

<http://somatosphere.net/?p=12395>

Sex/Gender: Part III: What Counts as Adequate Function?

2016-06-03 05:00:28

By Constance Cummings, Libby Udelson and Kathy Trang

A Critical Moment: Sex/Gender Research at the Intersections of Culture, Brain, and Behavior

FPR-UCLA 2016 Conference Summary



The sex/gender conference succeeded in bringing together people “with different ideas and skills, different ways of thinking, that are actually transforming the field,” observed Carol Worthman, chair of Part 3 (“What’s at Stake?”). The earlier sessions (see Parts [1](#) and [2](#)) provided us with a better sense of the complexities of sex/gender; we also learned some ways to usefully deconstruct – and form new ideas about – old questions. But there’s a lot at stake, Worthman continued. In the following session, speakers addressed the theme (“What counts as adequate function?”) from a variety of perspectives and from individual to macro levels of analysis. The question regarding adequate function is critical,

Worthman reminded the audience, “because a lot of what is lurking in the background is frequently this question of ‘not good enough’ or ‘not a real person,’ both exogenously, in terms of how people are viewed, and endogenously, in terms of how they view themselves” by internalizing cultural norms. This suggests the importance of recognizing culture-mind-brain “intra-actions” (Barad, 1998, p. 96, noting “the inseparability of ‘objects’ and ‘agencies of observation’”) that can perpetuate shame, fear, and other forms of suffering.

This post reviews two films shown at the conference ([Bitter Honey](#) and [Tales of the Waria](#)) and three talks by neuroscientist Melissa Hines and anthropologists Hillard Kaplan and Marcia Inhorn.

Bitter Honey

On Day 1 and 2 of the conference, FPR founder and president, [Robert Lemelson](#), a documentary filmmaker and psychological anthropologist on the UCLA faculty, screened *Bitter Honey*. Shot over a seven-year period, the film explores polygamous marriages through the lens of three Balinese families headed by Sadra (2 wives), Darma (5 wives) – both working class – and the elderly Tuaji “of royal blood” (10 wives). The film addresses seven themes: love and marriage, power, violence, children, lust and infidelity, divorce, and endurance and freedom.

[“Bitter Honey” Trailer \(2014\)](#) from [Elemental Productions](#) on [Vimeo](#).

In Bali, 10 percent of registered marriages are polygamous, although the percent of unofficial unions is likely higher. As the film illustrates, many of these unions are formed and maintained through deep-seated power dynamics that justify men’s infidelity and restrict women’s abilities to leave. For instance, when Sadra’s second wife, Murni, finally discovered his marital status, she was already pregnant and had decided to “[accept] it . . . [because she] took the risk and . . . had to take the responsibility.” This simple statement masks a grimmer reality. Tricking women into polygamous marriages appears to be all too common. To varying degrees Sadra and Darma’s wives have learned to adapt to their surroundings, maintain jobs to support the men’s lifestyles, and raise their children (Tuaji’s wives appear to lead more comfortable lives). But the film wordlessly and beautifully unveils the pain, isolation, and sense of confinement in the wives’ situation in ways that written ethnography cannot (Lemelson & Tucker, 2015).

Hints of infidelity and domestic violence permeate the three men’s marriages. Both Sadra and Darma frequent the red light district. Brothels catering to tourists have sprouted across rural areas of Bali and are also

frequented by local men. Although an estimated 25 percent of Balinese sex workers are infected with HIV/AIDS, use of condoms appears infrequent, and the risk of transmission to the men's wives is high. Regarding domestic violence, at one point in the film the documentary team – along with Dedung, Sadra's boss, and Anggreni, a women's rights attorney in Bali – are compelled to stage an intervention to attempt to stop Sadra from beating his wife.

Karma is an excuse many men use to escape from their responsibilities, as Degung Santikarma – Balinese anthropologist – explains in the course of the film. In Bali, it is commonly believed that men gain more power from having more wives; this draws from the Hindu concept of *Bhairawa* in which lust should not be restrained, but rather allowed full expression. However, men's power is not the only force that constrains women's abilities to leave these marriages. While in many regions of Indonesia the divorce rate is approximately 50 percent, it is less than 10 percent in Bali. In Balinese culture, the soul of the wife is thought to belong to that of the husband's family, into whose lineage she will reincarnate; upon divorce, women lose not only their inheritance and custody of their children, but also their soul. (An exception is a *nyentana* marriage in which the man marries into his wife's family and takes on the role of the eldest son, in which case the woman retains her inheritance and custody of the children after divorce.)

