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**Quantifying Sexual Constitution: Abraham Myerson's Endocrine Study of
Bisexuality and Male Homosexuality, 1938-1942**

By

Matthew McLaughlin

A Major Research Paper
Submitted to the Faculty of Graduate Studies
through the Department of History
in Partial Fulfillment of the Requirements for
the Degree of Master of Arts
at the University of Windsor

Windsor, Ontario, Canada

2020

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**Quantifying Sexual Constitution: Abraham Myerson's Endocrine Study of
Bisexuality and Male Homosexuality, 1938-1942**

by

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September 8th, 2020.

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ABSTRACT

For the last 150 years scientific sex researchers have attempted to explain the occurrence of homosexuality. The science of sexuality recognized the normativity of heterosexual attraction in connection with the dualism of male and female biological sexes, which defined sexual attraction towards women as masculine and men as feminine. Researchers in the early twentieth century began measuring male and female sex hormones and correlating hormonology patterns to sexual constitution to try and understand how a male could possess a feminine sexuality.

This paper explores the sex hormone studies of Abraham Myerson, a leading physician and researcher, who between 1938 and 1942 tried to uncover the relationship between sex hormone excretion and homosexuality in men. While prevailing cultural models of heterosexuality as normative identified femininity and homosexuality in men as abnormal, Myerson's framework and experimental research transcended the duality of male and female sexual biology while he studied this sexual abnormality. Adopting the theory of organic bisexuality, he argued that all men possessed a natural variability of masculinity and femininity in their biological, social, and sexual characteristics, and that these discrepancies could be measured using sex hormones. In reconstructing these experiments, this paper uses Myerson's variable denotation of masculine and feminine sexual characteristics, their quantified endocrine measurements and biological states, and their interconnection to a variety of homosexual constitutions to highlight the intricacies of male and female sexual biology and cultural constructs of sexual normality when identifying and researching human sexual constitution.

DEDICATION

To my parents, Cheryl and Raymond, and the greatest of aunts, for providing more support and opportunities than I ever thought possible.

ACKNOWLEDGEMENTS

I would like to thank Dr. Steven Palmer for his expertise and guidance, for teaching me how to think critically, and for his insight in the field of history that has captivated my attention. I will always be grateful to Dr. Pauline Phipps for her encouragement and knowledge as she helped me develop my skills as a historian and learn to love history.

I am thankful to Dr. Guy Lazure for his support and motivation over the years, and to Dr. Miriam Wright, Dr. Cate Hundleby, Dr. Shauna Huffaker, and Dr. Christina Burr for their support as I went through the graduate program. I would also like to thank Stephanie Krauss at the Francis A. Countway Library of Medicine for helping me with my archival research.

Finally, I would like to thank those who helped lift me up whenever I struggled over the last few years. In particular, I would like to thank Jenn Rocheleau for always being there for me and all students in the history department. To my fellow grad students, thank you for holding me up and providing me with excellent conversation, and to Lauren, Kess, Megan, and Nicole for your titular feedback. Thank you to my sounding board Luke, my practice partner Kate, and to Angelica and Emily for their continuous support as I laboured on this project. Thank you to my grandmother, younger brother, and the rest of my family for their constant encouragement. And thank you to Meghan, Cassidy, Breanna, Lauren, Vanessa, Shaymaa, Beth, Steph, Chels, Sarah, Sam and Sara for checking up on me as I wrote and finished this paper during a pandemic.

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CHAPTER 1

Introduction

Since the nineteenth century, specialists in the fields of science and medicine have tried to explain why a small portion of the population is sexually attracted to the same sex. This concern led medical scientists to classify same-sex sexuality as deviant. Most historical accounts of the medicalization of same-sex sexuality centre on European scientific sex research, in particular that of figures Richard von Krafft-Ebing, Havelock Ellis, and Sigmund Freud, which fix on the classification of sexual variance within a medical model.¹ Scientific approaches to sex research shifted during the twentieth century with the incorporation of lab-based research on the of physiology and endocrinology to the study of sex and sexuality. The unification of laboratory research and medicine produced scientific facts within a clinical and experimental setting, a modification which prioritized biological theories of sexual characteristics and sex-appropriate behaviour.² As this shift occurred, the biggest contributions increasingly came from the United States, as the American sex researchers remodelled biological theories within this new research-based framework to alter understandings of sex and sexuality.³

¹ Vern L. Bullough, *Science in the Bedroom: A History of Sex Research*, New York: Basic Books, 1994; Jonathan N. Katz, *The Invention of Heterosexuality*, The University of Chicago Press, 1995; Henry Minton, *Departing from Deviance: A History of Homosexual Rights and Emancipatory Science in America*, The Chicago University Press, 2002; Rainer Herrn, "On the Biological Theories of Homosexuality," in *Sex, Cells, and Same Sex Desire: The Biology of Sexual Preference*, eds. John P. De Cecco and David A. Parker, Binghamton: Harrington Park Press, (1995): 31-56; Chris Brickell, "Sexology, the Homo/Hetero Binary, and the Complexities of Male Sexual History," *Sexualities* 9, no.4, (2006): 423-447.

² The emphasis on scientific activity and thought produced by one scientist follows the work of Bruno Latour and Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts*, Princeton University Press, 1986 and Bruno Latour, *Science in Action: How to Follow Scientists and Engineers Through Society*, Harvard University Press, 1987.

³ Joanne Meyerowitz, *How Sex Changed. A History of Transsexuality in the United States*, Harvard University Press, 2002; Jennifer Terry, *An American Obsession: Science, Medicine, and Homosexuality in Modern Society*, The University of Chicago Press, 1999.

One of the most influential figures to scientifically study sex and sexuality in the first half of the twentieth century was Abraham Myerson, though his contribution to American medical research has been largely overlooked in contemporary scholarship. A neurologist and psychiatrist who graduated from Tufts College and Harvard, Myerson's research was the basis for a large and variegated output of books and articles between 1915 and 1944 which explored the biological characteristics of sex and sexuality.⁴ At a time when symbolic interpretations of sexuality were becoming dominant in the American profession, Myerson adopted a psychobiological approach that saw illness, including mental illness, as biologically based.⁵ This approach linked biological sex, social expressions of gender, and sexual attraction within a single theory. The psychobiological model significantly influenced his work as Myerson strived to uncover what biological mechanisms generated the masculine and feminine characters of sex, personality, and sexual constitution.

As a psychobiologist, Myerson recognized masculinity and femininity to be biological states that could be quantified using sex hormones. Between 1938 and 1942, with significant funding from the Rockefeller Foundation, he undertook a series of pioneering experiments to uncover the biological basis of sex characteristics and male sexual constitution. Employing the sex-specificity of sex hormones in these experiments, Myerson analyzed urine samples to generate sex hormone excretion patterns which allowed him to identify and correlate masculine and feminine biological and social states to sexual constitutions he considered abnormal. Acknowledging that men could naturally possess

⁴ See Abraham Myerson, "Hysteria as a Weapon in Marital Conflicts," *Journal of Abnormal Psychology* 10, no.1, (1915): 1-10; Abraham Myerson, *The Nervous Housewife*, Boston: Little, Brown, 1920.

⁵ For a discussion of psychobiology, see: Jack Pressman, *Last Resort: Psychosurgery and the Limits of Medicine*, Cambridge University Press, 1998; Edward Shorter, *A History of Psychiatry: From the Era of the Asylum to the Age of Prozac*, Toronto: John Wiley and Sons. Inc, 1997.

both male and female sex characteristics due to diverse biochemical states of the body, Myerson believed that quantifying these variations of masculinity and femininity would enable him to diagnose and classify abnormal sexual constitutions in men.

Correspondingly, he devoted his attention to researching the biological underpinnings of the abnormality characterized as a feminine sexual constitution in men, homosexuality. What's compelling about Myerson's research is that despite the prevailing biological principle of sexual dualism, his scientific model maintained that all men could naturally possess an array of masculine and feminine traits in their biology, personality, and sexuality. This recognition of variable sex characteristics persisted even though he centered his research on sexual abnormalities in accordance with the duality of biological sex and corresponding heterosexual attraction. During these sex hormone studies, Myerson attempted to generate a method for diagnosing and classifying differing types of male homosexuality by measuring the natural variations of masculinity and femininity and correlating these states to descriptions of same-sex sexual attraction and behavior in men.

In reconstructing these forgotten experiments, the following paper will show how Myerson classified homosexuality in men to assess the abnormalities concerning the variant masculine and feminine traits of sexual constitution, biology, and personality by measuring sex hormones. By hybridizing the biological, social, and sexual, this experimental endeavour attempted to discern the natural variability of masculinity and femininity in men and locate it within the biological study of sexuality. Reviewing Myerson's experimental research and his delineation of male homosexuality by quantifying and evaluating natural yet culturally abnormal masculine and feminine states

provides a critical perspective for assessing the interconnecting relationship between male and female sexual biology and cultural constructs of sexual normativity.

The Historiography of Scientific Sex Research and the Biology of Sexual Differences

The normativity of heterosexual attraction and corresponding duality of male and female sexual biology, long prevalent in Western societies, was first challenged during the second wave feminist movement as scholars mapped the differences between social and biological theories of sexuality. This initial differentiation inspired further investigations into the history of gender as social and sex as biological, and scholars argued that the biological character of sex was itself a cultural and historical construct. This critical exploration revealed that biological demarcations of sex evolved as scientists studied sexual differences while also shaping cultural perceptions of masculinity and femininity. Recognizing the history of biological sex elucidates how Myerson was able to both challenge and work within existing structures of sexual dualism while studying the biological constitution of sexuality.

The medical framework that defines men and women as opposite sexes was identified by historian Thomas Laqueur as the ‘biology of sexual differences’. In *Making Sex* (1990) Laqueur illustrates how sex researchers adopted this two-sex model to conceptualize the sexual differences between men and women as caused by their biological differences.⁶ Laqueur further emphasizes that the genitals were designated as the markers of sexual differences within this biological dualism, a characterization which centered reproductive organs in the medical discussions of sex and sexuality. Judith Butler extends this theory by revealing that the changing designations of permissible and impermissible sexual practices

⁶ Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud*, Harvard University Press, 1990.

influence biological notions of sex, as certain bodily pleasures become reducible to and readily interpretable as manifestations or signs of biological sex.⁷ The conviction that sexual differences were biological fixed sex-specific understandings of anatomy, personality, and sexual behavior within the binary pair of masculinity and femininity.⁸

The act of labelling one a biological male or female, however, draws equally from cultural imperatives of gender and biological definitions of sex. This practice is emphasized by biologist Anne Fausto-Sterling, who uses the labelling of ‘sexually ambiguous’ bodies within the binary of male and female to demonstrate how “we may use scientific knowledge to help use make the decision, but only our beliefs about gender – not science – can define our sex.”⁹ Accordingly, she points out that the “bodily signals and functions we define as male or female come already entangled in our ideas about gender,” which render the biological dualism of sex and the decision to categorize someone within the binary both social and scientific decisions.¹⁰ This entanglement of social and biological, according to Fausto-Sterling, resulted in sex researchers applying science to help what was culturally “normal take precedence over the natural” as the desired attribute(s).¹¹ The insistence on the ‘normal’ for assessing the anatomy, personality, and sexual attraction of an individual rendered the delineation of biological sex intelligible and applicable with the cultural model of masculinity and femininity.

