature of sexual orientation concerns the roles of sexual desire and sexual behavior. Traditionally, theories of sexual orientation are judged by how well they classify individuals into binary sexual orientation categories. Examples will be useful here. Díaz-León considers the case of Cary, a man who is mainly sexually attracted to women but would engage in sexual activities with men in nearby possible worlds.[53] The desire theory predicts that Cary is heterosexual because one's sexual orientation, on the desire theory, depends on your disposition to sexually desire certain groups, and Cary does not have the relevant desires. In contrast, the behavioral theory predicts that Cary is not heterosexual. Another example Díaz-León gives concerns Alice, who has sexual desires for men and women but only engages in sexual behavior with men. The desire theory predicts that Alice is bisexual while the behavioral theory predicts that she is heterosexual. Thought experiments are supposed to convince us that either sexual behaviors or sexual desires, but not both, are part of the nature of sexual orientation.

I am unconvinced that we have to choose a single dimension. This is for a few reasons.

First, the current discussion assumes that sexual orientation terms like "heterosexual" and "homosexual" are context-insensitive, but this is not obviously true. According to the desire theorist, the term "homosexual" will uniformly be used in a way that prioritizes desires over behaviors. This strikes me as incorrect. Consider Little Johnny, a gay teenager who attends a sexual orientation conversion camp at the behest of his religious parents. After the camp, Little Johnny comes home and tells everyone he is no longer gay; he has become an ex-gay. Little Johnny no longer engages with sexual activity when men, but he nonetheless has strong sexual desires for men. Is Little Johnny still gay? Many people will say: of course; Little Johnny is straight-passing but not straight. However, consider religious institutions and communities that define sexual orientation purely in terms of behavior. Being homosexual is understood as a lifestyle, not a disposition to desire someone. In such communities, Little Johnny will not be considered gay. My suggestion is that what people mean by sexual orientation terms like "gay" probably differs from context to context.[54]

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[53] Díaz-León, "Sexual Orientations," 300.

[54] Compare this proposal with contextualist and polysemous theories about the meaning of gender terms. See Jennifer Saul, "Politically Significant Terms and Philosophy of

Second, there are some non-binary sexual orientation categories that seem to involve behavior in addition to, or rather than, desire. Consider what it means to be *bicurious*. Curiosity is not a sexual desire, but it can nonetheless motivate sexual activity. Or consider being *heteroflexible*. Part of being heteroflexible is being largely heterosexual. But the flexibility of your sexual orientation does not necessarily consist in having non-heterosexual desires. You may be flexible for non-desire-related reasons, like curiosity. To use a different set of examples, take orientations like *demisexual* and *reciprosexual*. Recall that demisexuality is an orientation in which sexual attraction is conditional upon an emotional connection. Reciprosexual is an orientation in which you are sexually attracted to someone conditional upon whether you know they are sexually attracted to you. In both cases, there is a condition that must be met prior to sexual attraction. These conditions may have a connection to sexual desire, but they are not straightforwardly understood in terms of sexual desire; there is a non-desire dispositional element.

Third, it seems reasonable to take there to be pairs of properties, like gay_b and gay_d, that single out what it is to have a sexual behaviorial disposition and a sexual desire disposition. If we care about the underlying metaphysics of what is happening in these cases, not just how people talk or think, then we have no reason to reject the idea that both of these sexual orientation properties exist at once.

For these reasons, I think that sexual behavior is another dimension of sexual orientation. Here is the resulting two-dimensional scalar theory.

SCALAR DESIRE/BEHAVIOR THEORY

Dimensions: disposition to sexually desire, disposition to engage in sexual activity

Agent types: sex, gender

Patient types: sex, gender

Centered dimensions: male sex is disposed to sexually desire female sex, male gender is disposed to sexually desire female gender, etc

Continua: strength of sexual desire, strength of disposition to sexual behavior

Language," in *Out from the Shadows: Analytical Feminist Contributions to Traditional Philosophy*, ed. Sharon Crasnow and Anita Superson (New York: Oxford University Press, 2012); Talia Mae Bettcher, "Trans Women and the Meaning of 'Woman,'" in *Philosophy of Sex: Contemporary Readings, Sixth Edition*, ed. Alan Soble, Nicholas Power, and Raja Halwani (Rowan & Littlefield, 2013), 233–50; Esa Díaz-León, "Woman as a Politically Significant Term: A Solution to the Puzzle," *Hypatia* 31, no. 2 (2016): 245–58.

