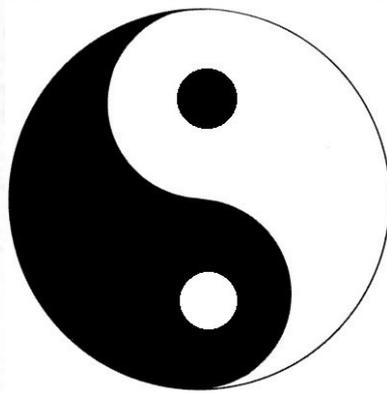


Minimizing dimorphic tendencies in gender and sexuality discourse:

1. Integrating biology and sociology
2. Improving experimental methods



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Stuts52

Brief Background

Before the middle of the 20th Century: Biological Determinism

Gender expression was thought to be pre-determined by biology. (Often, women were treated as the gender deviant from a male normality).

After the middle of the 20th Century: Social Construction

de Beauvoir: “One is not born, but, rather becomes, woman. No biological, psychic, or economic destiny defines the figure that the human female takes on in society; it is civilization as a whole... (1949: 339)”

Foucault: “The association of natural sex with a discrete gender and with an ostensibly natural 'attraction' to the opposing sex/gender is an unnatural conjunction of cultural constructs in the service of reproductive interests (1980: 154).”

Butler: “What is called gender identity is a performative accomplishment compelled by social sanction and taboo. In its very character as performative resides the possibility of contesting its reified status (1988: 520).”

Challenges to the Social and Biological Divide

Richard Udry: *Biological Limits of Gender Construction* (2000)

In sampling 163 adult women, correlations were found between scores on a highly stereotypic “femininity” survey and the prenatal androgen levels in their mother's blood 20-30 years earlier.

Prenatal androgens explained approximately 16% of variance in stereotypic gender behavior within a multiple regression analysis.*

Strong correlations were also found between mother-encouraged femininity and scores in the test.

*Adding mother-encouraged femininity to the statistic model **strengthened the model's significance** but did not reduce the contributions of the hormones.***

* testosterone and sex hormone binding globulin (SHBG)

** R^2 value

Outsmarting Dimorphic “Traps”

di·mor·phic adjective \(\,)dī-'môr-fik\ : occurring in two distinct forms
(<http://www.miriam-webster.com>)

Trap 1: “Dimorphizing” the sex-gender continuum:
Gender is social; sex is biological.

Trap 2: Basing theories on dimorphic axioms:
“Woman,” and by extension, any gender, is an historical situation rather than a natural fact. (Butler, 1988: 520)

di·mor·phic adjective \(\,)dī-'mōr-fik\): occurring in two distinct forms

Outsmarting Dimorphic Trap 1

~~Gender is social. Sex is biological.~~

Oversimplistic

Gender and sex coexist on a continuum. While gender is most certainly a performative act in many (and perhaps even most) cases, the impulse to perform as well as the essence of those performances are rooted both in social construction and biology.

Udry's study implies that social construction is actually a larger determining factor. More studies are needed to get a more accurate take.

di·mor·phic adjective \(\,)dī-'môr-fik\): occurring in two distinct forms

Outsmarting Dimorphic Trap 1

Gender and sex are rooted in sociology and biology.

But the biological evidence brings a reified component to behavior that has new consequences for sociolinguistic research as it relates to gender/sexuality and language.

Whereas before, one could attribute sex to chromosomal constitution and create two simple test groups, we now have a breadth of hormonal factors during pregnancy that show that sex does not occur in two rigid dimorphic forms.

Sex is no longer necessarily two a-priori categories, designated by “male” and “female”, that we can blindly treat as independent variables that we try to link speech phenomena to.