The prospect of shaping gendered and sexual traits so they conformed to the norm is why sex researchers like Myerson focused on abnormal sexual constitutions despite claims

⁷ Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity*, Routledge, 1990.

⁸ Judith Butler, *Bodies That Matter: On The Discursive Limits of Sex*, Routledge, 1993.

⁹ Anne Fausto-Sterling, *Sexing the Body: Gender Politics and the Construction of Sexuality*, New York: Basic Books, 2000, 2.

¹⁰ Fausto-Sterling, *Sexing the Body*, 4.

¹¹ Fausto-Sterling, *Sexing the Body*, 8.

to be studying sexuality in its entirety.¹² To appreciate the prominence of the normal in applications of sex research, assessing the first biological theory of homosexuality is particularly informative. In mid-nineteenth century Germany, the lawyer Karl Ulrichs propagated the first theory that same-sex sexual attraction was biological despite his lack of scientific training.¹³ Using the duality of masculinity and femininity, Ulrichs suggested that an individual could acquire either male or female physical and psychological characteristics depending on the outcome of their embryonic and sexual development. Accordingly, he asserted that a normal male had the body and psyche of a man and experienced a man's love, while the normal female had a woman's body, female psyche, and experienced a female's love. In certain circumstances, however, he believed the mental and physical development were incompatible and the ensuing individual had the physical characteristics of one sex and mental characteristics of the other. It was this antithetical development which generated the 'third sex', the ones who experienced same-sex attraction.

Ulrichs' third sex model ultimately stimulated medical interest in same-sex sexual attraction. Historian Nelly Oudshoorn denotes that following the popularity of his work, "biologists translated Ulrich's idea into a concept of sexual duality that is biologically based," and that "homosexuals were conceptualized as persons with characteristics of the opposite sex."¹⁴ While most researchers rejected the notion of a 'third sex', they mirrored

¹² Elizabeth Lunbeck, *The Psychiatric Persuasion: Knowledge, Gender, and Power in Modern America*, Princeton University Press, 1994; Edward Stein, *The Mismeasure of Desire: The Science, Theory, and Ethics of Sexual Orientation*, Oxford University Press, 1999; Timothy Murphy, *Gay Science: The Ethics of Sexual Orientation Research*, Columbia University Press, 1997; William Byne and Edward Stein. "Ethical Implications of Scientific Research on the Causes of Sexual Orientation," *Health Care Analysis* 5, no.2 (1997): 136-148.

¹³ For Ulrichs, see Minton, *Departing from Deviance*; Terry, *An American Obsession*; Bullough, *Science in the Bedroom*.

¹⁴ Nelly Oudshoorn, "Female or Male: The Classification of Homosexuality and Gender," in *Sex, Cells, and Same Sex Desire: The Biology of Sexual Preference*, eds. John P. De Cecco and David A. Parker, Binghamton: Harrington Park Press, (1995): 80.

Ulrichs' use of masculinity and femininity as oppositional, biological characteristics that should not co-exist in the same individual. This led to the development of 'inversion', a medical theory which claimed that same-sex attraction was indicative that the sexual constitution, feelings, and thoughts of an individual were those of the opposite sex. Inversion rendered deviations from the unified expressions of masculinity and femininity a medical matter. Along with cultural perception of the gender binary, which according to Butler specified that "one is one's gender to the extent that one is not the other gender," scientists identified nonconformity to the sex-specific unity of biology, personality, and heterosexual constitution to be an abnormal biological state that needed to be treated.¹⁵

Late nineteenth century sex researchers used embryonic and sexual development to explain how inversion was biologically possible. They knew that everyone began as an undifferentiated embryo, and through sexual differentiation developed into either the male or female.¹⁶ The fact that men and women were derived from a common origin meant that both sexes began their lives with the potential to become masculine or feminine. The bipotentiality for sexual development led researchers to argue that while normal development resulted in the monosexual coherence of masculinity in the male and femininity in the female, it was possible for individuals to abnormally develop and potentially have their sex inverted. The embryonic, bipotentiality was identified as the bisexual predisposition, and a theory known as organic bisexuality emerged in the nineteenth century to explain how life begins as bisexual and through sexual differentiation

¹⁵ Butler, *Gender Trouble*, 30.

¹⁶ See James D. Haynes, "A Critique of the Possibility of Genetic Inheritance of Homosexual Orientation," in *Sex, Cells, and Same Sex Desire: The Biology of Sexual Preference*, eds. John P. De Cecco and David A. Parker, 91-114, Binghamton: Harrington Park Press, 1995.

and development individuals acquire the predominantly monosexual, sex-specific characteristics that had come to be defined as normal.

Although organic bisexuality stressed that everyone had a bisexual predisposition, scientific sex researchers maintained the sexual duality of masculinity and femininity and insisted that normal individuals were predominantly monosexual in their biological characteristics, personality, and sexuality. This refined understanding of masculinity and femininity in terms of bisexuality is best explained by historian Joanne Meyerowitz:

many argued that male and female were ideal types that did not actually exist in reality. All women and men, they said, fell somewhere between the two idealized poles. All males had aspects of the female and all females aspects of the male. They did not refer simply to masculine and feminine traits; they grounded these traits explicitly in what we now call biological sex. They conflated sex, gender, and sexuality, and posed them all as signs of the physical condition. They argued that all humans were to greater or lesser degrees physically bisexual.¹⁷

The recognition of the naturalness of *bisexuality* explained the biological similarities between the sexes and rejected the idealized polarity of masculinity and femininity while maintaining the normalcy of predominantly *monosexual* characteristics.

Bisexuality dominated medical conceptualizations of sex and sexuality in Europe and the United States. The work of European physicians E. Gley and Richard von Krafft-Ebing, two of the earliest to address bisexuality, continued to shape biological theories of sexuality well into the twentieth century. They argued that due to the bisexual predisposition every individual retained characteristics of the opposite sex, but through sexual development ‘normal’ individuals possessed these characteristics in latent form.¹⁸ In cases of abnormal development, Gley and Krafft-Ebing had argued that the characteristics of the opposite sex

¹⁷ Meyerowitz, *How Sex Changed*, 22.

¹⁸ E. Gley, “Les Aberrations de l’Instinct Sexuel: D’après des Travaux Récents,” *Revue Philosophique de la France et de l’Étranger* 17 (1884); Richard von Krafft-Ebing, *Psychopathia Sexualis: A Medico-Legal Study*, 7th Edition, Philadelphia: The F.A. Davis & Co. Publishers, 1892. For a discussion see Terry, *An American Obsession*.

manifested themselves overtly, and that abnormal biological and sexual constitutions were due to persistence of bisexuality in the adult form. This idea was particularly powerful in the United States, as two of the leading sex researchers Frank Lydston and James Kiernan argued that all sexual perversions could be explained in terms of bisexuality.¹⁹ A lingering presence of bisexuality explained how the sexual drive acquired the characteristic of the opposite sex and why other cross-sexed characteristics were often present in homosexuals.

The knowledge that homosexuality occurred due to the persistence of bisexuality prevailed in twentieth century Western medicine, as it was backed by notable sexologists like Magnus Hirschfield, Havelock Ellis, and Sigmund Freud.²⁰ Hirschfield and Ellis used this approach to argue that if homosexuality occurred due to bisexuality, then it should be accepted as a normal variance of sexuality. They argued that homosexuality may be abnormal, but bisexuality proved that a feminine sexual constitution in a man was a natural variation. Likewise, Freud used bisexuality to explain how individuals acquired perversions of sexual object-choice.²¹ In *The Ego and the Id* (1923) he argued that the sexual object-choice was acquired due to “the relative strength of the masculine and feminine sexual dispositions of the child,” which he attributed entirely to bisexuality.²²

These descriptive classification techniques of sexologists shifted in the 1910s as the medical field of endocrinology transformed scientific sex research to what historian Nelly

¹⁹ Melissa N. Stein, *Measuring Manhood: Race and the Science of Masculinity, 1830-1934*, University of Minnesota Press, 2015.

²⁰ For Hirschfield, see Meyerowitz, *How Sex Changed*; Simon LeVay, *Queer Science: The Use and Abuse of Research into Homosexuality*, MIT Press, 1996. For Ellis, see Ivan Dalley Crozier, “Taking Prisoners: Havelock Ellis, Sigmund Freud, and the Construction of Homosexuality, 1897-1951,” *Social History of Medicine* 13, no.3 (2000): 447-466 and “Philosophy in the English Boudoir: Havelock Ellis, Love and Pain, and Sexological Discourses on Aglophilia,” *Journal the History of Sexuality* 13, no.3 (July 2004): 275-305.

²¹ Sigmund Freud, *Three Contributions to the Theory of Sex*, Tredition Classics Series Translation, 1915. For a discussion, see George Chauncey, “From Sexual Inversion to Homosexuality: Medicine and the Changing Conceptualization of Female Deviance,” *Salmagundi* 58/59 (Fall 1982-Winter 1983): 114-146.

²² Sigmund Freud, *The Ego and the Id*, 1923, trans. by Joan Riviere, W.W. Norton & Company, (1960): 28.

Oudshoorn identifies as an experimental approach.²³ Endocrinology inspired scientists to conceive of the body as a conglomeration of chemical activity regulated through messenger molecules which served as the biological regulator of human behaviour.²⁴ Furthermore, the gonads were shown to be endocrine glands which secreted the messenger molecules responsible for the development of sexual characteristics and behaviour, a revelation which bolstered the designation of the genitals as markers of sexual differences. These molecules, known as sex hormones, came to be identified as what Oudshoorn calls “the chemical messengers of masculinity and femininity,” where the testis was the producer of the male hormone, androgen, and the ovary the producer of the female hormone, estrogen.²⁵

Researchers hypothesized that as the biological molecules responsible for generating masculinity and femininity, the hormones secreted by the testis and the ovary were sex specific. As the sole producer of the male hormone, the testis was responsible for the masculine characteristics of the male, while the producer of the female hormone, the ovary, was responsible for the feminine characteristics of the female. That the testis excreted the chemical messenger of masculinity and the ovary the chemical messenger of femininity clarified how the bisexuality of the embryo developed into the monosexual adult. While every individual had a bisexual predisposition, the sex-specific substances secreted by the gonads enabled the initial bisexuality to develop into the predominantly monosexuality of the adult, depending on whether the testis or ovary was present when it began.