Are there more dimensions of sexual orientation? Possibly, but desire and behavior are fundamental. When we consider the various theories and measures of sexual orientation, they all fundamentally concern desires or behavior. Sometimes desire goes under the name "sexual attraction." And sometimes there are species of desire, like sexual fantasy, and species of behavior, like lifestyle. There are more fine-grained distinctions that we can make, but it is safe to take desire and behavior as fundamental.

Are there any additional agent and patient types? Possibly. For example, it is plausible that your gender presentation—whether you present as masculine, feminine, etc—is also part of sexual orientation. Or one might add sexual identity—how you identify, sexually—as part of sexual orientation. The decision to add gender presentation or sexual identity to the list of agent or patient types will not affect the argument being offered here.

I recognize that SCALAR DESIRE/BEHAVIOR THEORY will likely require refinement.[55] However, my present point is that, to account for non-binary sexual orientations, a theory at least as complex as the one presented will be needed. Keeping that in mind, we should consider how, exactly, this multidimensional scalar theory makes sense of total sexual orientations and sexual orientation categories.

IV. SEXUAL ORIENTATIONS AS REGIONS OF SEXUAL ORIENTATION SPACE

Multidimensional scalar theories of sexual orientation are complex, and their complexity poses both definitional and epistemological questions. The definitional question is: how, exactly, do we define sexual orientation categories when there are multiple dimensions, continua, centered dimensions, and patient and agent types? The epistemological question is: how can we know what a person's sexual orientation is, given the complexity of a person's sexual orientation? To answer both of these questions, we must (*a*) take sexual orientations to be regions of (what I call) *sexual orientation space*, and (*b*) take these regions to be singled out by prototypical, or exemplar, members of the relevant sexual orientation categories. The resulting view represents sexual orientation categories as geometric and exemplar-based.

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[55] Andler (in "Public Health") recommends that sexual orientation require an interpretative feature. On their view, individuals have authority over whether sex or gender features are part of their sexual orientation. This is an intriguing suggestion that strikes me as plausible, though future research will be needed to clarify how such a refinement would impact the distinction between sexual orientation and sexual identity.

IV.1. Regions of Sexual Orientation Space. My theory is inspired by the conceptual spaces theory of concepts.[56] The basic idea is that concepts are represented as regions in a space characterized by various qualitative dimensions. I will represent, not just concepts of sexual orientation categories, but the categories themselves, as regions.

Let us begin by considering how one might calculate the total sexual orientation of an individual. A total sexual orientation specifies where an individual stands with respect to every centered dimension of a sexual orientation profile. We can represent this, analytically, using sets of ordered tuples. Here is a simplified example. Consider two centered dimensions: male-male gender desire and male-female gender desire. Let each pair $\langle s, o \rangle$ represent the degree s to which one sexually desires male-male gender couplings and the degree o to which one sexually desires male-female gender couplings. If $s = 0.6$ and $o = 0.4$, then one's total sexual orientation is represented by the pair $\langle 0.6, 0.4 \rangle$. To generalize for n-many centered dimensions, one simply uses n-tuples as opposed to pairs. Table 2 represents the (abridged, toy) total sexual orientation of one *Mr. X.*

CENTERED DIMENSION	X
male-male gender desire	0.5
male-female gender desire	0.3
male-non-binary gender desire	0.4
male-genderqueer gender desire	0.4
male-male sex desire	0.6
male-female sex desire	0.4
male-intersex sex desire	0.3
male-male gender behavior	0.7
male-female gender behavior	0.3
male-non-binary gender behavior	0.1
male-genderqueer gender behavior	0.1
male-male sex behavior	0.5
male-female sex behavior	0.1
male-intersex sex behavior	0

Table 2. Total sexual orientation of a hypothetical individual.