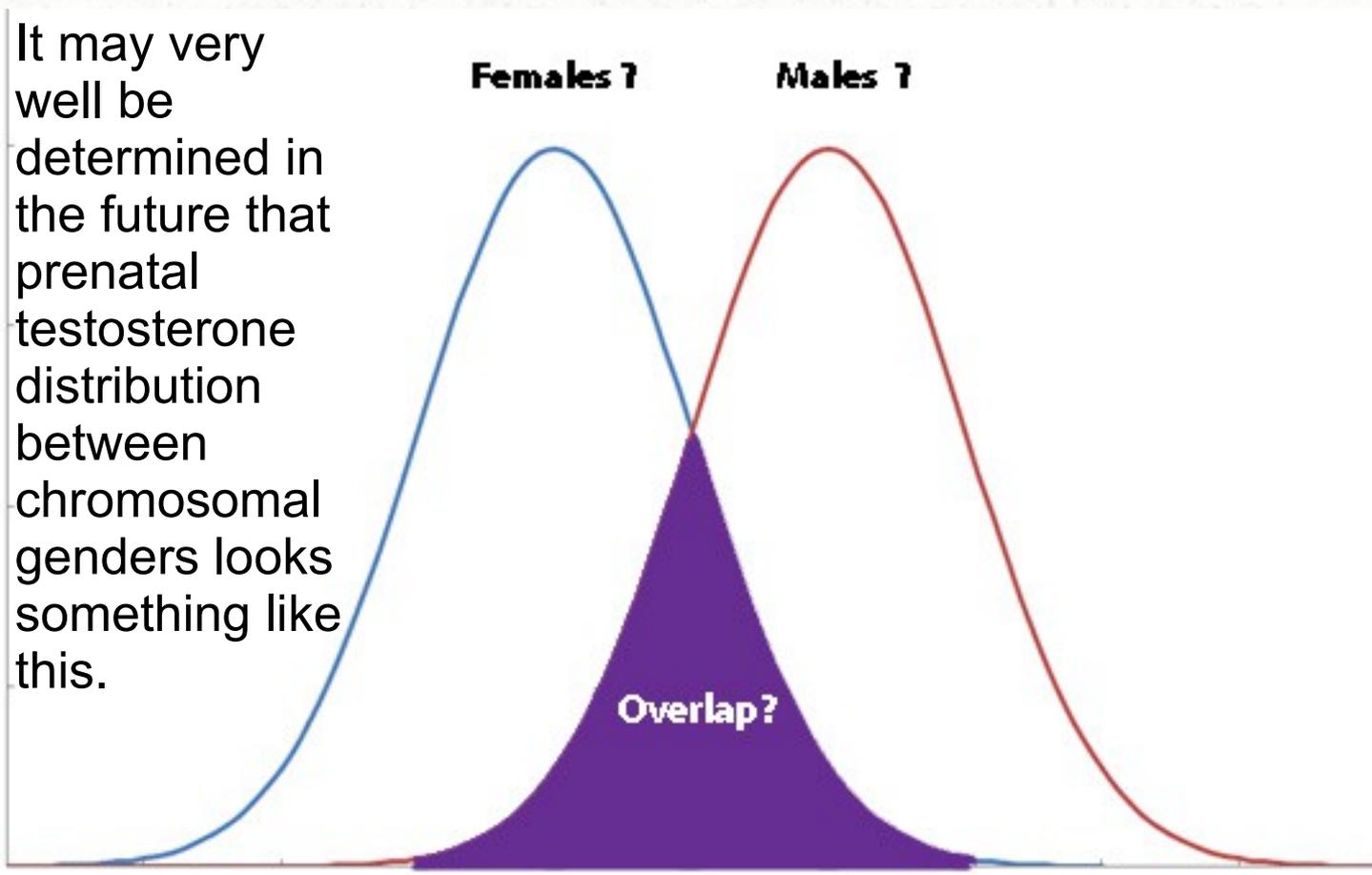
di·mor·phic adjective \(\,)dī-'mōr-fik\): occurring in two distinct forms

Outsmarting Dimorphic Trap 1

Remember that Statistics class you took years ago?

Central Limit Theorem: population means are *normally* distributed.

It may very well be determined in the future that prenatal testosterone distribution between chromosomal genders looks something like this.



di·mor·phic adjective \(\,dī-'môr-fik\): occurring in two distinct forms

Outsmarting Dimorphic Trap 2

~~“Woman,” and by extension, any gender, is an historical situation rather than a natural fact. (Butler, 1988: 520)~~

~~Is gender nature or nurture?~~

Begs the Question*

Many people would generalize Udry's findings by claiming that he shows that 16% of gender expression is correlated to prenatal hormones and that the rest is linked to social factors. But this is not correct.

Udry's study shows that 16% of feminine expression is correlated to prenatal hormones. The trouble with extrapolating female findings to the higher-order category of gender, is that one makes an a-priori assumption that female and male behaviors share the same higher-order causality.

