## Chapter 3: Stigma and inferiority

To many of us, handedness seems like a pretty inconsequential thing. That had been my assumption; that’s why I thought it would be a good toy problem. Then again, I’m right-handed. Many other right-handed people taking the survey either minimized handedness, or in some cases, even failed to notice the existence of the left-handed. A 27 year old man from Miami, Florida, for example, wrote only, “I am exclusively right handed and so is everyone else I know.” Given the statistics (about one in ten men are strictly left-handed at his age), this is hard to believe. In a more typically blithe comment, a 58 year old from Fort Lauderdale wrote, “Being right-hand dominant I often try to chuck a Frisbee with my left hand to improve skill. […] Otherwise, I never think about ‘handedness’. Good luck with your research!”

The left-handed are very aware of this; many of them wrote along the lines of a 41 year old from Carlinville, Illinois, “It is more difficult than right handed people realize to be a left handed person.” At a purely practical level, there were many awkward stories about scissors, can openers, pots and measuring cups, desks, light switches, and of course our writing system. It *is* a right-handed world, which is why we talk about “left-handed scissors” but not “right-handed scissors”: the majoritarian default again. For parents, educators, and certain nuns, an understanding that “the left handed curse is real”[[1]](#footnote-21) has certainly informed efforts to push left-handed children toward right-handedness.

Accommodating the left-handed properly is of course possible, but it takes thoughtfulness and resources. As a 34 year old from Marietta, Georgia put it,

“I was ambidextrous as a child and was forced to learn to write with only my right hand. My writing was so sloppy that I had to take a special class. Eventually they gave up and put a computer in the classroom just for me, which was expensive and a big deal in the 80’s!”

This goes some way toward painting a picture about the “enlightened” treatment of left-handed kids being potentially as much about evolving technology as about changing attitudes. The two may be linked. Technologies, even simple kinds like scissors and teapots, are a kind of prosthetic, and it takes either sophisticated design or large consumer markets (or both) to make these prosthetics work well for everybody. Until recently, most societies have followed something like the “80-20 rule,” the truism that often you can get a “good enough” solution to work 80% of the time (or, in our case, for 80% of the population) with 20% of the effort needed to solve the complete problem.

In fact, even this assessment is optimistic. We’re never done, because there are so many combinations of minority and majority, and intersections of minorities have a sort of fractal quality. How to design a can opener that remains useful for a strictly left-handed person with low grip strength due to arthritis *and* severe cerebral palsy? Designers do sometimes think about such things nowadays, but there are still too many “corner cases,” as they’re often called, to think through, to test, or to be compatible with a profit margin. Regulation can help, but it, too, relies on something like a “marketplace” of advocacy for specific needs. It seems unlikely that the project of universal inclusion will ever be complete. But we can chip away at it.

These practical aspects of majoritarian “privilege” and minoritarian “curse” are far from the whole story, though. Beyond how you write or throw a Frisbee, handedness is an identity, which brings with it all of the social machinery of tribalism, in-groups, and out-groups. “Proud to be right handed,” wrote a 36 year old from Monmouth Junction, New Jersey. Or, “LEFTIES RULE,” according to a defiant 28 year old from Hebron, Indiana. But when there’s a visible majority, and the world is set up to favor that majority, these “tribes” are unevenly matched. The inevitable consequence is social stigma: per Wikipedia,[[2]](#footnote-22) “the disapproval of, or discrimination against, a person based on perceivable social characteristics that serve to distinguish them from other members of a society.”

When I set out to explore handedness, I didn’t fully appreciate the way stigma follows inexorably from the social logic of majority and minority. The comments were eye opening. There were many variations on “As a child I was told that doing things with my left had was bad,”[[3]](#footnote-23) as well as tropes familiar from other contexts, like “I don’t really believe in handedness”[[4]](#footnote-24) and even “some of my best friends are left handed.”[[5]](#footnote-25) I didn’t know whether to laugh or not at this last one. Was it meant ironically?