Bitter Honey poignantly documents the ways in which polygamous marriages in Bali are deeply embedded in cultural dynamics that are disadvantageous to women and trap them in an iterative cycle of vulnerability. In doing so, the film challenges universalistic paradigms that depict women as “coy choosy females” looking for well-resourced mates (Brown, Laland, & Borgerhoff Mulder, 2009) and resonates with [Herd's documentation of change among the Sambia](#) and [Borgerhoff Mulder's work among the Pimbwe](#) in demanding cultural and historical specificity. While a scholarly accomplishment, Lemelson's film work is also notable for the additional sensory experiences and, in particular, the sense of emotional intimacy with others that only a filmic medium can convey. Lemelson, who also trained as a clinical psychologist, feels that the use of more cinematic elements in the construction of his films – in combination with the deep, mutually respectful relationships he enters into with his subjects, who frequently participate and provide feedback during the editing process – have allowed him “to tell richer stories about fully fleshed out individuals” in “the multiple cultural and environmental contexts that suffuse any experience” (Lemelson & Tucker, 2015, p. 17, 29). His films push us to confront human suffering and re-consider the [more engaged form of anthropology](#) of many long-term practitioners (another example of which is [Afflictions](#), Lemelson's series on mental illness in Indonesia). Refusing to look away, Lemelson and his team have

also begun working with local organizations [to set up the first gender-based violence program in Indonesia](#).

Tales of the Waria

The conference program also included [Kathy Huang's](#) documentary [Tales of the Waria](#), which focuses on four “biological men” in Makassar, Indonesia – Tiara, Mami Ria, Suharni, and Firman – who self-identify as women. The men are known locally as *waria* – “a combination of the terms *wanita* (woman) and *pria* (man), which can be roughly translated as ‘male transvestite’” (Boellstorff, 2004, p. 160). Waria live openly as women, mainly engaged as performers (Tiara), in some form of salon work (Mami Ria, Suharni, and Firman), especially bridal makeup and hair styling, or as sex workers; thus, they are far more visible (and, as a “recognizable continuity” dating back to the early 1800s, far older in origin) than Indonesians who identify as *gay* or *lesbi* (Boellstorff, 2004).

[Trailer: “Tales of the Waria” from Kathy Huang on Vimeo.](#)

Being a waria is not a matter of sexual orientation; according to Tiara, “waria exist to make this life more beautiful.” Further, “waria almost never describe themselves as a “third gender” but see themselves as men with women’s souls who therefore dress like women and are attracted to men” (Boellstorff, 2005, p. 57). Although they may take estrogen in the form of birth control pills and use injectable fillers, Tiara explains that “most warias don’t want a sex-change operation because of the teachings of Islam. We believe that we were born as men and must return to God as men.”

The film offers a humanizing portrait of the warias’ pursuit of love with a man (“every waria’s dream”), and in doing so, movingly depicts the dual sense “of belonging to (and exclusion from) national society and popular culture” (Boellstorff, 2004, p. 161) given their visible positions in society, including in the political sphere. At first glance, the love lives of the four warias “flow simply into the mold of [male] power,” to paraphrase Catherine Malabou (2015). Tiara is a performer who likens herself to Madonna or Beyoncé. Despite the general tolerance for warias in Indonesia, Tiara’s family does not openly welcome their son’s adoption of a waria identity; a former boyfriend refused to marry her because Tiara wasn’t a “real” woman and couldn’t give him children (“I was just a place to stop until he found a woman”).