* **begs the question auf Deutsch:** wenn man eine Frage stellt, die auf einer gleichzeitig umstrittenen Annahme basiert ist.

di·mor·phic adjective \(\,)dī-'môr-fik\): occurring in two distinct forms

Outsmarting Dimorphic Trap 2

16% of stereotypic female behavior can be correlated to prenatal androgens. Prenatal androgens correlated to an immunity toward mother-induced femininity.

In Udry's study, high prenatal androgen exposure rendered subjects more immune to feminine socialization.

The implications of these results imply that men would be less susceptible to gender socialization than women since they receive ten-fold the amount of androgens in the second trimester.
(Udry, 2000: 452)

Each child is bathed its own hormonal “soup” during pregnancy. Each gender correlates to its own range of “soup” with varying properties and varying permeability by external stimuli.

Bottom Line: More research is needed.

di·mor·phic adjective \(\,dī-'môr-fik\): occurring in two distinct forms

Sociolinguistic Consequences

- 1. Correlations between gender and speech**
- 2. Correlations between sexuality and speech**

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1. Correlations between gender and speech

The problem with chromosomal categories

A typical study attempts to find differences in speech patterns between male and females by creating two initial subject categories.

The problem with this is that it assumes fixed behavior when there is likely significant reified*/existential variety within the sexes by, for example, prenatal hormone exposure.

**reified auf Deutsch: verdinglicht, reifiziert*

di·mor·phic adjective \(\,)dī-'môr-fik\): occurring in two distinct forms

1. Correlations between gender and speech

The problem with chromosomal categories

Study done by Marianthi Georgalidou: *Gender differences in the discourse of Greek children play-groups: The negotiation of control acts in single and mixed-gender interactions (2009)*

Results: “Greek children of both sexes make use of linguistic markers of dominance in their choice of control acts which, rather than being linked to the sex of the speakers, are linked to one's achieved position in the play-group... (2009: 209)

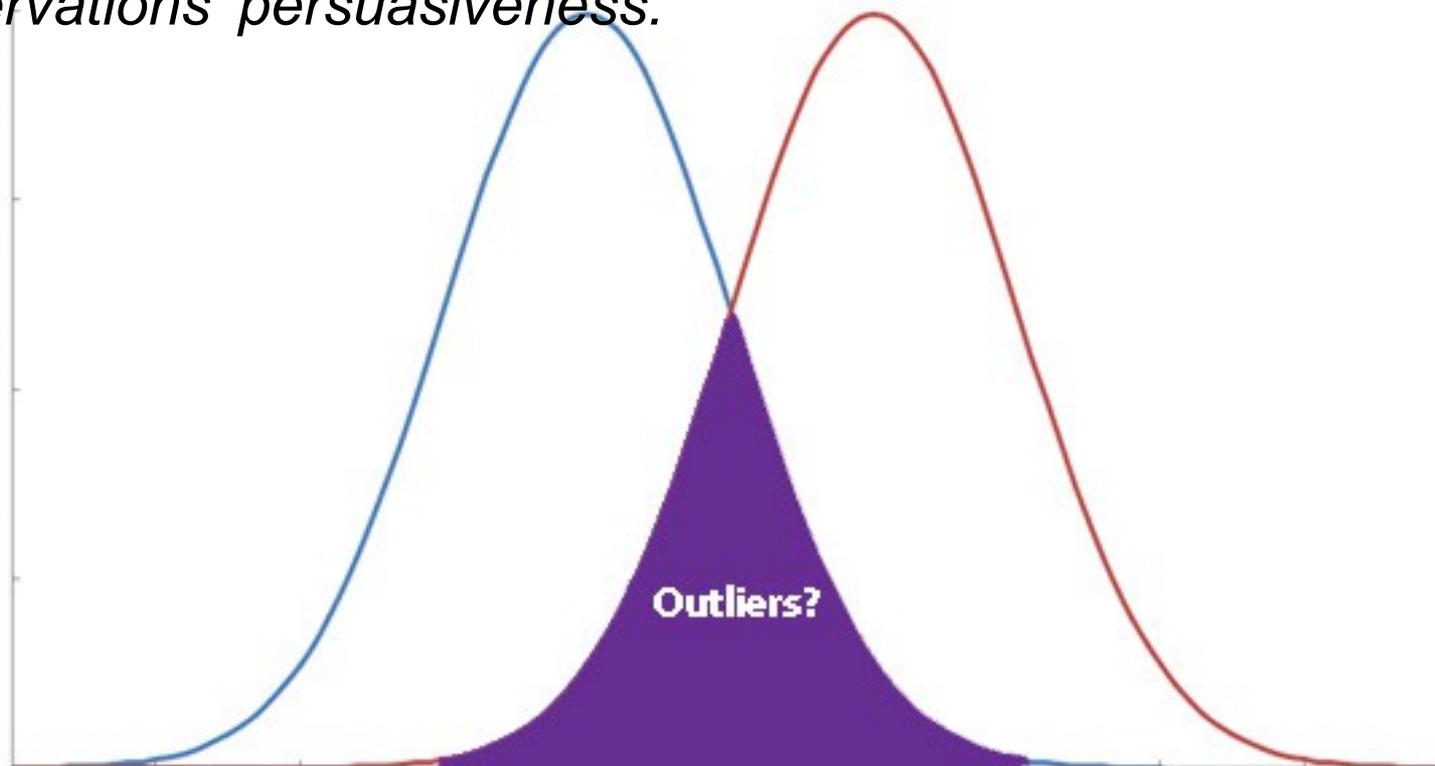
Potential problem: Even though only 13 boys and 6 girls were studied, individuals were not tracked; rather, each child was given a new gender identification within each new play-group. *Qualitative observations ensued.*