The Greek word “stigma,” dating back at least to the 6th century BCE, originally referred to the branding, tattooing, or cutting of symbols into the skins of slaves or criminals, to make it impossible for them to move through society without advertising their low status. Similar practices were documented in the colonial slave trade, two thousand years later. As Imogen Tyler writes in her 2020 book *Stigma: The Machinery of Inequality*,

“Penal tattooing involved the inscription of words, symbols, and sometimes full sentences into the skin. These tattoos ‘usually consisted of the name of a crime’ inked into the face. Records of common stigmas include ‘Thief’ or ‘Stop me, I’m a runaway’, tattooed on the forehead. If you survived the torture of being tattooed (without antiseptic) you would never be free of the stigma, the ‘disgrace, humiliation and exclusion’ remaining ‘indelibly written on one’s face for all to see’.”

Hence these marks were never just about subordination or ownership, as in cattle branding (though the parallel with the treatment of livestock has always been clear, and highlights both the dehumanization of the act and the stark power inequality behind it). The tattoos were also ways of literally writing shame into the skin. They indelibly marked someone as blemished, morally polluted, and lesser than, in a way that would forever change the way that person was seen— both by others and, worse still, by themselves. That was the intent when, during the Kristallnacht pogrom of November 1938, the Nazis forced Jewish women in Linz, Austria to exhibit themselves in public with cardboard signs reading “I have been excluded from the national community [Volksgemeinschaft].”[[6]](#footnote-26) Soon afterward, this Jewish stigma took the form of coded numbers tattooed on the arms of prisoners in concentration camps.

In the past century, our understanding of stigma has broadened. While the word was originally associated with tattooing or otherwise permanently marking the skin, this is actually more the exception than the rule. Such a marking was “needed” by the ancient Greeks, because their slaves (and criminals) could be ethnically Greek too, making their subordinate status otherwise impossible to recognize at a glance. Similarly, despite Nazi pseudoscience and propaganda cartoons suggesting that Jewish faces were distinctive or even monstrous, it was often impossible to distinguish between Jews and Christians based on bodies, clothes, languages, or behaviors. Plenty of “Aryans” had big noses, and plenty of Jews had blond hair! The same held for gay people, Gypsies, and other populations Germany was at pains to isolate and eliminate, despite the fact that these populations often weren’t well defined. These examples suggest that tattooing, branding, and other kinds of permanent physical marking are just ancient technologies that an in-group may press into service to reinforce social categories, especially in situations where the signs of belonging to an in- or out-group aren’t otherwise obvious. Stigma is no longer the sign itself, but the meaning behind it. It has attached to a wide range of out-groups throughout history, whether of race, caste, sexuality, culture, class, or much else— including handedness.

For evidence of the handedness stigma, we need only consider language itself— the words we use to identify the majority and the minority. These are like the eroded features of a dormant volcano. They hint at a past during which the stigma of handedness was far more active than it is today.

Consider: the word “left” derives from the Anglo-Saxon word for “weak,” *lyft*, while *riht* meant “good, proper, fitting, straight.” “Right” of course still means something proper or correct, both in English and in many other languages. It’s telling that in languages with distinct origins, a similar pattern holds: the Chinese word for right, 右 (yòu), also means “respect,” “esteem,” or “value,”[[7]](#footnote-27) while the word for left, 左 (zuǒ), means “queer,” “unorthodox,” “wrong,” “devious,” “dishonest,” or historically, “inferior position.”[[8]](#footnote-28) *Dexter*, the Latin for right, connotes skill and adroitness, as per the English word “dextrous.” In fact “ambidextrous,” skilled with both hands, literally means “having two right hands”! Compare this with sayings like having “two left feet,” which means being clumsy. The same expression works in a number of other languages too, in the French *deux pieds gauches*. For that matter, *gauche* itself means not only “left” but also “awkward or lacking in social graces.” The Latin for left is *sinistram*, from which we get “sinister.” (In researching the literature on handedness I ran across papers with titles like “The Sinistral Child,” which just refers to left-handed children but sounds more like the title of a horror movie.) In boxing, a right-handed fighter is referred to as “orthodox,” which comes from Greek *orthos*, meaning “straight” or “right,” and *doxa*, “opinion.” The modern Spanish word for left, *izquierda*, comes from the Basque *ezkerretara*, whose original meaning is probably “clumsy or crooked hand.”[[9]](#footnote-29) In a number of different cultures, the right hand is traditionally used to eat, while the left hand is used for… the opposite. This probably explains expressions like the British and Australian “cack-handed,” which can mean either clumsy or— of course— left-handed. This litany is far from exhaustive, but you get the idea.