The first endocrine-based theory regarding sex and sexuality was proposed by the physiologist Eugene Steinach in the 1910s, and served as the foundation for all subsequent

²³ Nelly Oudshoorn, *Beyond the Natural Body: An Archaeology of Sex Hormones*, Routledge, 1994.

²⁴ Michael Pettit, “Becoming Glandular: Endocrinology, Mass Culture, and Experimental Lives in the Interwar Age,” *American Historical Review* 118, no.4, (October 2013): 1075.

²⁵ Oudshoorn, *Beyond the Natural Body*, 17.

endocrine theories within scientific sex research.²⁶ After studying the effects of castration and gonadal transplants on guinea pigs, Steinach concluded that the sex-specific function of the gonads were antagonistic of one another, and that the presence and intensity of masculine and feminine characteristics could be controlled by exploiting them. Steinach subsequently applied sexual antagonism to develop one of the first endocrine treatments for male homosexuality. Since male homosexuality constituted a feminization of the sexual drive, Steinach reasoned that transplanting the testicular tissue of heterosexual men into homosexual men would increase their masculinity and correct the sexual drive.

This experimental undertaking, according to Oudshoorn, “inextricably linked the classification system of homosexuality with the classification of gender and launched the life sciences’ search for biological markers of femininity and masculinity in homosexuals.”²⁷ The irony of this work, as stated by historian Chandak Sengoopta, is that Steinach demonstrated how masculinity and femininity were malleable characteristics that could be made by science, which ultimately enabled the normal to take precedence over the natural in terms of biological sex and sexuality.²⁸ The ability to produce and control biological, social, and sexual expressions of masculinity and femininity dominated subsequent research as scientists began focusing on how the endocrine system and gonads regulated sex specific behaviour, with a principal interest in sexual behaviour.

Ensuing attempts to understand the role of the gonads in sex-specific and sexual behaviour revealed that both female and male sex hormones were present in the male body, and that estrogen was only harmful when androgens were not present in an appropriate

²⁶ For a discussion of Steinach’s work, see Chandak Sengoopta, *The Most Secret Quintessence of Life: Sex, Glands, and Hormones, 1850-1950*, University of Chicago Press, 2006.

²⁷ Oudshoorn, “Female or Male,” 82.

²⁸ Sengoopta, *Sex, Glands, and Hormones*.

quantity. On top of that, the discoveries of Carl Moore and Dorothy Price in the 1920s established that the sex hormones themselves – independent of the gonads – were responsible for regulating sex and sexuality through a feedback loop.²⁹ Even though it was known that androgens and estrogens were secreted by both gonads, researchers maintained the sexual distinction of androgens as masculine and estrogens as feminine. They explained the presence of androgens and estrogens in all bodies using the bisexual predisposition and argued that androgens were predominant in the male body and nullified the estrogens present, and vice versa for the female body. The sex-specific role of androgens and estrogens explained how the original bisexuality was transformed to the monosexuality of the adult, and sexual duality became a matter of sex hormone excretion.

In 1929 and 1931 the isolation and characterization of estrogens and androgens, respectively, enabled researchers to measure the quantity and ratio of sex hormones excreted by individuals. The ability to quantify the chemical messengers of masculinity and femininity allowed scientists and physicians to associate a measurable, numerical value with sexual characteristics.³⁰ Following the contention that all biological abnormalities and sexual deviancies were due to the presence of bisexuality in adulthood, endocrinology provided a means to quantify the extent that the characteristics of the opposite sex were manifesting in the individual using sex hormone excretion patterns. Endocrinology offered researchers and clinicians a new means for understanding biological and sexual constitutions that defied the norm; due to irregular sex hormone excretion, the hormonal imbalance of the body had generated cross-sexed characteristics.

²⁹ Sengoopta, *Sex, Glands, and Hormones*.

³⁰ Oudshoorn, *Beyond the Natural Body*.

The hormonal approach would prove particularly influential in mandating how people understood sexuality. One of the first to argue that homosexuality was due to a hormonal imbalance was the American physician Clifford Wright, who began experimenting on male homosexuals in 1935.³¹ Stephanie Kenen argues that Wright believed endocrine proportions were reversed in the homosexual, and that their sexual disturbance was due to their abnormal biological makeup.³² Primarily concerned with male homosexuals, Wright collected urine samples from individuals incarcerated for same-sex sexual behaviour and established the quantity and ratio of sex hormones in each patient. According to his findings, male homosexuals had an excess of estrogens compared to androgens, which he argued explained their ‘feminine’ sexuality. While Wright is often regarded as the most significant figure in the hormonal theory of homosexuality, such narratives neglect the eminent figure who advocated for the same theory: Abraham Myerson.

The Professional Pursuits of Abraham Myerson

After graduating from Tufts in 1908 Myerson held various positions in St. Louis and Massachusetts before receiving an offer to work as the Chief Medical Officer at the Boston Psychopathic Hospital in 1918.³³ At the time, the Psychopathic Hospital was a department of the Boston State Hospital, one of the few distinguished medical institutions in the United States which prioritized clinical work and research.³⁴ Myerson moved to the State Hospital two years later, and in 1927 was made the hospital’s Director of Research while teaching

³¹ C.A. Wright, "Endocrine aspects of homosexuality: A preliminary report," *Medical Report* 142, (1935): 407-410; C.A. Wright, "Further studies of endocrine aspects of homosexuality," *Medical Record* 147, (1938): 449-452.

³² Stephanie Kenen, "Who Counts When You're Counting Homosexuals? Hormones and Homosexuality in Mid-Twentieth-Century America," in *Science and Homosexualities*, edited by Vernon A. Rosario, 197-218. New York: Routledge, 1997.

³³ Gerald N. Grob, *Mental Illness and American Society, 1875-1940*, Princeton University Press, 1983. Myerson continued to work as a physician while earning his psychiatry degree at Harvard from 1913-1916.

³⁴ See Lunbeck, *Psychiatric Persuasion* and Grob, *Mental Illness* for the Boston State Hospital.

at Tufts and Harvard. During his time with the state hospital he conducted experiments studying schizophrenia, heredity, depression, feeble-mindedness, brain biochemistry, and pharmacology. These projects resulted in numerous publications, and by the 1930s Myerson was an influential scholar and public intellectual in the United States.

His prestige as a researching psychiatrist and neurologist prompted his being assigned the chair of a national investigation into the efficacy of eugenics by the American Neurological Association in 1934.³⁵ Along with this role, in 1934 Myerson's was awarded a sizeable grant from the biggest sponsor of biomedical research during the interwar period, the Rockefeller Foundation. The Foundation granted him a \$41,000, 3 year research grant, while the federal government provided \$70,000 for a new laboratory with funding from the Commonwealth of Massachusetts to help with his research.³⁶ Between March 1935 and August 1941 the grant from the Foundation was renewed twice for a total allocation of \$89,050, while the Commonwealth of Massachusetts continued to cover all additional costs.³⁷ Based on his research output and affiliations with Harvard, Myerson received \$13,700 per year from the Foundation to cover salaries in his research department, a substantially higher sum than most grants being given during this time. Whatever additional, salaries, supplies, instruments, and chemicals were needed were paid for by the Commonwealth of Massachusetts, or funds Myerson collected himself.³⁸

³⁵ James W. Trent, "Who shall say who is a useful person? Abraham Myerson's opposition to the eugenics movement," *History of Psychiatry* 7 (2001): 33-57; Grob, *Mental Illness*.

³⁶ Summary of the Resolved Motion by the Commonwealth of Massachusetts to Fund Abraham Myerson, 21 December 1934, Folder 872, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Foundation Archive Centre in Tarrytown, New York.

³⁷ Financial Report, Objectives and Fulfillment of Funding for Abraham Myerson, 27 November 1941, Folder 873, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Foundation Archive Centre in Tarrytown, New York.

³⁸ Most grants were valued at \$10,000 or less, yet a few notable exceptions include Stanley Cobb, Adelbert Ames Jr., and Leo Kanner, who received between \$20,000-\$25,000 per year and various endowment funds allocated to institutions to fund the creation of a research and/or teaching department. See Rockefeller

The Rockefeller Foundation funded Myerson for research in various psychiatric and neurological projects, but were particularly impressed with his work in pharmacology, the nervous system and electroencephalography. Of note was his work in pharmacology, as his interest in treating mental illnesses biologically resulted in the popular use of pharmaceuticals when treating depression.³⁹ Beginning in 1932 the director of the Foundation's Medical Sciences Division, Alan Gregg, focused his attention on funding laboratory research in psychobiology, psychiatry, and the neurological sciences, as these fields were recognized as the most promising for helping people control their behaviour.⁴⁰ In fact, Myerson received a letter from Gregg commending him for using "a chemical and pharmacological approach to the study of nervous phenomena" in his research.⁴¹ As a neurologist and clinical psychiatrist, Myerson's research was largely influenced by his subscription to psychobiology, and his interest in applying this approach to study the biological basis of an array of medical conditions attracted the attention of the Foundation.

As a psychobiologist Myerson regarded sexual abnormalities to be biological, intermediary states of sexual differentiation between the heterosexual man and woman,

Foundation, *Annual Report 1934* (N.Y.: n.p. [Rockefeller Foundation], n.d. [1935]); Rockefeller Foundation, *Annual Report 1935* (N.Y.: n.p. [Rockefeller Foundation], n.d. [1936]); Rockefeller Foundation, *Annual Report 1938* (N.Y.: n.p. [Rockefeller Foundation], n.d. [1939]). Myerson also contributed approximately \$2,500 every year over the six years this project was funded, as per Abraham Myerson to Robert A. Lambert, "Tentative Research Budget per Year for the Boston State Hospital Research Division," February 1939, Folder 873, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Foundation Archive Centre in Tarrytown, New York.

³⁹ Nicolas Rasmussen, "The Drug Industry and Clinical Research in Interwar America: Three Types of Physician Collaborator," *Bull. of the Hist. of Medicine* 79, no.1, (2005): 50-80.

⁴⁰ Andrew Scull, "Creating a New Psychiatry: On the Origins of Non-Institutional Psychiatry in the USA, 1900-50," *History of Psychiatry* 28, no.4, (2018): 389-408; Ilana Lowy and Patrick Zylberman, "Medicine as a Social Instrument: Rockefeller Foundation, 1913-45," *Stud. Hist. Phil. Biol. & Biomed.* 31, no.3, (2000): 365-379.