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1. Correlations between gender and speech

The problem with chromosomal categories

Tracking individuals across play-groups (combined with a larger sample size) could have revealed potential outliers. Giving chromosomal gender so much a-priori clout weakens the observations' persuasiveness.



di·mor·phic adjective \(\,)dī-'môr-fik\): occurring in two distinct forms

2. Correlations between sexuality and speech

The problem with self-identified post-modern categories

Gay and *straight* are postmodern western concepts.

They are based on self identification.

If one is to pose a linguistic question about these self-identified sexualities, one might be ignoring other categories that, while perhaps more nuanced, may be more relevant to the search for correlations between speech and sexuality.

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2. Correlations between sexuality and speech

The problem with self-identified postmodern categories

Previous studies on this topic have started with the self-identification of men and their respective speech as the core of the experiment.

Common Experimental Method:

1. Record a number of gay men, record a number of straight men.
2. Play recordings to listeners.
3. Have listeners rate how feminine/masculine and gay/straight the voices sound.
4. Use analysis software to find distinctions between gay and straight recordings (vowels, frequency range, sibilants).
5. Run statistical analyses to find correlations between results and the two categories of test subjects.

Examples: Gaudio (1994), Linville (1998), Pierrehumbert & Bent (2004)

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2. Correlations between sexuality and speech

The problem with self-identified postmodern categories

Erez Levon offers a solution to the shortcomings of these prior studies in his study *Hearing “gay”: Prosody, interpretation, and the affective judgments of men’s speech* (2006).

Levon's Experimental Method:

1. Record speech of one random male.
 2. Have listeners rate how feminine/masculine and gay/straight the recording sounds.
 3. Change pitch, sibilant length, vowel length with voice-altering software.
 4. Have new listeners rate how feminine/masculine and gay/straight the altered recording sounds.
 5. Run statistical analyses to find correlations between results.
- (Levon, 2006)

In analyzing listener perceptions, one should start with a perceived gay or straight or masculine or feminine identity rather than a self-identified identity. ¹⁶

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2. Correlations between sexuality and speech

The problem with self-identified postmodern categories

Levon's Results:

Variations in this experiment of speaker's pitch range and sibilant duration were insufficient to significantly affect listeners' perception of the speaker's gender and sexuality.

Levon's Conclusion:

More research is needed since these preliminary results call into question prior results of studies that used the self-identity method (Levon, 2006: 73).

Where does this Leave us?

Gender expression and behavior likely has some core biological existential properties. That said, much of it, if not a majority of it is tied in socialization.

In conducting studies, a-priori assumptions for test subject categories can shortchange research.

Levon's solution: The test subject is kept constant, and his/her speech is manipulated.

Where does this Leave us?

Other solutions: Use surveys to create test subject categories. While surveys are also self-reported, they rely on self-reported *behavior* rather than *identity*, which has the following advantages:

1. Since gender and sexual identities are sensitive topics, a survey of behaviors may be “safer” territory than a survey of self identity
2. Current sexuality identity categories are fixed in time and contain semiotic meaning that might be lost on current and certainly future researchers
3. Behavior surveys help identify gender and sexuality outliers in the sample population, outliers that can be discarded for the sake of creating homogeneous categories

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