It may be surprising, today, to notice this overwhelming evidence of residual or implicit bias against the left-handed in language. In many historical sources, the bias is more explicit. The Old Testament, for example, has hundreds of references to right and left hands, and where these are distinguished, the right hand represents honor and strength, the left sin and wickedness. Per Ecclesiastes (10:2), “A wise man’s heart is at his right hand; but a fool’s heart at his left.” God’s right hand is often described as powerful and “full of righteousness” (Book of Psalms, 48:10); “The right hand of the Lord is exalted: the right hand of the Lord doeth valiantly” (118:16). The New Testament is perhaps even starker, per the Gospel of Matthew (25:32-34), “And before him shall be gathered all nations: and he shall separate them one from another, as a shepherd divideth his sheep from the goats: And he shall set the sheep on his right hand, but the goats on the left. Then shall the King say unto them on his right hand, Come, ye blessed of my Father, inherit the Kingdom….” The “goats” on the left, of course, represent the damned.

But this is ancient history, long predating the Enlightenment, the scientific revolution, the Industrial Revolution, and modernity as we know it. How did we get from Iron Age prejudices to institutionalized medical ideas that still held sway within living memory about the left-handed being “aberrant or abnormal”— hence to widespread attempts by 20th century nuns and school teachers to save the at-risk youth with “handedness conversion therapy”?

Cesare Lombroso (1835-1909), physician, anthropologist, criminologist, and arguably the most famous Italian thinker of his era,[[10]](#footnote-30) played a significant role in this turn— and in our larger story. He sought to bring new rigor to the quantitative study of the human body, both in its healthy or “normal” state and in its “aberrations”— an admirable goal, though a difficult one in an era with few lab tests and little idea of what caused most illness. Close observation was of course possible, though, and physical measurements, distances and angles, weights and volumes, could be tabulated. Where previous generations of doctors had relied on lore and intuition, it would now be possible to analyze statistics, and start treating medicine as a science. That was the theory, anyway.

Lombroso worked in prisons and asylums, which prompted him to concentrate on mental disorders, and hence to focus especially on the measurement of the head and facial features. For clearly, animals with bigger heads relative to their bodies tend to be among the more intelligent; also, certain congenital problems like microcephaly (in which the brain and the head are underdeveloped) usually result in intellectual disability. Might the signs of other cognitive impairments— or even gifts, signs of genius— also be detectable through careful physical measurement of the head? What about a predisposition to criminal behavior? So, Lombroso came to champion physiognomy, the pseudoscientific belief we’ll explore further in Chapter [[15]] that a person’s physical features reveal their essential nature— and their value to society.

[From Orson Squire Fowler and Lorenzo Niles Fowler, *The Illustrated Self-Instructor in Phrenology and Physiology: With One Hundred Engravings, and a Chart of the Character* (Fowlers and Wells, 1853), 42., and “idiot” was at this moment in history considered a technical term.]

I know, I’m making this chain of reasoning sound a bit farfetched. Perhaps it’s best to let Lombroso tell the story in his own words. Luckily, we have a colorful first person account, written shortly before he died, in a 1911 book published by his daughter Gina introducing “scientific criminology” to an eager American audience:

“[I]nspiration came to me when […] I applied to the clinical examination of cases of mental alienation the study of the skull, with measurements and weights, by means of the esthesiometer and craniometer. […] I, therefore, began to study criminals in the Italian prisons, and, amongst others, I made the acquaintance of the famous brigand Vilella.[[11]](#footnote-31) This man possessed such extraordinary agility, that he had been known to scale steep mountain heights bearing a sheep on his shoulders. His cynical effrontery was such that he openly boasted of his crimes. On his death one cold grey November morning, I was deputed to make the *post-mortem*, and on laying open the skull I found on the occipital part, exactly on the spot where a spine is found in the normal skull, a distinct depression which I named *median occipital fossa*, because of its situation precisely in the middle of the occiput as in inferior animals, especially rodents. This depression, as in the case of animals, was correlated with the hypertrophy of the *vermis*, known in birds as the middle cerebellum.