The right column collectively represents *X*'s total sexual orientation. It tells us, for instance, that *X*'s gender and sex desires are similar. It

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[56] Peter Gärdenfors, *Conceptual Spaces: The Geometry of Thought* (Cambrige, MA: MIT Press, 2004). Peter Gärdenfors, *The Geometry of Meaning: Semantics Based on Conceptual Spaces* (Cambridge, MA: MIT Press, 2014).

also tells us that, despite having desires for women, X does not have an equally strong disposition to engage in sexual activities with them.

We can also represent a person's total sexual orientation geometrically, where centered dimensions are represented as spatial dimensions. Figure 1 is a simple two-dimensional graph representing two centered dimensions. The point on the graph represents the sexual orientation that can be analytically represented as $\langle 0.6, 0.4 \rangle$. To generalize the model, we represent total sexual orientations as points in n-dimensional spaces.
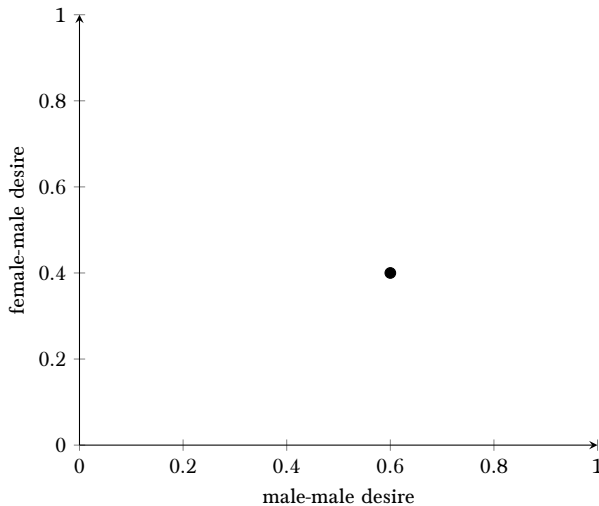
Figure 1. Total sexual orientation as point

Onto some refinements. I have described your total sexual orientation as a perfectly precise point, but things may not be so precise in real life. Your total sexual orientation may not be a single point, but a *region* of points (possibly centering around a single point). Another refinement to the model of sexual orientation concerns time. One's total sexual orientation can change over time; hence, *sexual fluidity*.[57][58] We

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[57] Lisa M. Diamond, *Sexual Fluidity: Understanding Women's Love and Desire* (Cambridge, MA: Harvard Univ. Press, 2008); Sabra L. Katz-Wise, "Sexual Fluidity in Young Adult Women and Men: Associations with Sexual Orientation and Sexual Identity Development," *Psychology & Sexuality* 6, no. 2 (April 3, 2015): 189–208; Sabra L. Katz-Wise et al., "Differences in Sexual Orientation Diversity and Sexual Fluidity in Attractions Among Gender Minority Adults in Massachusetts," *The Journal of Sex Research* 53, no. 1 (January 2016): 74–84.
[58] Note that I have said that one's total sexual orientation can change over time, not that one can choose one's sexual orientation category. The idea of choosing one's sexual

represent this by treating time as an additional dimension.[59] We have $\langle 0.6, 0.4, t_1 \rangle$ representing the fact that you have 0.6 degree of male-male gender desire and 0.4 female-male gender desire at time t_1. We then represent your total sexual orientation as a region.

It is important to recognize that the current model of total sexual orientation is *metaphysical*, not empirical, in nature. This means that it represents the underlying facts about sexual orientation, but it does not provide a way to measure such facts in an empirical setting. There are existing studies in which participants are asked to report their sexual identity or otherwise describe their sexual attraction or activity. How do we measure sexual orientation, given the current metaphysical theory? One straightforward approach would be to simply list every centered dimension and ask individuals to indicate where they stand with respect to them. This approach is probably impractical, however. My suspicion is that the most perspicuous metaphysics of sexual orientation may not be the best basis for a useful measure of sexual orientation. Rather, existing multidimensional measures of sexual orientation—which are less metaphysically perspicuous—may be more useful in an empirical setting.