Younger warias, like Suharni, juggle achieving financial security and maintaining a relationship with their boyfriends. In Suharni’s case, her boyfriend Madi remains committed even after learning of her HIV-positive status (according to Suharni, “HIV/AIDS is the most feared disease in

Indonesia”), but neither is able to make enough money living in Makassar, and Suharni decides during the course of the film to relocate to Bali. The oldest of the four, Mami Ria faces a different challenge in maintaining the interest of her partner Pak Ansar, who is married with children. Pak Ansar thinks warias are “creative” and “really have a passion for life,” and his wife, Ety, appears complacent with the arrangement. But as Mami Ria has gotten older and feels less inclined to wear make-up and maintain long, feminine hair, she believes Pak Ansar’s love has waned. By the end of Huang’s film, Mami and Pak Ansar had not spoken in more than three months.

“I walk two paths”

Some warias, like Firman, opt to marry heterosexually. In an opening scene, Firman prays to God to “change [him] into a real man” because it was “impossible to go back into being a waria,” which was “a terrible [past] mistake.” Firman said his family was ashamed of him as a child (“They always got angry at me and beat me”). His father hit him hard with a rattan switch and told him “to be a man, but I wasn’t able to.” Firman is now “respected” by his family and in-laws for being a good father and husband. Though his wife Mimi has heard stories of his past, she said she accepts him because she believes “he’s left his old ways behind” and is now committed to “making a future together . . . [and] wants to change.” Through tears, she adds, that Firman continues to go on late outings with his waria friends; though he brushes it aside as work, she cries and worries, not sleeping until he returns. Although Firman reaffirms his commitment to his family, he tells Huang that he nonetheless misses the warmth of a male body and contrasts the “ecstatic” feeling of “soaring into the sky” with the reality of waking up next to his wife and children.

Together, the four narratives illustrate the multiple ways in which warias pursue love in Indonesian society – not as a “third gender,” but occupying “a gendered subject position haunting maleness” (Boellstorff, 2004, p. 183) – and, like the wives in *Bitter Honey*, have learned to deftly negotiate the marginalizing social and cultural dynamics that continue to bound their experiences.

Our “volatile” anatomy

Most warias recount “atypical play” as children (“I hung out with the girls and played jump rope, played with dolls”; Boellstorff, 2004, p 166), either because their parents didn’t prohibit it or, as many attest, they were simply born “with the soul of a woman.” Their various reflections – in some cases, biologically oriented; in others, social – for the basis of their childhood toy preferences resonated with neuroscientist [Melissa Hines’s](#) talk (“Early Androgen Exposure and Human Gender Development:

Outcomes and Mechanisms”). Hines focuses primarily on the role of testosterone in influencing human gender development; part of her research program explores gender typical play.

According to Hines, the brain is not hardwired to be male or female. But neither is gender identity wholly a function of “self-socialization or socialization by others” postnatally. Both viewpoints are partial and thus “flawed” because neither takes the other into account. Our anatomy, as Elizabeth Wilson (2015) argues in *Gut Feminism*, is “volatile enough” to produce many “multifaceted . . . destinies.”

Four factors influence human gender development: genetic factors, gonadal steroids (particularly testosterone during early development), social reinforcement, and self-socialization, Hines continued. Her remarks focused on the influence of testosterone on brain and behavior, whose “enduring masculinizing and defeminizing effects during early sensitive periods of rapid brain development” have been well-studied in non-human animals (Hines et al., 2016a).

Prior to puberty, testosterone is higher in males than in females during two periods of rapid brain development: prenatally (from about 8–24 weeks) and postnatally (also referred to as “mini-puberty,” from about 1–6 months; Hines et al., 2016b). In humans, evidence suggests the first (prenatal) elevation influences three main behaviors that differ by sex (1) gender identity, (2) sexual orientation, and (3) gender-typical play. The second elevation contributes to later gender-typical play in particular.

How can we study the influence of hormones in human development?

The strongest evidence comes from studies of individuals with genetic conditions. Hines’s research focuses mainly on congenital adrenal hyperplasia (CAH), a genetic disorder. CAH disrupts the adrenal glands’ ability to make cortisol. The resulting dysregulation in cortisol-mediated adrenocorticotrophic (ACTH) secretion by the pituitary gland causes the overproduction of adrenal androgens, beginning prenatally. Despite some gender ambiguity in external genitalia at birth due to prenatal exposure to high levels of testosterone, girls with CAH, who are treated postnatally with glucocorticoids, are usually raised as girls. But girls and women with CAH show differences in all three gendered behaviors.