⁴¹ Alan Gregg to Abraham Myerson, 7 March 1939, Folder 873, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York.

which appeared due to a developmental anomaly.⁴² Unaware of the work being done by Wright, in 1938 Myerson began developing a series of experiments that would attempt to identify the biological basis of sexual constitution in men and women.⁴³ Following discoveries regarding the role of sex hormones in the development of masculine and feminine characteristics, Myerson believed that endocrinology offered a scientific means to identify and measure the biological presence of masculinity and femininity. He extended this notion to sexual constitution and asserted that sexuality was a manifestation of bisexuality that was controlled by the excretion of sex hormones.

The theory of bisexuality was directly compatible with Myerson's view of sex and sexuality and served as the guiding principle for his sex research. Aware that androgens and estrogens were formed in both sexes, Myerson maintained that androgens were responsible for masculine characteristics and estrogens feminine characteristics and "for complete physiologic function, a certain balance between 'male' and 'female' hormones is necessary."⁴⁴ Building off this knowledge, he hypothesized that abnormal sexual constitutions were the result of an irregular sex hormone excretion, and that measuring sex hormones would allow him to diagnose sexual abnormalities. He applied this logic directly to studying male homosexuality, as he believed it was the manifestation of a feminine sexuality in a male body. Myerson reasoned that sex hormone studies would uncover an irregular quantity and/or ratio of male and female sex hormones that could be correlated to the physical characteristics and personality traits of the male homosexual.

⁴² William Byne, "Science and Belief: Psychobiological Research on Sexual Orientation," in *Sex, Cells, and Same Sex Desire: The Biology of Sexual Preference*, eds John P. De Cecco and David A. Parker, Binghamton: Harrington Park Press, 1995, 306.

⁴³ Abraham Myerson to Alan Gregg, 5 Dec. 1940, Folder 873, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York.

⁴⁴ Abraham Myerson and Rudolph Neustadt, "Bisexuality and Male Homosexuality: Their Biological and Medical Aspects," *Clinics* 1, no. 4 (1942): 936.

CHAPTER 2

Myerson's Experimental Undertaking of the Hormonal Theory of Homosexuality

Myerson's sex hormone studies began in 1938 when he recruited Dr. Rudolph Neustadt to lead an investigation into the relationship between sex hormone excretion and various characteristics of the body. Neustadt was a colleague of Myerson's at Harvard who had recently immigrated to the United States from Europe to escape Nazi persecution.⁴⁵ His first task was the development of a technique for measuring the amount of male and female hormone in the urine.⁴⁶ After developing a photo-colorimetric method for measuring sex hormones, Myerson began collaborating with Neustadt on a project which explored ways to increase the secretion of sex hormones using ultra-violet irradiation.⁴⁷ While working on this project he began developing an experiment concerned with identifying sexual constitution using urinary hormones. By the end of 1939 the sex hormone studies, per Myerson's mandate, focused on the chemical study of sexual constitution.

As the developer of the photo-colorimetric technique, Neustadt was likely responsible for the technical matters of these experiments while Myerson collected the samples and interpreted data. At first most samples came from patients Myerson was treating in his private practice, but between 1940 and 1942 he developed relationships with the Massachusetts State Reformatory in Concord, physicians at various state universities, and

⁴⁵ Neustadt, like Myerson, was Jewish. See Rudolph Neustadt, "Photo-Colorimetric Method for the Determination of Androsterones in Urine," *Endocrinology* 23, no. 6, (December 1938): 711-717; "Massachusetts Medical Society," *New England Journal of Medicine* 230, no. 10, (1944): 300-302; Paul Bernard Foley, *Encephalitis Lethargica: The Mind and Brain Virus*, Springer, 2018, 559.

⁴⁶ Abraham Myerson, "Boston State Hospital – Psychiatry Annual Report December 1 1937-November 30 1938," December 1939, Folder 875, Box 73, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York; Neustadt, "Photo-Colorimetric Method," 717.

⁴⁷ Abraham Myerson and Rudolph Neustadt, "Influence of Ultraviolet Irradiation Upon Excretion of Sex Hormones in the Male," *Endocrinology* 23, (1939): 7-12.

various (unnamed) state and private mental institutions to collect additional samples from. The data for these experiments was obtained using urine hormonology, which enabled Myerson to increase the number of samples analyzed since he could receive urine samples from other physicians without directly meeting patients. These experiments initially focused on studying sexual constitution in men and women, but he quickly learned that the cyclic nature of women's hormones complicated data analysis and he opted to focus exclusively on men.⁴⁸ Myerson subsequently became interested in studying hormonology patterns of men who had been diagnosed with or incarcerated for sexual abnormalities.⁴⁹

Sexual abnormalities, as Myerson referred to them, were characterized as abnormal mental states where the sexual constitution of the individual was determinantal to their well-being.⁵⁰ He identified impotence, masturbation, and homosexuality as sexual abnormalities of interest, but devoted his attention to male homosexuality. He justified labelling homosexuality an "abnormality" by clarifying it could not be a disease since most homosexuals do not seek treatment, yet suffered from their 'abnormal' state. Moreover, he asserted that homosexuality was a psychopathic personality trait, since psychopathy was an abnormal mental state where the individual either "suffers from this quality or makes his environment suffer," which he believed applied to the male homosexual.⁵¹ While subscribing to the understanding that homosexuality was an abnormality and psychopathic

⁴⁸ Abraham Myerson and Rudolph Neustadt, "Quantitative Sex Hormone Studies in Homosexuality, Childhood, and Various Neuropsychiatric Disturbances," *American Journal of Psychiatry* 97, (1940): 532.

⁴⁹ Sodomy was illegal in Massachusetts until 1974, which is likely what these men were charged with.

⁵⁰ When I claim it is Myerson's views being expressed in the jointly authored articles, it is based on papers reviewed from the Countway Library of Medicine and Rockefeller Archives. For example, Abraham Myerson, "Bisexuality and Individuality," Undated, Folder 5, Box 1, Series IA of Abraham Myerson Paper and Research Records at the Francis A. Countway Library of Medicine, is an essay written by Myerson where he explains his role as the primary investigator in collecting samples and interpreting results, while Neustadt had a more technical role in measuring sex hormones.

⁵¹ Myerson and Neustadt, "Bisexuality and Male Homosexuality," 946.

trait, Myerson claimed to focus on the biological aspects of homosexuality. He stated that for his studies “psychic symptoms, habits, and personality traits, which are by some regarded as homosexual by interpretation, analysis and arbitrary symbolization, are not taken into consideration,” yet consistently used these habits, traits, and symptoms to justify his diagnoses of male homosexuality throughout the experiments.⁵²

The first documented case of Myerson discussing the relationship between sex hormones and sexual constitution is from 1938, when he wrote in the annual report submitted to the Rockefeller Foundation that “the ratio of male and female hormones ha[d] some relationship to the sexual constitution of the individual,” and he would investigate it further.⁵³ In early 1939 Myerson followed up with the Rockefeller Foundation’s Director of Medical Sciences, Alan Gregg, to report that “the work on sex hormones ha[d] reached a critical stage” and a series of experiments that would correlate hormone excretion patterns to sexual constitution were underway.⁵⁴ Finally, by 1940, he believed that his research into the chemical nature of sexual constitution had become an extremely important project, as disclosed in a letter to Gregg where he wrote that “what started out as theoretical research mainly has opened up a whole new field of work and become, I think, perhaps the most important work we are doing, namely, the study of the sexual constitution through the chemical study of hormones in urine.”⁵⁵

The first article to report on these chemical studies of sexual constitution was published in 1940 and offered an overview of Myerson and Neustadt’s preliminary results regarding

⁵² Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 932.

⁵³ Myerson, “Annual Report... December 1 1937-November 30 1938,” December 1939.

⁵⁴ Abraham Myerson to Alan Gregg, 25 January 1939, Folder 873, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York.

⁵⁵ Abraham Myerson to Alan Gregg, 16 October 1940, Folder 873, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York.

the relationship between the quantity and ratio of sex hormones and an array of neurological, psychiatric, and sexual abnormalities. In the opening paragraphs Myerson referenced the various breakthroughs in endocrinology that made these experiments possible, highlighting “the establishment of biological tests for the quantitative measurement of sex hormones” as well as the “chemical exploitation and synthesis” of hormones as essential developments in endocrine research.⁵⁶ He also emphasized an important fact regarding the biochemical nature of sex hormones for his experiments:

androgenic and estrogenic substances are excreted in both sexes. We found in our own examinations that males usually excrete more androgens and females more estrogens than the opposite sex; however, the results in our experiments are so widely overlapping in both sexes it is often difficult to determine whether a given urine specimen is from a male or a female individual.⁵⁷

Despite the overlap of hormone activity Myerson insisted that the masculine nature of androgens and feminine nature of estrogens were responsible for the essence of sexual constitution and other sexual characteristics of one’s body and personality.

For the purposes of their study with sex hormones, Myerson and Neustadt isolated and quantified the androgens and estrogens that were excreted in the urine of their male patients. In order to establish the standard for sex hormone excretion patterns in urine, over an 8-12-week period they collected two samples per week from five ‘normal’ men of varying ages to establish a standard. As per **Figure 1**, they measured hormone concentration in international units per liter

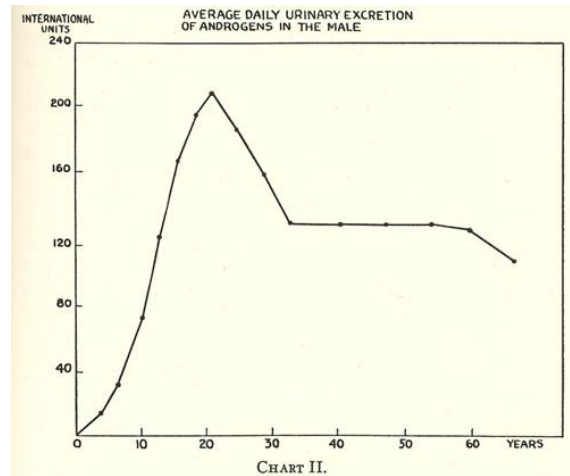


Figure 1: Published Chart of the Average Urinary Excretion of Androgens in the Male.

⁵⁶ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 524.

⁵⁷ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 527.

of urine, and observed the highest excretion of androgen at 21 years of age, a plateau between the ages of 30 and 55 followed by a decrease, and that “androsterone excretion per day [was] strikingly uniform” in men.⁵⁸ This uniformity enabled Myerson and Neustadt to determine what the standard quantity of and ratio between sex hormones was in men. In addition to the age appropriate quantity, they claimed that normal men excrete androgens and estrogens in a 1:1 ratio. Any man who deviated from these standards was labelled as sexually abnormal, and their goal was to discover how hormonology patterns could lead to a medical diagnosis.