I have described the nature of total sexual orientations, given the multidimensional scalar theory. what about folk orientation categories like *heterosexual*? My view is that terms like "heterosexual," when uttered in specific contexts, will pick out regions of sexual orientation space. Whether a person satisfies the relevant description, then, depends on whether, and the extent to which, their total sexual orientation is contained in that region of sexual orientation space. To use a simple example, suppose the term "bisexual" at a context singles out a region of sexual orientation space bounded by solid lines in Figure 2.

We define what it is to be "almost bisexual" by introducing regions that define the inner and outer boundaries of bisexuality. The solid rectangle represents the sexual orientation category that one inhabits; if your total sexual orientation lies inside this rectangle, you are bisexual
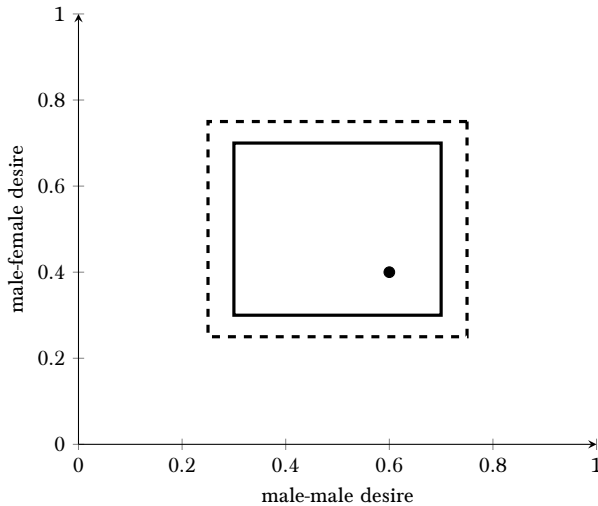

Figure 2. Sexual orientation as region.

to degree one. The dashed rectangle represents the outer boundary of the sexual orientation category; if your total sexual orientation lies inside this rectangle, you are bisexual to degree zero. If your total sexual orientation lies in the space between the two rectangles in Figure 2, you are bisexual to some degree between zero and one. Of course, calculating degrees of membership is a complicated matter. I will say more about it in the next section. The current goal is to convey the basic idea.

A sexual orientation category specifies a range of admissible values for each centered dimension. One inhabits the category just in case one lies in the appropriate ranges, for each centered dimension. So the sexual orientation category picked out by the term "bisexual" might say that one needs to be in range [0.3-0.7] with respect to male-female or female-male desire/behavior, and one needs to be in range [0.3-0.7] with respect to male-male or female-female desire/behavior.

On the current view, terms "heterosexual," "homosexual," and "bisexual" are simply crude ways to carve out regions of sexual orientation space. They single out a small number of ways of being sexually oriented. We do not use them consistently or uniformly. We do not use them in ways that capture the full breadth of human sexual orientation. We are not perspicuous in the slightest. We use these terms because our social and political circumstances deem them necessary. Fundamentally speaking, however, there are only centered dimensions that have values.

Of course, the example definition of bisexuality I have presented is just a toy definition. The real definition will be much more complex. But this raises a question: how do we identify the regions of sexual orientation space that correspond to sexual orientation categories? The prospects of a definition—with the precise ranges specified—seems unlikely. This is a challenge for metaphysicians, and it will surely be a challenge for ordinary people who talk and think about sexual orientation categories. Surely we do not consciously calculate regions of sexual orientation space based upon centered dimensions and their precise values. (Can you imagine what dating would be like, if this were a prerequisite?)