Hines discussed toy preferences, which her research has related to both prenatal androgen exposure and gender-related *models* (persons of the same or opposite sex choosing gender-neutral objects) and *labels* (being told certain objects were “for girls’ and others were “for boys”; see Hines et al., 2016a). Girls with CAH spent more time with the boys’ toys and less time playing with girls’ toys than their unaffected relatives. To

determine whether the effects were due to socialization (e.g., parent support of children's toy preferences), Hines and colleagues also studied toy preferences among vervet monkeys and found similar sex differences (Alexander & Hines, 2002; see also Hassett, Siebert, & Wallen, 2008). Further, girls with CAH appeared to be less susceptible than other children to same-sex modeling and to gender labels. To Hines and colleagues, this suggests an interaction between prenatal androgen exposure and cognitive processes related to gender identity. Her group also measured urinary testosterone in infants during "mini-puberty," which predicted male-typical play behavior at ages 3–4 (Hines et al., 2016b). Hines concluded that testosterone contributes to the development of human gender-related behavior, but "there are many dimensions of gendered behavior and different dimensions are influenced by different combinations of factors," including self-socialization in response to same-gender models or gender labels as well as the influence of parents and peers.

Next, the focus widened as anthropologist [Hillard Kaplan](#) ("Embodied Capital and the Sexual Division of Labor: Evolution of Multiple Time Scales") presented data on societies that practice hunting and gathering or a mix of foraging and horticulture. These societies offer "one particular lens on the evolved biology of our species," according to Kaplan. "Comparisons with modern societies can shed light on the interactions of genes, environments, and lifestyles on behavior, health, and longevity and, in particular, . . . modern health conditions."

Kaplan briefly reviewed fertility, mortality, and net caloric production ("how much food you produce less how much you consume"). Marriages in hunter-gather societies are mostly monogamous, reflective of "some strong complementarities in the life history of the two sexes," which is relatively rare among other mammals. Women are primarily committed to maternal caregiving and men to learning- / skill-intensive hunting (the peak in male muscular strength well precedes the peak in men's hunting ability). Men provide most of the surplus calories in the form of hunted meat, a new and valuable resource from an evolutionary standpoint, but one that is "very expensive in terms of care." Kaplan's talk helped us understand how men's and women's pursuits are delicately balanced ("the value of what women do for their families depends upon what the men do, and vice versa, and their life histories become linked"). The sex difference results because childbearing women have less time (between births) to acquire the necessary skills to be successful at hunting.

The remainder of the talk focused on the Tsimané of Bolivia, a foraging-horticulturalist population that still follows a "traditional subsistence pattern." In particular Kaplan discussed various adaptations as men and women age. Beyond the mid-thirties, men tend to hunt less and farm more. As women age, they also engage more in agricultural

activities, becoming major contributors to total caloric production. Overall, resources flow downward from grandparents to their children and grandchildren – or, with fewer dependents, to closely related, frequently younger households (Hooper, Gurven, Winking, & Kaplan, 2015). Kaplan uses a unified model (time-path of production and inclusive fitness theory) to account for these “exquisitely patterned” flows. Elsewhere he has likened them to a form of “indirect” reproduction, “which has allowed selection to favour the evolution of significant post-reproductive lifespan” (Hopper et al., 2015). He particularly emphasized the role of grandfathers (as well as grandmothers) in the downward flows to grandchildren; these men tend not to seek out new reproductive relationships. Like Monique Borgerhoff Mulder, he stressed the importance of marriage (and the relative rarity of polygamy), especially the importance of choosing a good partner, and of cooperation between the sexes and in terms of intergenerational investment. The final segment of his talk focused on the adaptability of the division of labor to changing social and economic contexts and gendered effects on health and mortality. Today, women tend to live longer than men but report worse health, reflecting the interaction of ontogeny and selection for certain “physiological and psychological pre-commitments.”

Cultural and medical anthropologist [Marcia Inhorn’s](#) talk (“Male Infertility, Assisted Reproductive Technologies [ART], and Emergent Masculinities in the Arab World”) focused on the globalization of technologies addressing male infertility, which Inhorn argues has been accompanied by the “emergence” of new forms of manhood in the Arab Muslim Middle East.