After establishing the standard Myerson and Neustadt collected samples from those suffering from sexual abnormalities to try and uncover quantifiable deviations in sex hormone excretion and correlate them to specific sexual disturbances.⁵⁹ The first group consisted of 29 male patients who exhibited "overt homosexual conduct as the predominant and preferred sexual activity, with or without physical stigmata."⁶⁰ The hormone excretion patterns of these men displayed a "distinct disproportion of the normal ratio male:female in favor of an excess of estrogens," characterized by Myerson as either a "deficit of androgens combined with a normal amount or excess of estrogens" or a "normal amount of androgens combined with an excess of estrogens."⁶¹

The following two graphs depict the hormone excretion patterns of the 29 male patients.⁶² Androgens are denoted on the left in solid black, estrogens on the right with

⁵⁸ For **Figure 1** and quote, see Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 530-531.

⁵⁹ As per Myerson to Alan Gregg, 5 Dec. 1940, we know that Myerson conducted these experiments without knowing about the work was Wright was doing in Los Angeles, but were informed of Wright’s work prior to the publication of their 1940 article “Quantitative Sex Hormone Studies.”

⁶⁰ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 532.

⁶¹ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 533-534.

⁶² For **Figure 2** see Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 533; for **Figure 3** see Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 534. In **Figure 2**, three of the patients received a form of treatment to fix the hormonal imbalance, denoted by “after metrazol treatment,” “after

stripes, and the expected excretion of both with dots in the middle. The first graph, **Figure**

2, is the data collected from 11 patients from Myerson’s private practice, while the second graph, **Figure**

3, represents the hormone excretion patterns from patients institutionalized at seven different hospitals across the state due to their homosexuality.⁶³ 25 of the 29

patients exhibited hormonology patterns which fit this characterization, and visual depictions led Myerson to label the sex hormone excretion patterns of male homosexuals as a ‘staircase’. This ‘staircase’ was a "sign of hormone

excretion in homosexuals, indicating an excess of estrogens is on the whole characteristic" and correlated to their “overt homosexual conduct and feelings,” as homosexual men.⁶⁴

This led Myerson to claim that “the coincidence between the clinical condition and urinary

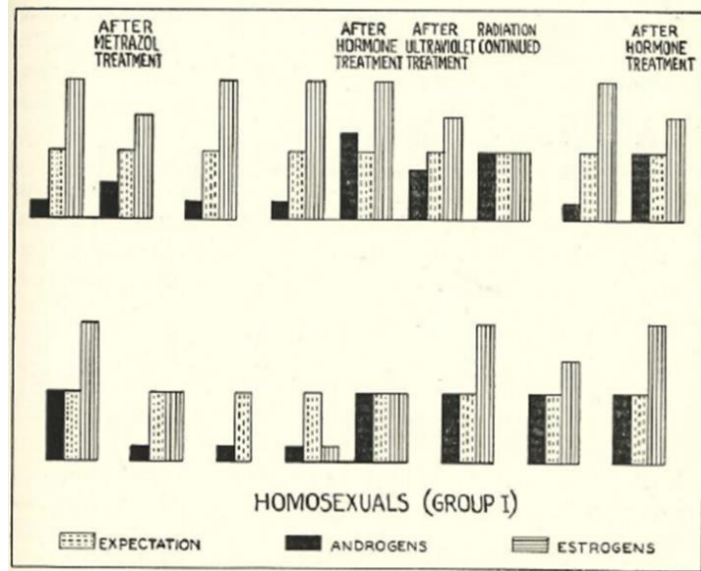


Figure 2: Published Chart of Hormone Excretion Patterns of Patients from Myerson’s Practice.

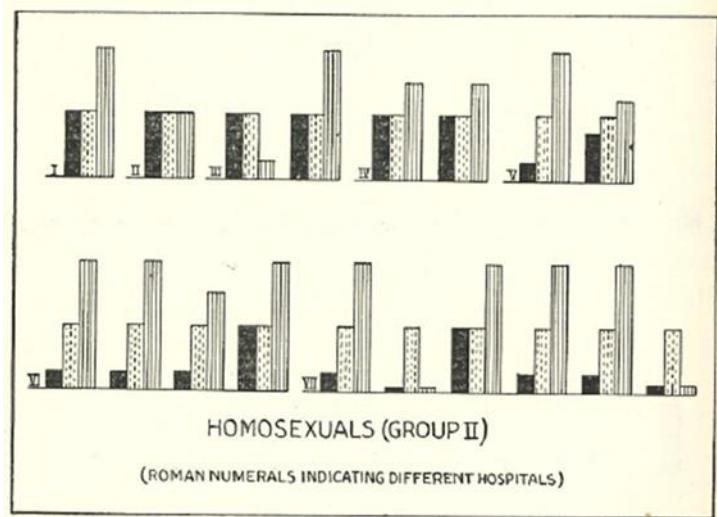


Figure 3: Published Chart of Hormone Excretion Patterns of Patients from State Institutions.

hormone treatment,” and “after ultraviolet treatment.” The sex hormone excretion pattern on the left is that patient’s natural pattern, and all subsequent patterns attached to it on the right are after treatment.

⁶³ On **Figure 3** the roman numerals represent the different state hospitals where samples were collected.

⁶⁴ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 535.

findings is so great that the results of the urine examinations may be regarded as a true mirror of the biological basis in [homosexuality]” and that their data confirmed the relationship between male homosexuality and sex hormone excretion.⁶⁵

Having confirmed that homosexual men suffered from a hormonal imbalance, Myerson and Neustadt sought to treat these patients by attempting to correct the imbalance. Since the evidence suggested that homosexuality was the result of excess estrogen, they reasoned that increasing the concentration of androgens in the body should cure the patients of their sexual abnormality. To stimulate the excretion of androgens, Myerson and Neustadt employed the ultraviolet irradiation technique they developed in 1939 and used testosterone injections to try and treat four patients from Myerson’s private practice.⁶⁶ While all those treated displayed a quantifiable change in the amount of androgens excreted in their urine, only one patient showed clinical ‘improvement’ in replacing their homosexual desire with a heterosexual one. These poor results suggested to Myerson that more research needed to be done regarding how to use hormone treatments to cure homosexuality, as the confirmed correlation between hormone patterns and overt male homosexuality affirmed his optimism.⁶⁷

In addition to homosexuality, Myerson and Neustadt’s exploration of sexual constitution led them to examine the hormone excretion patterns of those who were impotent, masturbators, and pre-pubescent children. With respect to impotence, of the 12 men examined eight exhibited low sex hormone levels “both on the male and female side,” while the other four had separate underlying health conditions which caused their

⁶⁵ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 548.

⁶⁶ As seen in **Figure 2**. See Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 532-535.

⁶⁷ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 534.

impotence.⁶⁸ The masturbators consisted of seven patients, six of who were from Myerson's private practice.⁶⁹ These six patients, five men and one woman, were "physically well developed" anatomically and secreted very high amounts of androgens and estrogens.⁷⁰

Finally, the exploration of sex hormone excretion in children was included to determine if children had a sexual drive, but very little sex hormone was found to be present in the body before puberty.⁷¹ The lack of sex hormones in children confirmed their asexuality, while the results from the other patients further supported Myerson's conviction that sex hormone excretion governed sexuality. The significantly low sex hormone levels of the impotent accounted for their low sex drive; the excess of sex hormones in masturbators explained their hypersexuality; and the hormonal imbalance in favour of estrogens in male homosexuals elucidated the aberrant direction of their desire. These findings provided Myerson the evidence to link the quantity and ratio of sex hormones to sexual constitution, confirming that sex hormones controlled the strength and direction of the sexual drive.

The successful outcome of these preliminary experiments were echoed by Wright, who confirmed that homosexual men excreted an excess of estrogen in comparison to androgen.⁷² These claims received a great deal of support, particularly from Gregg, who's considerable interest in scientific sex research led him to stress that the results of Myerson's sex hormones studies were striking.⁷³ These conclusions were also strongly condemned,

⁶⁸ Myerson and Neustadt, "Quantitative Sex Hormone Studies," 537.

⁶⁹ The other sample was collected from a patient who suffered from other illnesses as well as masturbation.

⁷⁰ Myerson and Neustadt, "Quantitative Sex Hormone Studies," 539.

⁷¹ This category was included to challenge the psychoanalytic claims of Freud, which Myerson rejected.

⁷² Glass, S.J., H. J. Dueul and C.A. Wright, "Sex hormone studies in male homosexuality," *Endocrinology* 26, (1940): 590-594.

⁷³ Alan Gregg Diary Entry, 2 December 1940, Folder 873, Box 72, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York.

most notably by Alfred Kinsey, the sexologist who rose to prominence after publishing *Sexual Behavior in the Human Male* in 1948.⁷⁴ Writing in 1941 in the *Journal of Clinical Endocrinology and Metabolism*, Kinsey criticized the data published by Wright for the small sample size, misrepresentation of data, and presumption that homosexuality and heterosexuality were mutually exclusive categories.⁷⁵ Kinsey concluded by stressing that “any hormonal or other explanation of the homosexual must allow for the fact that something between a quarter and a half of all males have demonstrated their capacity to respond to homosexual stimuli,” and as such sexual behaviour must be better understood before conclusions regarding sexual categories can be reached.⁷⁶

Myerson and Neustadt remained undeterred by critics, and in October 1940 Myerson disclosed in a letter to Alan Gregg that the “most important single thing that has appeared is that we can now diagnose true male homosexuality from the urine.”⁷⁷ He also claimed in an annual report to the Rockefeller Foundation that “we believe we are developing a system of identification of the sexual constitution of the individual by the study of urinary hormones,” which was “by far the most important part of our work and suggests leads of enormous importance for future work.”⁷⁸ The following year, Myerson informed the Foundation that he was focusing on this extremely important part of his work and laid out

⁷⁴ See Hyman Barahal, “Constitutional Factors in Psychotic Male Homosexuals,” *Psychiatric Quarterly* 13, no.3, (1939): 391-400, and Alfred C. Kinsey, “Homosexuality: Criteria for a Hormonal Explanation of the Homosexual,” *Journal of Clinical Endocrinology and Metabolism* 1, (1941): 424-428.

⁷⁵ Wright, Glass, and Dueul had a sample size of 31, while Myerson and Neustadt had a sample size of 29.

⁷⁶ Kinsey, “Hormonal Explanation of the Homosexual,” 428.

⁷⁷ Myerson to Gregg, Oct. 16 1940.

⁷⁸ Abraham Myerson, “Boston State Hospital – Psychiatry Annual Report December 1 1938-November 30 1939,” January 1940, Folder 875, Box 73, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York.

how he was beginning to classify male homosexuality using sex hormone excretion patterns.⁷⁹

To enhance their ability to use sex hormone excretion patterns to diagnose and classify male homosexuality, Myerson used his institutional connections to collect samples from an additional 70 male patients in prisons, private and state mental institutions, and universities across Massachusetts.⁸⁰ The most important institutional connection Myerson made was with the Massachusetts State Reformatory in Concord. Their partnership enabled him to test his ability to diagnose and classify male homosexuality using just sex hormones. He had the prison send him urine samples of homosexual men, but ensured that no clinical history pertaining to the patient was attached.⁸¹ Myerson would then measure the male and female sex hormones and offer a diagnosis based on the data obtained from the urine sample, and compare his profile with that of the patient to see how accurate his method for diagnosing homosexuality was.