This was not merely an idea, but a revelation. At the sight of that skull, I seemed to see all of a sudden, lighted up as a vast plain under a flaming sky, the problem of the nature of the criminal—an atavistic being who reproduces in his person the ferocious instincts of primitive humanity and the inferior animals. Thus were explained anatomically the enormous jaws, high cheek-bones, prominent superciliary arches, solitary lines in the palms, extreme size of the orbits, handle-shaped or sessile ears found in criminals, savages, and apes, insensibility to pain, extremely acute sight, tattooing, excessive idleness, love of orgies, and the irresistible craving for evil for its own sake, the desire not only to extinguish life in the victim, but to mutilate the corpse, tear its flesh, and drink its blood.”

It’s hard not to connect this account, with its preternaturally lithe monster scaling steep mountainsides, post-mortem dissections, flaming epiphanies, and anthropophagous horrors, with the Gothic vibe of Mary Shelley’s *Frankenstein* (1818). The enduring popularity of Lombroso’s works and those of his followers probably owed something to this lurid flair.

At any rate, Vilella’s remains supplied Lombroso with “evidence” confirming his belief that “brigands” (*brigantes*) were a primitive or “degenerate” type of people, prone to crime. Hence criminality, Lombroso maintained, is inherited, and carries with it inherited physical characteristics that can be measured with instruments like calipers and craniographs. Incidentally, this belief conveniently justified his *a priori* assumption that southern Italians (like the Calabrian Vilella) were racially inferior to northern Italians (like himself).

While physiognomy was already a very old tradition by the time Lombroso first published his ideas in *The Criminal Man*[[12]](#footnote-32) in 1876, he gave it new life by attaching it to the most groundbreaking scientific discovery of the age: Charles Darwin’s theory of evolution. *The Criminal Man* followed on the heels of *The Descent of Man*[[13]](#footnote-33) (1871), wherein Darwin belatedly acknowledged that evolutionary theory, which he had introduced more than a decade earlier in *On The Origin of Species* (1859), applied to people too:[[14]](#footnote-34)

“[M]an bears in his bodily structure clear traces of his descent from some lower form.”

Thus, the idea not only of human evolution but of its being tied to a notion of *progress* in a definite “upward” direction— an idea that still held enough currency a century later to inspire the more apt title of Jacob Bronowski’s influential 1973 BBC series, *The Ascent of Man*.

Unfortunately for his posterity, Darwin went on to detail what he meant:

“[N]or is the difference slight in moral disposition between a barbarian, such as the man described by the old navigator Byron, who dashed his child on the rocks for dropping a basket of sea-urchins, and a Howard or Clarkson; and in intellect, between a savage who does not use any abstract terms, and a Newton or Shakspeare. Differences of this kind between the highest men of the highest races and the lowest savages, are connected by the finest gradations.”[[15]](#footnote-35)

As with Lombroso’s racism, we have here another illustration of homophily, the pervasive cognitive bias whereby we tend to associate with and favor people similar to ourselves. Darwin’s apex of humanity was thus peopled by the physicist Isaac Newton, the playwright William Shakespeare, the abolitionist Thomas Clarkson, and the philanthropist John Howard. All were English, Christian, white, male, and from the educated classes— that is, much like Darwin himself!

Still, Darwin’s views were in step with those of his peers, and in some ways more liberal; hence his staunch opposition to slavery, evident here in his inclusion of Clarkson among the great and the good. On the other hand, *The Descent of Man* lent scientific authority to the idea of a racial hierarchy differentiating humans who are “more human” (more evolved, physically, intellectually and behaviorally) and “less human” (less evolved, physically closer to the other great apes, less intelligent, and less “civilized”).

Thus inspired, it wasn’t such a big step for Lombroso to venture beyond “scientific” racism, and seek out those “clear traces of [man’s] descent from some lower form” specifically in the bodies of the people deemed “lowest” within his own society— beginning with convicts and the mentally ill. For instance: Darwin had pointed out the presence in some people of a “peculiarity in the external ear,” a “little blunt point, projecting from the inwardly folded margin, or helix” which he believed to be the “vestiges of the tips of formerly erect and pointed ears” found in monkeys. Building on this rather flimsy foundation,[[16]](#footnote-36) Lombroso claimed that[[17]](#footnote-37)

“Twenty-eight per cent. of criminals have handle-shaped ears standing out from the face as in the chimpanzee: in other cases they are placed at different levels. Frequently too, we find misshapen, flattened ears, devoid of helix, tragus, and anti-tragus, and with a protuberance on the upper part of the posterior margin (Darwin’s tubercle), a relic of the pointed ear characteristic of apes.”