IV.2. Exemplars. Sexual orientation categories are regions of sexual orientation space, but these regions are identified using exemplars, or prototypical representatives of the sexual orientation category, not by a list of properties. Call this view *exemplarism*. The basic idea of an exemplarist theory of *X* is to define *X* by what an ideal *X* would do or be like. Exemplarism is most common in metaethics. Linda Zagzebski writes of moral exemplarism:

> Good persons are persons *like that*, just as gold is stuff *like that*. Picking out exemplars can fix the reference of the term "good person" without the use of descriptive concepts.[60]

Instead of directly describing the specific properties that a good person has, an exemplarist theory of a good person identifies prototypically good people, and then says that the properties of a good person are those properties possessed by exemplar good people. In the case of sexual orientation, my claim is that we single out exemplars of sexual orientation categories like *heterosexual*, *gay*, *lesbian*, and so on. The regions of sexual orientation space are automatically carved out by reference to the exemplars. One need not engage in sophisticated cognition to think that a gay person is someone who is like *that*.

Peter Gärdenfors gives an account of how exemplars or prototypes generate regions of conceptual space.[61][62] Given a set of exemplars, we can divide a space into a set of non-overlapping regions, with each exemplar being the center of some region. And for each region, every point in that region will be closer to the exemplar of that region than the exemplar of any other region. This kind of division of space consti-

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[60] Linda Zagzebski, "Exemplarist Virtue Theory," *Metaphilosophy* 41, no. 1–2 (2010): 41-57, 51.

[61] Gärdenfors, *Conceptual Spaces*.

[62] I have used the terms "exemplar" and "prototype" interchangeably. To clarify: my theory only depends on the existence of ideal types of some kind.
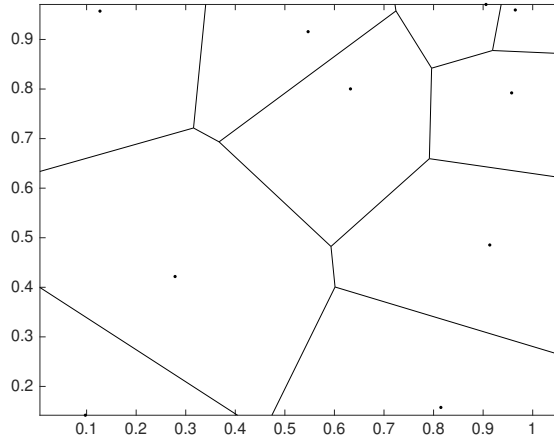
Figure 3. Example of Voronoi diagram.

tutes a Voronoi diagram. (See Figure 3 for an example.) Such diagrams can be generated with only a set of points and a space. In this case, we only need a set of orientation exemplars and a sexual orientation space. The regions generated by the exemplars will be sexual orientation categories.

So far, we have a way to generate regions from points, but this is not enough to make sense of graded membership. At the moment, there is a sharp boundary between each region, but this does not help make sense of the idea that membership within sexual orientation categories comes in degrees.

One promising account of graded membership, in the conceptual spaces tradition, is given by Lieven Decock and Igor Douven. Instead of taking exemplars to be points, we can take exemplars to themselves be regions.[63] The best way to convey this idea is to use a highly simplified example. Let E be an exemplar region that consists of two distinct points e_1 and e_2. Each member $e \in E$ will generate its own region (or Voronoi polygon) P_e. So E will collectively generate a set of regions $P = \{P_{e_1}, P_{e_2}\}$. Think of P as a fuzzy region, as it consists of overlapping yet non-identical regions. Now suppose I want to know the degree to

[63] Lieven Decock and Igor Douven, "What Is Graded Membership?," Noûs 48, no. 4 (2014): 653–82.

which some point d is a member of P. We just take the number of regions in P such that d is a member and divide it by the total number of regions in P. So if d is a member of P_{e_1} but not P_{e_2}, d is a member of P to degree 0.5.

Here is another way to summarize the account of graded membership. For each sexual orientation category S, there will be three basic regions that correspond to it. First, there will be the exemplar region E_S of S. Second, there will be the inner boundary I_S; this region is such that: anyone whose total sexual orientation is in I_S will be S to degree 1. Lastly, there will be the outer boundary O_S; this region is such that: anyone whose total sexual orientation is in I_S will be S to degree 0. Anyone whose total sexual orientation that lies between I_S and O_S will be S to some degree between 0 and 1.