The results of these efforts were reported in 1942 when Myerson and Neustadt published two complementary articles that examined the data collected between 1938 and 1942. The first article, “Bisexuality and Male Homosexuality,” focused on the biochemical results and details of the sexual drive, while the complementary “The Bisexuality of Man” provided detailed discussions of specific patients to highlight the abnormal biological and personality traits that the hormonal imbalance also generated. Both articles presented a revised standard for sex hormone excretion, claiming that the ratio between androgens and

⁷⁹ Abraham Myerson, “Boston State Hospital – Psychiatry Annual Report December 1 1939–November 30 1940,” January 1941, Folder 875, Box 73, Series 200A of Record Group 1.1 at the Rockefeller Archive Center in Tarrytown, New York.

⁸⁰ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 948.

⁸¹ Myerson to Gregg, 16 October 1940.

estrogens for a normal man was 4-6 androgen units for every 1 estrogen unit. Any deviation from this standard, according to Myerson, should be characterized as follows:

a ratio between 3-4:1 is, for the most part, a borderline case with, possibly, hetero- and homosexual tendencies; however, if there is an excessive amount of estrogens, there is usually true male homosexuality present, irrespective of the ratio. Where there is a ratio of 3:1 or lower, there is generally true male homosexuality present, with the exception of a small group of cases, which we shall mention later on.⁸²

Not only did one have to excrete the appropriate quantity of sex hormone for their age, but the ratio between androgens and estrogens needed to be 4-6:1, respectively. The potential range of sex hormone excretion enabled Myerson to generate a classification system for male homosexuality, and this system contained six possible groups based on the quantified deviation from the standard hormonology pattern. These six groups were: [1] sexually polymorphous [2] latent homosexual desire [3] unclassified hospital cases with homosexuality plus mental disturbances and [4] paradoxical and atypical cases of pathological sexuality [5] active homosexuality and [6] passive homosexuality.⁸³ In order to be a part of the study the patient had to have engaged in same-sex sexual activity and/or expressed same-sex desire, and the numerical data obtained from the sex hormone excretion pattern served as the evidence which determined which of the six groups one belonged to. Following the discussion offered in "Bisexuality and Male Homosexuality," the association of the data from sex hormone excretion patterns and the characteristics of the sexual drive can be described as follows.

The first group, the sexually polymorphous, was composed of 12 patients with normal hormonology patterns who opted for homosexual activity as a result of their environment,

⁸² Myerson and Neustadt, "Bisexuality and Male Homosexuality," 948.

⁸³ Myerson and Neustadt, "Bisexuality and Male Homosexuality," 932-957.

with the most prominent examples being prison and prostitution due to economic need.⁸⁴ Group 2, latent homosexual desire, consisted of two men who developed homosexuality after they were married, and Myerson said no medical explanation could account for the shift in sexual desire and that these cases would be studied further. Group 3 was composed of 23 men who suffered from a psychotic illness as well as homosexuality. While the psychotic factors interfered with the ability to study these subjects further, 18 did exhibit hormonology patterns with an excess of estrogen. Myerson included this group as proof that hormone excretion patterns were consistent and reliable for diagnosing homosexuality, even when other biological factors interfered with the body.

The fourth group, paradoxical and atypical cases, represented an anomaly in the data. Following their early work Myerson and Neustadt collected samples from an additional 500 men to confirm their standard for sex hormone excretion. Twelve of these men, according to Myerson, “did not show open homosexuality, yet had the same urinary formula as the true homosexual.”⁸⁵ The hormonology patterns displayed an excess of estrogens and the subjects were subsequently interviewed to try and figure out why. All twelve of them showed a “lack or underdevelopment of sexual drive accompanied by an ‘abnormal’ hormone balance,” and the fact that these men were not homosexual yet had the hormonology pattern of an overt homosexual had ultimately resulted in their loss of virility.⁸⁶ Since only 2.5% of the ‘normal’ men examined presented a ‘homosexual’ urinary formula, Myerson maintained his stance that “the lowered ratio between androgens and estrogens, therefore, seems quite characteristic of male homosexuality.”⁸⁷

⁸⁴ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 950-951.

⁸⁵ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 953.

⁸⁶ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 954.

⁸⁷ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 954.

The two groups labelled active and passive homosexuality were the most important for Myerson.⁸⁸ For the purposes of their study, Myerson's definition of 'active' and 'passive' were disparate from the typical association of active with the penetrator/male role and passive with the penetrated/female role. He insisted that "the words active and passive are too frequently used as synonymous with the male and female role in the act of copulation," and that "most homosexuals have no particular preference for a male or female role, but change in regard to the person involved."⁸⁹ His use of active and passive were in reference to the strength of the sex drive, explaining that there "there are those active men who crave for their male sex partners of the passive persons who glide into homosexuality because they are picked out by the homosexual male."⁹⁰

Active homosexuals made up 40% of those studied and excreted a normal quantity of androgens and an excess of estrogens in a ratio of 3 androgen units to 1 estrogen unit. These men, according to Myerson, were "men who crave for their male sex partners," and "who from their earliest days on have strongly desired and preferred relationship with the male, whose cravings, fantasies, desires, and drives are homosexual; who are cold, indifferent or even repelled by the female and who, if married, are never fundamentally potent."⁹¹ Of the 40 active homosexuals 38 exhibited this hormonology pattern, which led Myerson to conclude that a normal concentration of androgens in the body produced an active sexual drive while the excess of estrogens disturbed it so that it was directed towards men.

⁸⁸ In his annual reports for the Rockefeller Foundation and correspondence with Gregg, Myerson uses the terms "true," "overt," and "active" interchangeably to refer to this group of homosexual men. I will use active homosexual from this point forward, as it is the technical label used in the classification system.

⁸⁹ Myerson and Neustadt, "Bisexuality and Male Homosexuality," 954.

⁹⁰ Myerson and Neustadt, "Bisexuality and Male Homosexuality," 954.

⁹¹ Myerson and Neustadt, "Bisexuality and Male Homosexuality," 949-950.

In comparison, passive homosexuals suffered from a decreased concentration of androgens which practically eliminated the sex drive, while the excess of estrogens disturbed what was there, which resulted in them being “picked out by the homosexual male” and engaging in homosexual activity.⁹² This led Myerson to assert that “the amount of androgens in the body is mainly responsible for the strength and vigor of the sex drive of the individual, while the absolute and proportionate amount of estrogens determine its general direction.”⁹³ His distinction between active and passive denotes how the hormonal theory made homosexuality “a matter of quantitative deviation rather than a separate biologic entity,” and how measuring sex hormones enabled the classification of specific homosexual abnormalities.⁹⁴

The discussion in “Bisexuality and Male Homosexuality” details the biochemical aspects of the six classes of male homosexuality and describes the corresponding sexual constitution and drive of the men in each group. Each group had a hormonology pattern associated with it, and Myerson was able to correlate the sexual activity of the men classified within this system to the numerical data he obtained regarding their sex hormone excretion. Complimenting this technical discussion, the subsequent publication of “The Bisexuality of Man” offered case study analyses which detailed the various cross-sexed biological and personality traits which also plagued these male homosexuals. In order to associate the quantifiable data of the sex hormone excretion patterns with sexual constitution, biological sex, and personality traits, Myerson needed a comprehensive biological framework which could account for the acquisition of masculine and feminine

⁹² Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 954.

⁹³ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 955.

⁹⁴ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 954.

traits. Just as the prominent scientific sex researchers before him had done, in order to navigate the biological duality of masculinity and femininity in terms of sex and sexuality Myerson turned to the theory of organic bisexuality to explain why his classification system of male homosexuality was the leading medical explanation of the sexual abnormality.

“Bisexuality: A Fundamental Biologic Principle”⁹⁵

The concept of bisexuality is curiously absent from Myerson’s writings until 1941, even though the personal papers and articles he wrote in 1941 and 1942 identify bisexuality as the sole biological phenomenon responsible for sexual development, desire, and behaviour.⁹⁶ Moreover, his notes and unpublished essays reveal that he was reading the works of Freud which addressed the importance of bisexuality in sexual constitution prior to 1941, highlighting the peculiarity of this omission.⁹⁷ Nevertheless, his writings from 1941 on reveal that he believed all expressions of masculinity and femininity, be they anatomic, physiologic, social, or sexual, were manifestations of this organic bisexuality being displayed in the respective traits of the individual. Bisexuality, according to Myerson, was a “fundamental biologic principle, which is clearly manifest in the anatomic structures and biochemical processes concerned with sex and sexuality.”⁹⁸ Furthermore, he identified sex hormones and the genes as the biological factors of the body that were responsible for the sex-specific sexual development and behaviour in men and women.

The role of these two factors in sexual differentiation, the development of the sexual drive, and genital formation had been established for decades, and in his work Myerson

⁹⁵ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 932.

⁹⁶ Myerson and Neustadt, “Quantitative Sex Hormone Studies,” 527.

⁹⁷ Abraham Myerson, “Freud: Miscellaneous Notes and Transcripts,” Undated, Folder 21, Box 1, Series IA of Abraham Myerson Paper and Research Records at the Francis A. Countway Library of Medicine.

⁹⁸ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 932.

particularly emphasized their role in genital formation. In this way, he used what historian Thomas Laqueur has emphasized as the importance of the reproductive organs as markers of sexual difference for his scientific study of sex and sexuality.⁹⁹ Myerson incorporated the genitals with the sex hormones and genes as the biological base of sexual difference to implicate the body's biochemistry and situate his theory of bisexuality as credible in the scientific community.¹⁰⁰ Moreover, relating the anatomy and biochemistry of the body to the reproductive organs and sexuality enabled Myerson to construct a framework which integrated biological and social characteristics into his hormonal theory of homosexuality.

Myerson's theory of organic bisexuality not only used the development of the reproductive organs to make the theory viable, but it also used known scientific facts regarding the role of chromosomes and sex hormones during embryonic development to fashion a theory which accounted for sexual development immediately following conception. Myerson asserted that since conception resulted in the fusion of the egg and sperm to form the zygote, then every zygote was the combination of a male and female cell. Given that the initial product of sexual reproduction was the fusion of a male and female cell, Myerson argued that all cells in the developing organism were "descendants of a female-male cell and are female-male from that time on."¹⁰¹ The fact that men and women originated from this common origin led Myerson to conclude that every individual possessed the bisexual predisposition due to the bisexuality of their cells. In addition to recognizing the initial bisexuality of the embryo, Myerson also used endocrinology to explain how the bisexual embryo became the monosexual adult.