Inhorn’s work challenges stereotypes of Middle Eastern men as “fanatically religious” and “brutal oppressors of women.” Her long-term ethnographic research illuminates transformed attitudes about love, marriage, and fatherhood. Inhorn’s large amount of data, which is pooled from more than 330 Arab men from 14 Arab countries over 15 years, demonstrate a reality that bears no resemblance to caricatures of Arab Muslim men in the media. For the most part, the men are family-oriented, seek love/partnership in marriage, and highly value fatherhood.

Regarding the reproductive piece, [in vitro fertilization](#) (IVF), a “platform technology,” has been joined by an “unbelievable array” of ARTs, including third party reproductive assistance, gestational surrogacy, cryopreservation (freezing or vitrification), preimplantation genetic diagnosis (PGD), human embryonic stem cell (hESC) research, and even the possibility of human reproductive cloning. Inhorn’s talk focused on [intracytoplasmic sperm injection](#) (ICSI), a variant of IVF designed specifically to address male infertility, which she described as an “underappreciated global reproductive health problem.” Across the world about 9–10 percent of couples are infertile, and about half of those cases

are due to male infertility. In the Middle East, however, male infertility rates are much higher, primarily for genetic reasons due to high rates of marriages among kin (sub-Saharan Africa has even higher rates due to reproductive tract infections and various other complications, according to the World Health Organization). Before ICSI, male infertility was highly stigmatizing, due to the conflation of infertility and sexuality, as well as incurable. ICSI addresses low sperm count by directly injecting a single spermatozoon into the oocyte.

In the Sunni-majority Muslim countries, which prohibit the use of donor sperm (or any third party insemination), the advent of ICSI in the early 1990s was “a watershed event.” After years of struggle, men in the Middle East view ICSI as a “hope technology” (although Inhorn pointed out that it also shifts the genetic burden onto their male offspring). The “double” emergence – ICSI and “emerging changes in gender relations and, ultimately, masculinity” – arises by making long-term love-marriages *and* reproduction viable for more men.

Overall, the collection of talks and films presented human life on multiple time scales. The film *Bitter Honey* suggested a disintegrating past (the children in the polygamous families seem averse to the practice), while *Tales of the Waria* and Marcia Inhorn’s talk provided glimpses of a more generous future that for some – like Mami Ria and Sadra and Darma’s wives, with few social anchors – remains out of reach. Hillard Kaplan and Melissa Hines grounded us in evolutionary and biological histories that deftly wove the social and biological together. While all the elements may not fit together perfectly, the composite picture addressing what counts as “adequate function” drawn from many disciplines and interdisciplinary programs, is far richer and more dynamic than we anticipated. Our final blog post addresses what’s at stake.

Constance Cummings, PhD, is project director of the Foundation for Psychocultural Research and a co-editor of Formative Experiences: The Interaction of Caregiving, Culture, and Developmental Neurobiology (CUP, 2010), and Re-Visioning Psychiatry: Cultural Phenomenology, Critical Neuroscience, and Global Mental Health (CUP, 2015).

[Kathy Trang \(@kathytrang1\)](#) is a doctoral student in biocultural anthropology at Emory University and co-editor for the Society for Psychological Anthropology column on Anthropology-News. Her current research focuses on the pathways through which health disparities are produced among socially marginalized groups in Hanoi, Vietnam. Prior to graduate school, she worked at the Foundation for Psychocultural Research and completed her undergraduate studies in psychology and

biology through the Early Entrance Program at CSULA.

Libby Udelson is a recent graduate of the University of California, Berkeley, where she received a BS in Environmental Economics & Policy and a BA in Development Studies.

References

Alexander, G. M., & Hines, M. (2002). Sex differences in response to children's toys in non-human primates (*cercopithecus aethiops sabaues*). *Evolution and Human Behavior*, 23, 467-479. [http://www.ehonline.org/article/S1090-5138\(02\)00107-1/abstract](http://www.ehonline.org/article/S1090-5138(02)00107-1/abstract)

Barad, K. (1998). Getting real: Technoscientific practices and the materialization of reality. *differences: A Journal of Feminist Cultural Studies*, 10(2), 87–128.