Strictly speaking, I have described formal ways of modeling how exemplars generate the relevant regions of space. Conceptual spaces theorists say more about why we should think this, or something like it, is how people actually represent the world.[64] The philosophical conclusion is that we can single out regions of sexual orientation space—and therefore sexual orientation categories—indirectly, using exemplars. We need not consciously reflect on a list of descriptive properties.

If my theory is correct, however, we must give up the hope of a precise analysis of sexual orientation categories in terms of descriptive properties. Orientation categories are generated from exemplars and therefore are unlikely to be neatly captured by discrete descriptive properties. The best we can do is vaguely gesture at regions of sexual orientation. Here are examples of such gesturing. I present putative definitions for sexual orientation categories as they are understood in specific contexts.

Heterosexual High opposite-sex or opposite-gender desire/behavior and low to non-existent same-sex or same-gender desire/behavior.[65]

Homosexual High same-sex or opposite-gender desire/behavior and low to non-existent same-sex or same-gender desire/behavior.

Bisexual 1 Moderate to high desire or behavior for male and female genders/sexes.

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[64] For details, see Igor Douven, Richard Dietz, and Paul Égré, "Vagueness: A Conceptual Spaces Approach," *Journal of Philosophical Logic* 42, no. 1 (February 2013): 137–60; Decock and Douven, "What Is Graded Membership?"; Igor Douven, "Vagueness, Graded Membership, and Conceptual Spaces," *Cognition* 151 (June 1, 2016): 80–95; Lucas Bechberger and Kai-Uwe Kühnberger, "Formalized Conceptual Spaces with a Geometric Representation of Correlations," in *Conceptual Spaces: Elaborations and Applications*, ed. Mauri Kaipainen et al., Synthese Library (New York: Springer International Publishing, 2019), 29–58.

[65] In using the term "opposite-sex," I am representing the gender binary presupposed by uses of "heterosexual" and "homosexual."

Bisexual 2 / Plurisexual Moderate to high desire or behavior for at least two genders/sexes.

Bisexual 3 / Pansexual 1 Moderate to high desire or behavior for all genders and sexes.

Bisexual 4 / Pansexual 2 Not being oriented on the basis of one's gender or sex.

Heteroflexible High opposite-sex or opposite-gender desire and behavior, though some small degree of same-sex or same-gender desire and behavior, perhaps under specific conditions.

Bicurious Not fully bisexual but some interest in sexual activity with a gender/sex out of curiosity.

Female-oriented High sexual desire/behavior for the female gender or sex patient type. The desire/behavior is not based on the agent type.

Male-oriented High sexual desire/behavior for the male gender or sex patient type. The desire/behavior is not based on the agent type.

Fluid Desire/behavior changes significantly over time.

Bi-heterosexual/mostly (but not fully) heterosexual Moderate to high opposite-gender desire and behavior and low to moderate same-gender desire and behavior.[66]

Bi-homosexual/mostly (but not fully) homosexual Moderate to high same-gender desire and behavior and low to moderate same-gender desire and behavior.

A little gay/a little lesbian Low same-gender desire or behavior.

Asexual Very low to non-existent sexual desire.

Graysexual Low sexual desire.

Demisexual Sexual desire conditional upon emotional bond.

Reciprosexual Sexual desire conditional upon knowledge of the patient's sexual desire for the agent.

The definitions presented are both vague and context-sensitive. A fully detailed theory of specific sexual orientation categories would require identifying specific exemplars and attending to the regions of sexual orientation space they inhabit.

To be precise: I take terms like "heterosexual" to pick out regions of sexual orientation space. The same term may identify different regions of space, depending on the context. This raises the question:

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[66] See Weinrich and Fritz Klein, "Bi-Gay, Bi-Straight, and Bi-Bi" for an introduction to the distinction between bi-heterosexual, bi-homosexual, bi-bisexual, and so on.

what regions of sexual orientation space count as sexual orientation categories? On a plenitudinous, or universalist, conception of sexual orientation categories, every region of sexual orientation space determines a sexual orientation category. On this view, there are many sexual orientation categories, but some sexual orientation categories are more interesting and relevant than others. (The relevant analogy is universalism about composition: there are fusions of every pair of objects, but, as a contingent fact, we do not talk about all of these fusions.)