⁹⁹ Laqueur, *Making Sex*.

¹⁰⁰ For the construction of scientific facts and credibility, see Latour and Wooglar, *Laboratory Life*.

¹⁰¹ Myerson, "Bisexuality and Individuality," 12.

The transition of the initial bisexuality to the mature monosexuality was achieved through a series of steps in sexual differentiation and development which were initiated during embryonic development. Myerson argued that it was the interplay of these two factors which transformed the bisexuality of the embryo into the predominantly monosexuality of the adult. Furthermore, by recognizing that both sexes began from the same undifferentiated entity, Myerson was able to explain how men and women had so many biological similarities with respect to the body's anatomy and physiology. This comprehensive assessment of development considered everything from bones to muscles, organs to physical features, and acknowledged that through sexual development all physical, social, and sexual characteristics could acquire either a feminine or masculine trait depending of the initial bisexuality of the individual. Finally, with respect to biology, the bisexual predisposition of the embryo explained for Myerson how "the anatomic structures of one sex are clearly predominant, but the anatomic structures of the opposite sex are not lost but latently present and can be stimulated, although to a limited degree only."¹⁰² Since every individual began life as a bisexual entity, the biological and biochemical similarities between the sexes made sense, yet proper sexual development, according to Myerson, was responsible for the monosexuality of adulthood.

As the established markers of sexual difference, the reproductive organs received special consideration in Myerson's developmental theory of bisexuality. Just like every other biological structure the genitals begin from the same undifferentiated origin but, according to Myerson, were distinct and completely unisexual. He argued that the highly specialized role of the genitals in sexual reproduction proved they "lost their ability to

¹⁰² Myerson and Neustadt, "Bisexuality and Male Homosexuality," 933.

acquire characteristics of the opposite sex,” which meant that they were the only unisexual structure on the body.¹⁰³ The common origin of the genitals, the genital ridge, led Myerson to conclude that while they were different and sharply unisexual, the male and female reproductive organs were analogous. In this, he claimed that “the clitoris is the female penis; the penis the male clitoris,” while maintaining the distinct role of and need for both male and female reproductive organs, a comprehension which follows what Laqueur has highlighted as typical for scientific sex researchers.¹⁰⁴

The bisexual predisposition of the genitals also explained for Myerson why “the products which can be extracted from the ovary and the testis are not exclusively estrogenic or androgenic, but exert an influence upon the sex characteristics of the other sex.”¹⁰⁵ He rationalized that bisexuality elucidated why “male and female hormones are present in each individual in varied ratios with marked individual fluctuations in the ratio between male and female hormones excreted in the urine.”¹⁰⁶ Myerson also believed it clarified why “androgenic and estrogenic hormones are formed in both sexes, and for complete physiologic function, a certain balance between ‘male’ and ‘female’ hormones is necessary.”¹⁰⁷ Furthermore, bisexuality expounded for Myerson how masculine and feminine traits manifested to varying degrees “from individual to individual, and in the same individual at different times.”¹⁰⁸ Since everyone experienced sexual development differently, it made sense to him that the acquisition of masculine and feminine traits differed between individuals. Moreover, by linking the development of sexual

¹⁰³ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 933.

¹⁰⁴ Myerson, “Bisexuality and Individuality,” 16. Laqueur, *Making Sex*.

¹⁰⁵ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 936.

¹⁰⁶ Abraham Myerson and Rudolph Neustadt, “The Bisexuality of Man,” *Jour.Mt. Sinai Hosp.*, (1942): 677.

¹⁰⁷ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 935-936.

¹⁰⁸ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 939-940.

characteristics to a bodily system in flux, Myerson used endocrinology and bisexuality to explain how male homosexuality presented itself in different ways with different corresponding biological and social traits.

Expanding on this discussion, Myerson asserted that all expressions of masculinity and femininity, biological and social, were manifestations of bisexuality. Accordingly, he claimed that ‘normal’ sexual development resulted in the male being masculine in his biology and personality, and the female feminine in hers. In cases of abnormal development, Myerson contended that the presence of biological and/or social crossed-sex characteristics was due to the presence of bisexuality. In terms of biology, in an unpublished essay titled “Sex” Myerson claimed that genital irregularities were manifestations of bisexuality and that hermaphroditism represented “bisexuality almost in its extreme possibility.”¹⁰⁹ Additionally, he outlined other anatomic features that acquired either a masculine or feminine nature: “the relative amount and distribution of fat, muscle substance, and hair; the thickness, length, and angulation of bones, specifically of pelvis, vertebra, trunk... size and shape of larynx and other organs; [and] body size.”¹¹⁰

Along with biological manifestations, Myerson declared bisexuality was responsible for social expressions of masculinity and femininity. In the unpublished essay “Bisexuality and Individuality” he clarified how various behaviours, interests, and career goals were social characteristics which acquired either masculine or feminine trait. In cases of abnormal development Myerson highlighted how bisexuality could socially manifest itself “in the feministic traits of some men, and in masculine conduct not involving ultimate

¹⁰⁹ Abraham Myerson, “Sex,” 2 June 1941, Folder 42, Box 1, Series IA of Abraham Myerson Paper and Research Records at Francis A. Countway Library of Medicine, 3.

¹¹⁰ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 933.

sexual conduct in the life of women.”¹¹¹ For Myerson, these social and biological expressions of masculinity or femininity represented “an emphasis in the one direction or the other of the original bisexuality without the final loss of that bisexuality” and became opposing, idealized end of a continuum of sexual characteristics and personality traits.¹¹²

Indeed, what’s remarkable about Myerson’s continuum using bisexuality as a biological phenomenon manifest in the anatomy and personality of the individual is that he entangled biological sex with social expressions of gender to define all deviations from the poles as aberrant states. This continuum allowed him to explain how “a man may be feminine in some respects, although essentially masculine in most,” while contending that masculinity and femininity were variable characteristics with a natural range.¹¹³ Myerson’s account for the variety of sex characteristics along his continuum demonstrates what historian Chandak Sengoopta highlights as the shift of “masculinity and femininity from immutable, inborn qualities into morphological and psychological attributes that were variable in nature and malleable in practice.”¹¹⁴ Nevertheless, the potentiality of sex characteristics his theory of bisexuality suggested were overlooked when he applied medical science in the way biologist Anne Fausto-Sterling argues was the norm for sex research. That is, to promote unified expressions of masculinity and femininity in biology, personality, and sexuality.¹¹⁵

Identifying sexual constitution as a distinct manifestation of bisexuality enabled Myerson to study sexuality as an independent feature which corresponded with and related to the biological dualism of masculinity and femininity. He argued that sexuality, just like

¹¹¹ Myerson, “Bisexuality and Individuality,” 4.

¹¹² Myerson, “Bisexuality and Individuality,” 19.

¹¹³ Myerson, “Bisexuality and Individuality,” 20.

¹¹⁴ Sengoopta, *Sex, Glands and Hormones*, 113.

¹¹⁵ Fausto-Sterling, *Sexing the Body*.

one's biology or personality, was expressed as either masculine or feminine depending on the unique manifestation of bisexuality. Myerson amalgamated sexuality, biology, and personality in his theory to transform the binary pair of his continuum to a juxtaposition between the "virile man or the feminine woman" and "those who seem completely differentiated into men and women, but to whom the opposite sex is repulsive and non-desirable."¹¹⁶ This simultaneous consideration of the sexual, biological, and social in utilized the binary pairs of masculinity and femininity, and heterosexuality and homosexuality to synchronously assess the conformity of one's anatomy, personality, and sexuality to cultural norms. By contrasting between these idealized ends on a continuum, Myerson altered the medical definition of homosexuality. This revised definition was no longer the search for cross-sexed characteristics that historian Nelly Oudshoorn highlights was evident in the early twentieth century, but for Myerson became a sex-specific characteristic itself.¹¹⁷ Homosexuality, he argued, acquired its sex-specific feature just like anatomic and personality traits - through manifestations of bisexuality - and as a distinct factor the masculine or feminine nature was measured using sex hormone excretion.

As the biological factor responsible for the manifestations of bisexuality, sex hormones became the crucial element in Myerson's studies of male homosexuality and its relationship to other biological and social manifestations of bisexuality. Their role as chemical messengers of masculinity and femininity and the driving force of sexuality, as Oudshoorn indicates, led sex hormone to serve as the evidence for researchers like Myerson linking biological and social abnormalities with homosexuality.¹¹⁸ By focusing

¹¹⁶ Myerson, "Bisexuality and Individuality," 19.

¹¹⁷ Oudshoorn, *Beyond the Natural Body*.

¹¹⁸ Oudshoorn, *Beyond the Natural Body*.

on the groups characterized by an excess of estrogen, the following discussion will illuminate the various ways an overabundance of the chemical messenger of femininity in the male body was understood to impact biological and social sex characteristics and how it related to the biological constitution of their abnormal homosexuality.

To begin, the two groups characterized by a hormonal imbalance in favour of excess estrogens who lacked a sexual drive – passive homosexuality and paradoxical and atypical cases of pathological sexuality – offer a unique perspective into the perceived connection between the biological and the sexual in Myerson’s theory of homosexuality. For passive homosexuality, no personality traits are used to support the diagnosis, but the physical characteristics of patients discussed in “The Bisexuality of Man” recognizes a connection between sex hormone excretion, the body, and sexual constitution. As homosexual men with a decreased quantity of androgen, the masculinizing hormone, passive homosexuals suffered from a lack of sexual drive and an emasculated biological makeup. Of the three patients discussed, one suffered from an “atrophy of the right testicle [and] a gracile boyish build,” one had a “generally underdeveloped and immature physique,” while the third showed an “asthenic configuration of trunk [and] scanty pubic hair.”¹¹⁹ Myerson linked the potential to be “picked out by the homosexual male” for sex to excess estrogens and connected this impermissible sexual practice to the emasculated physique and underdeveloped sexual drive as signs of a lack of masculinity in these men.¹²⁰

Similarly, as the ‘heterosexual’ men with a ‘homosexual’ hormone excretion pattern, those classified as atypical cases suffered from a lack of sexual drive and an abnormal

¹¹⁹ Myerson and Neustadt, “The Bisexuality of Man,” 673.

¹²⁰ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 954. In *Gender Trouble* Butler highlights that permissible and impermissible sexual practices are interwoven with definitions of sex.

biological makeup. In addition to being the reason for their impotency, the hormonal imbalance was responsible for the “fatty rather than muscular” body form of one and the “inferior, flabby” physique of another.¹²¹ Furthermore, of the four patients directly analyzed, one lacked a career drive, one had a ‘retreating character’, and two suffered from a sense of inferiority. While none of these traits are overtly feminine for Myerson they represented a lack of a masculine personality, which he argued was abnormal. These cases may have been paradoxical since their sex hormone excretion patterns were typical of homosexuals, but the lack of sexual drive, underdeveloped physique, and lack of masculine personality traits all confirmed for Myerson the abnormal manifestations of bisexuality in the sexual constitution, biology, and personality of these men.