[Left: Descent of Man; Middle: a monkey; Right: Gina Lombroso.]

The next time you look in the mirror, you may want to check whether your ears, too, feature this apish protuberance!

As you might have guessed by now, Lombroso deemed left-handedness a marker of “degeneracy” too:

“Compared to normal individuals, criminals show an almost twofold prevalence of left-handedness; in this they resemble children, primitives, and idiots, who are commonly ambidextrous […]. Everyone agrees that left-handedness is a result of the prevalence of the brain’s right hemisphere over the left, as opposed to the normal prevalence of left over right, which results in right-handedness.[[18]](#footnote-38) While the honest person thinks with the left brain, the criminal thinks with the right […]. When people shy away from the left-handed person and refer to him as “sinister,” they simply confirm Italian folk wisdom about left-handed people. Lengthy research will be needed to confirm the popular belief, prevalent especially in Emilia and Lombardy, that swindlers tend to be left-handed. But my own findings provide preliminary proof that left-handedness is more prevalent among swindlers (33 percent) than among other types of criminals.”

Needless to say, none of this “preliminary proof,” which was based on a very small number of samples and hopelessly biased, stood up to later scrutiny. Nonetheless, the stigma, mired as it was in age-old folk wisdom, stuck. Now it had the veneer of “science.”

Given the association of right-handedness with “normal” dominance of the “good” left brain, and left-handedness with “pathological” dominance of the “bad” right brain, many 19th century thinkers began to similarly associate every other property or character trait that had “good/strong” and “bad/weak” polarities with lateralization. This included gender. According to the American phrenologist Orson Squire Fowler (1809-1887), for instance, “seeds from the right testicle [impregnate] only an egg from the right ovary, which produces only boys, while girls are created by the left.”[[19]](#footnote-39)

Inevitably, this resulted in sexual orientation becoming associated with handedness, since here, too, there was a “right” majority and a “wrong” minority. Hence the Australian vernacular for left-handed likely dating to the 1930s, “mollydooker,” from slang for effeminate (“molly”) and fist (“dook” or “duke,” as in “put up your dukes”), or, in American English, the use of the sports term “switch hitter” (meaning an ambidextrous baseball batter) for bisexuality. Austrian physician and psychologist Wilhelm Stekel, one of Sigmund Freud’s earliest and most distinguished followers, wrote in *The Language of Dreams* (1911),[[20]](#footnote-40)

“The right-hand path always signifies the way to righteousness, the left-hand path the path to crime. Thus the left may signify homosexuality, incest, and perversion, while the right signifies marriage […].”

Freud’s closest friend for a time, the physician Wilhelm Fliess (1858-1928), took this belief a step further, writing in *The Course of Life* (1906),[[21]](#footnote-41)

“The emphasis on the two halves of the body always changes, so that effeminate men and masculine women are wholly or partially left-handed; and vice versa, left-handed men are invariably more effeminate and left-handed women are more masculine than those who are right-handed.”

Both Stekel and Fliess, like many other 19th and 20th century thinkers, regarded homosexuality as well as any tendency to flout the (highly rigid) gender norms of their day as “perversions” and “aberrations” expressing traits of the “wrong gender,” as well as connecting them with criminality, as we’ll discuss further in Part II.

Before we wrap up with handedness, though, we should look at real data. Since there’s some genetic evidence linking handedness with gender (albeit, as we’ve seen, there are confounding factors given the greater propensity of men to injure themselves), it’s reasonable to wonder if there’s anything to the supposed association between handedness and sexual orientation.

If so, the effect is very weak, as we can see by graphing the numbers of strictly left- and right-handed women and men who are strictly same-sex attracted[[22]](#footnote-42) (this framing avoids, as much as possible, conflating the analysis with questions of self-identity, which as we’ll see later is more complicated). The left-handed and right-handed curves fall within each other’s error bars across all ages, showing no significant difference in the rate of strict same-sex attraction by handedness.