One might adopt a more restricted view of sexual orientation categories, however. Most obviously, you may think sexual orientations are socially constructed in a way that a plenitudinous conception of sexual orientation cannot capture. According to *social constructionism* about sexual orientation, the underlying disposition and desire properties must be appropriately recognized by some relevant social group in order to count as a sexual orientation.[67] Can the multidimensional scalar theory account for social constructionism? Yes!

There are many ways to understand social constructionism, but one popular (and natural) treatment can be found in Ásta's conferralist theory of social construction.[68] On her view, we confer social properties onto individuals on the basis of what she calls base properties. In a baseball game, an umpire confers the property of a ball counting as a strike on the basis of facts about where the ball is positioned it crosses the home plate. Applying her view to sexual orientation, communities confer the social property of *heterosexual* on the basis of the various desire and dispositional properties; a person does not have the sexual orientation prior to its communal conferral. In other words: a person x has a sexual orientation S in context C if they occupy the relevant region of sexual orientation space and the property S is conferred onto x on the basis that they occupy that sexual orientation space. A sexual orientation is a region of sexual orientation space that has been socially recognized in the right way. There are additional accounts of robust social constructionism that require more sophisticated maneuvers, but it should be clear that the multidimensional scalar theory is compatible with social constructionism. I lean toward the social constructionist theory because it allows us to rule out some sexual dispositions—like bestiality—that do not seem to play the social role of sexual orien-

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[67] On the imagined view, one thinks of sexual orientation similar to the way Matthew Andler thinks of sexual identity. See Matthew Andler, "The Sexual Orientation/Identity Distinction," *Hypatia* 36, no. 2 (2021): 259–75; Matthew Andler, "Queer and Straight," in *Routledge Handbook of Philosophy of Sex and Sexuality*, ed. Clare Chambers, Brian D. Earp, and Lori Watson (New York: Routledge, 2022), 117–30.

[68] Àsta, *Categories We Live By: The Construction of Sex, Gender, Race, and Other Social Categories*, (New York: Oxford University Press, 2018).

tations. However, constructionism is optional for the purposes of the current paper.

Suppose we adopt social constructionism about sexual orientation. Can we still retain the distinction between sexual orientation and sexual identity? I believe so. The difference would not be a difference between what is socially constructed and what is not. Rather, the difference between sexual orientation and sexual identity would then be a difference between two different *kinds* of socially constructed categories. What is the difference in kind? One simple difference may concern norms of authority. In the case of sexual identity, there is social recognition that one has first-person authority over one's sexual identity; in the sexual orientation case, this norm may not hold. This simple account is obviously contentious, but it illustrates that the orientation/identity distinction can be maintained, at least in principle, even if both orientations and identities are socially constructed.[69]

The multidimensional scalar theory accounts for non-binary sexual orientations without assuming that heterosexuality and homosexuality are fundamental. How? Because sexual orientation fundamentally concerns an unholy mix of dimensions, centered dimensions, and continua, none of which neatly add up to the heterosexual/homosexual binary. Put it another way: the grounds of what we call "heterosexuality" consists of combinations of properties that come in different strengths. There is a question of whether we should still use terms like "heterosexual" in light of this revelation. If we do continue using these terms, we should be clear about the underlying non-binary reality.

V. CONCLUSION

To make sense of non-binary sexual orientations, I have proposed a theory of sexual orientation that is multidimensional and scalar. The theory is more complex than the standard theories, to be sure, but the complexity of theory matches the complexity of its subject matter. Sexual orientation only seems simple because some cultures—*ahem*, the US—have a simplistic view of what sexual orientation is. Sexual orientation space is vast and remains largely unexplored (by philosophers). Instead of focusing on a handful of familiar planets—*e.g.*, heterosexualandia, homosexualopia, and bisexualania—we should set out to catalogue the rest of the sexual universe.

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[69] Thanks to a reviewer for raising this issue.