In comparison, Myerson’s discussion of active homosexuals exposes how variable the possible combinations of masculine and feminine traits could be. With respect to personality, one patient had a love of “art, music, and the drama,” one expressed a “love of decoration, a desire to arrange flowers, an avoidance of games involving physical contact, a preference for tennis” and one exhibited “a general softness of voice and manner best described as over-refinement.”¹²² Despite the feminine personality traits identified by Myerson, all active homosexuals had masculine physiques. In fact, he claimed that “most of male homosexuals are not” feminine in physique.¹²³ The masculine physique and normal sexual drive of the active homosexual combined with the feminine personality traits and sexual constitution was accounted for using sex hormone excretion. Myerson rationalized that the normal amount of masculine hormone enabled the development of a masculine

¹²¹ Myerson and Neustadt, “The Bisexuality of Man,” 676.

¹²² Myerson and Neustadt, “The Bisexuality of Man,” 674-675.

¹²³ Myerson, “Sex,” 5.

biology whereas the excess estrogen disturbed the sexual drive and generated other feminine characteristics, so a combination of masculine and feminine traits co-existed in one individual. In addition to impermissible sexual practices signifying a lack of masculinity, attention to the sexual variability of anatomy and personality stresses that for Myerson, a man was masculine to the extent that he did not display feminine traits.¹²⁴

Beyond correlating experimental data to observable characteristics, Myerson believed that his classification system would enable physicians to diagnose male homosexuality and identify corresponding characteristics of their biological makeup and personality using only sex hormone excretion pattern. His faith in his method is best exemplified by the case of an active male homosexual patient discussed in “The Bisexuality of Man” and the unpublished essay “Sex.” This patient, a young university student, was seeking treatment while away at school and the attending physician sent Myerson a sample of his urine. Despite having never met the man, Myerson used the case as evidence to support the utility of his method for diagnosing male homosexuality. After receiving the sample from his colleague, Myerson established the hormonology pattern of the patient and created a corresponding profile that discussed the specifics of the man’s sexual activity, desire, and speculated that he suffered from specific personality traits based on the data.

After making his formal diagnosis Myerson wrote to his colleague and confirmed that based on the sex hormone excretion pattern, it was likely that:

this man is homosexual in his desires, since the excretion is more like a woman’s than like a man’s, and the amount of female hormone is sufficient to create homosexuality, since it unbalances the male hormone. On the other hand, the amount of male hormone which is present is such that this man has probably not passed into overt homosexuality.¹²⁵

¹²⁴ Butler argues that “one is one’s gender to the extent that one is not the other” in *Gender Trouble*, 30.

¹²⁵ Myerson, “Sex,” 4-5.

The physician confirmed that this was the case for the sexual drive, that his body “lacked the firm hard masculine lines” and that “his voice was somewhat over-refined and his manners exceedingly gentle.”¹²⁶ Myerson was ecstatic and stated that his ability to determine the sexual constitution and corresponding biological and personality traits using sex hormone excretion was “a scientific experience of the greatest moment.”¹²⁷

Myerson’s faith in his classification system was strongly supported by the experimental and anecdotal evidence he collected over the years. After five years the data had revealed that “83% of all cases of overt male homosexuality examined” exhibited the expected “disproportion between androgens and estrogens in favor of estrogens,” a statistic which significantly supported his conviction that homosexuality was due to a hormonal imbalance.¹²⁸ Moreover, his ability to accurately diagnose male homosexuality and uncover the corresponding biological and personality characteristics that were also abnormal using sex hormone excretion patterns supported the accuracy of his classification system and the corresponding quantified values and patient profiles he had developed. By expertly weaving facts regarding sexual development, human anatomy, and personality, Myerson had established an endocrine technique for diagnosing and classifying male homosexuality using only the sex hormones excreted in urine.

Straightening Out Homosexuality Using a Myersonian Approach

Following the observations that an excess of estrogens disturbed the sexual drive and personality while a deficient amount of androgens distorted anatomic features and the sexual drive, Myerson and Neustadt continued to fix the quantity and ratio of sex hormones

¹²⁶ Myerson, “Sex,” 4.

¹²⁷ Myerson, “Sex,” 4.

¹²⁸ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 954.

as a cure for male homosexuality. Between 1940 and 1942 they increased their efforts to find a cure for male homosexuality and conducted more treatment trials on more patients. In 1942 Myerson regrettably disclosed that “the hormone treatment applied in our cases has been, on the whole, rather discouraging.”¹²⁹ Myerson and Neustadt reported that a change was observed in the sex hormone excretion of these men, but “in no instance did [they] see a permanent change of a homosexual by hormone treatment.”¹³⁰ They may have ‘corrected’ the sex hormone excretion of the body, but this therapy did not treat the corresponding behavioural and biological components of sexual constitution.

Myerson’s attempt to produce a hormone treatment for male homosexuality, despite his recognition of the natural variability of masculine and feminine characteristics, highlights the prevalence of heteronormativity in clinical applications of experimental sex research. In an unprecedented undertaking, Myerson delineated sexual abnormalities by accounting for the natural variants of masculinity and femininity in the biology and personality of men quantified these states by measuring sex hormones. Much like Krafft-Ebing, Hirschfeld and Ellis, he recognized bisexuality as a biological phenomenon which accounted for the natural masculine and feminine characteristics of all biological, social, and sexual traits. This scientific knowledge, however, was concealed by the normativity of heterosexuality as Myerson failed to realize that if generating heterosexuality was possible, inducing homosexuality was as well. He may have described homosexuality and heterosexuality as quantifiably divergent constitutions along the same continuum, but cultural constructs of normative sexuality informed his unilateral attempts to treat male homosexuality.

¹²⁹ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 955.

¹³⁰ Myerson and Neustadt, “Bisexuality and Male Homosexuality,” 956.

While these trials failed to produce a functioning treatment, the experimental results supported Myerson's hypothesis that measuring sex hormones would allow the medical diagnosis and classification of male homosexuality. These findings also enabled him to quantify and identify the presence and intensity of masculine and feminine characteristics in homosexual men, and as a result Myerson suspected it was only a matter of time before a cure for the sexual abnormality would be discovered. He was particularly enthusiastic about the success being reported by Wright, and suggested that if additional researchers could replicate Wright's success, "the rapid progress in the study and understanding of the organic chemistry of sex hormones... will bring real therapeutic progress in the treatment of homosexuality."¹³¹ Unfortunately 1942 was the final year Myerson published on the subject, as the threat of Second World War forced funds to be reallocated, and the Rockefeller Foundation discontinued his funding in 1941.¹³²

Following the conclusion of his sex hormone studies, Myerson's success with diagnosing male homosexuality was notably influential on military personnel addressing homosexuality during World War II.¹³³ The esteem of his framework would be short lived, however, as the 1944 study of Samuel Glass discovered that increasing the quantity of androgens in male homosexuals actually intensified the homosexual drive and did not correct it.¹³⁴ In the years following this revelation, endocrine research would uncover that

¹³¹ Myerson and Neustadt, "Bisexuality and Male Homosexuality," 956. Myerson cites Glass, Wright, and Dueul, "Sex hormone studies," and C.A. Wright, "Results of endocrine treatment in a controlled group of homosexual men," *Medical Record* 154, (1941).

¹³² Abraham Myerson to William Graves, 31 January 1941, Folder 4, Box 1, Series IA of Abraham Myerson Paper and Research Records at the Francis A. Countway Library of Medicine.

¹³³ Herbert Greenspan and John D. Campbell, "The Homosexual as a Personality Type," *American Journal of Psychiatry* 101, no.5, (Mar. 1945): 682-689; Isidore I. Weiss, "Homosexuality: With Special Reference to Military Prisons," *Psychiatric Quarterly* 20, no.3, (1945): 485-523.

¹³⁴ S.J. Glass and R.H. Johnson, "Limitations and complications of organotherapy in male homosexuality," *Journal of Clinical Endocrinology* 4, (1944): 540- 544.

the messenger system of the body involved an elaborate network and that more hormones were involved in sexual development than previously believed, so the association of androgens with masculinity and estrogens with femininity was regarded as reductionist, and Myerson's work was subsequently forgotten.

Ensuing sex research in the 1950s and 60s began recognizing social and environmental factors as key in the development and constitution of sex and sexuality, but maintained the feasible importance of sex hormones in their theories.¹³⁵ By the early 1970s sex hormones regained a prominent role in scientific sex research, as researchers began hypothesizing that sexual partner choice and behaviour were due to the influence of the various masculinizing and feminizing sex hormones during prenatal organization of the brain.¹³⁶ The emphasis on sex hormones and brain organization continued into the 1980s and 90s, as researchers explored how anatomy and sexual behaviour were related to the excretion and production of masculine and feminine sex hormones.¹³⁷ Even though these researchers regard Myerson's work as reductionist, their scientific activity adopted the same dualisms and 'reduced' sexuality to the same binary pairs of masculinity and femininity they claimed to be dismissing, just with a more technical understanding of the body's systems.

Uncovering Myerson's forgotten experiments highlights how studies of sexuality can only be produced through and interpreted within culturally intelligible categories. Using the variability of masculine and feminine sex characteristics to delineate sexual abnormalities, his classification system of homosexuality weaved biological and social

¹³⁵ John Money, "The Development of Sexuality and Eroticism in Humankind," *The Quarterly Review of Biology* 56, no.4, (Dec. 1981): 379-404, stresses the role of Alfred Kinsey in this development.

¹³⁶ Heino F.L. Meyer-Bahlburg, "Psychoendocrine Research on Sexual Orientation. Current Status and Future Options," *Progress in Brain Research* 61, (1984): 375-398. The German researcher Günter Dörner is often credited as the individual responsible for revamping this interest.

¹³⁷ A popular example is Simon LeVay, "A Difference in Hypothalamic Structure Between Heterosexual and Homosexual Men," *Science* 253, no. 5023, (1991): 1034-1037.

characteristics together so the diversity of anatomic, sexual, and personality characteristics in men could be identified, despite the limitations the sexual duality imposed. Even though he regarded the simultaneous and varied existence of masculine and feminine traits in an individual as natural, cultural imperatives of heteronormativity configured his clinical research so that he centered on treating the abnormal homosexuality to induce the normative heterosexuality. A review of his experimental work, however, illuminates the malleability and variability of masculine and feminine sexual characteristics in his biological study. By reconstructing these experiments and examining Myerson's spectral denotation of masculinity and femininity as it related to varied constitutions of male homosexuality, an enriched appreciation of the complex relationship between findings of experimental sex research and cultural delineation of normative sexuality is achievable.

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