Boellstorff, T. (2004). Playing back the nation: *Waria*, Indonesian transvestites. *Current Anthropology*, 19(2), 159–195. <http://dx.doi.org/10.1525/can.2004.19.2.15>

Boellstorff, T. (2005). *The gay archipelago: Sexuality and nation in Indonesia*. Princeton, NJ: Princeton University Press. <http://press.princeton.edu/titles/8103.html>

Brown, G. R., Laland, K. N. & Bergerhoff Mulder, M. (2009). Bateman's principles and human sex roles. *Trends in Ecology & Evolution*, 24(6), 297–304. <http://dx.doi.org/10.1016/j.tree.2009.02.005>

Hassett, J. M., Siebert, E R., & Wallen, K. (2008). Sex differences in rhesus monkey toy preferences parallel those of children. *Hormones and Behavior*, 54(3), 359–64. <http://dx.doi.org/10.1016/j.yhbeh.2008.03.008>

Hines, M., Pasterski, V., Spencer, D. Neufeld, S. Patalay, P., Hindmarsh, P. C. . . . Acerini, C. L. (2016a). Prenatal androgen exposure alters girls' responses to information indicating gender-appropriate behavior. *Philosophical Transactions B*, 371, 20150125. <http://dx.doi.org/10.1098/rstb.2015.0125>.

Hines, M., Spencer, D., Kung, K. T.-F., Browne, W. V., Constantinescu, M., & Noorderhaven, R. M. (2016b). The early postnatal period, mini-puberty, provides a window on the role of testosterone in human neurobehavioural development. *Current Opinion in Neurobiology*, 38, 69–73. <http://dx.doi.org/10.1016/j.conb.2016.02.008>

Hooper, P. L., Gurven, M., Winking, J., & Kaplan, H. S. (2015). Inclusive fitness and differential productivity across the life course determine intergenerational transfers in a small-scale human society. *Proceeding of the Royal Society of London B: Biological Sciences*, 282(1803), 20142808.

<http://rspb.royalsocietypublishing.org/content/282/1803/20142808>

Lemelson, R., & Tucker, A. (2015a). Lemelson, R., & Tucker, A. (2015). Steps toward an integration of psychological and visual anthropology: Issues raised in the production of the film series *Afflictions: Culture and Mental Illness in Indonesia*. *Ethos*, 43(1), 6–39. <http://dx.doi.org/10.1111/etho.12070>

Malabou, C. (2015). One life only: Biological resistance, political resistance. *Critical Inquiry*. This essay was originally published in French as Catherine Malabou, “Une Seule Vie: résistance biologique, résistance politique,” *Esprit* (January 2015), 30–40. http://criticalinquiry.uchicago.edu/one_life_only/

Wilson, E. A. (2015). *Gut feminism*. Durham, NC: Duke University Press. <https://www.dukeupress.edu/Gut-Feminism>

AMA citation

Cummings C, Udelson L, Trang K. Sex/Gender: Part III: What Counts as Adequate Function?. *Somatosphere*. 2016. Available at: <http://somatosphere.net/?p=12395>. Accessed June 3, 2016.

APA citation

Cummings, Constance, Udelson, Libby & Trang, Kathy. (2016). *Sex/Gender: Part III: What Counts as Adequate Function?*. Retrieved June 3, 2016, from Somatosphere Web site: <http://somatosphere.net/?p=12395>

Chicago citation

Cummings, Constance, Libby Udelson and Kathy Trang. 2016. *Sex/Gender: Part III: What Counts as Adequate Function?*. Somatosphere. <http://somatosphere.net/?p=12395> (accessed June 3, 2016).

Harvard citation

Cummings, C, Udelson, L & Trang, K 2016, *Sex/Gender: Part III: What Counts as Adequate Function?*, Somatosphere. Retrieved June 3, 2016, from <<http://somatosphere.net/?p=12395>>

MLA citation

Cummings, Constance, Libby Udelson and Kathy Trang. "Sex/Gender: Part III: What Counts as Adequate Function?." 3 Jun. 2016. Somatosphere . Accessed 3 Jun. 2016.<<http://somatosphere.net/?p=12395>>