Nor is there any statistically significant association between handedness and identifying in adulthood as a man, if assigned female at birth, or as a woman, if assigned male at birth[[23]](#footnote-43) (though for the latter group especially, for reasons we’ll discuss in Chapters 8 and 9, the numbers are very small, since we’re now looking at minorities of minorities of minorities, resulting in very large error bars).

In a recurring pattern, the fact that influential 19th and 20th century thinkers usually didn’t have the thousands of datapoints required to actually test their hypotheses, as we do, didn’t prevent them from making some highly confident (yet utterly incorrect) claims.

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1. A 35 year old from Terre Haute, Indiana. [↑](#footnote-ref-21)
2. “Social Stigma,” Wikipedia, April 15, 2020, https://en.wikipedia.org/w/index.php?title=Social\_stigma&oldid=951165629. [↑](#footnote-ref-22)
3. A 28 year old from Evansville, Indiana. [↑](#footnote-ref-23)
4. A 34 year old from Orange, California. [↑](#footnote-ref-24)
5. A 38 year old from Lanham, Maryland. [↑](#footnote-ref-25)
6. Wolf Gruner, “The Forgotten Mass Destruction of Jewish Homes during ‘Kristallnacht,’” *New Frame*, November 19, 2019, https://www.newframe.com/the-forgotten-mass-destruction-of-jewish-homes-during-kristallnacht/. [↑](#footnote-ref-26)
7. “右,” Wiktionary, December 9, 2020, https://en.wiktionary.org/w/index.php?title=%E5%8F%B3&oldid=61280998. [↑](#footnote-ref-27)
8. “左,” Wiktionary, January 19, 2021, https://en.wiktionary.org/w/index.php?title=%E5%B7%A6&oldid=61604472. [↑](#footnote-ref-28)
9. Valentin Anders, “Etimología de Izquierda,” Etimologías de Chile, accessed July 1, 2022, http://etimologias.dechile.net/?izquierda. [↑](#footnote-ref-29)
10. Per the introduction by Mary Gibson and Nicole Hahn Rafter of their 2006 translation of Lombroso’s *Criminal Man*. [↑](#footnote-ref-30)
11. Gina Lombroso referred to Vilella, rather hyperbolically, as “an Italian Jack the Ripper, who by atrocious crimes had spread terror in the Province of Lombardy.” As far as we know, he was in fact a laborer from Calabria who had been imprisoned for the theft of two kid goats and five ricotta cheeses. Fabrizio Assandri, “Il Cranio Del ‘brigante’ Villella Può Restare Al Museo Lombroso,” *La Stampa*, May 17, 2017, https://www.lastampa.it/torino/2017/05/17/news/il-cranio-del-brigante-villella-puo-restare-al-museo-lombroso-1.34601404/. [↑](#footnote-ref-31)
12. Cesare Lombroso, *L’uomo delinquente* (Milano: Hoepli, 1876). [↑](#footnote-ref-32)
13. Charles Darwin, *The Descent of Man, and Selection in Relation to Sex* (D. Appleton, 1871). [↑](#footnote-ref-33)
14. His reticence to point out this obvious conclusion had been borne of anxiety over a religious backlash, which did occur and is still ongoing. [↑](#footnote-ref-34)
15. While Bronowski was less explicitly racist, his perspectives on vanished civilizations are similarly animated by the sense of progress from a state of savagery and primitivism toward a European Enlightenment featuring Bach and Leibniz. Despite the grandeur of Machu Picchu, for instance, Bronowski’s disdain for the Inca is evident as he castigates them for being too primitive to have built arches. [↑](#footnote-ref-35)
16. More modern anthropometric research tells us that about 10.4% of the Spanish adult population, 40% of adults in India, and 58% of Swedish school children exhibit this feature. “Darwin’s Tubercle,” Wikipedia, July 6, 2022, https://en.wikipedia.org/w/index.php?title=Darwin%27s\_tubercle&oldid=1096806503. [↑](#footnote-ref-36)
17. Lombroso, Gina, and Cesare, *Criminal Man, according to the Classification of Cesare Lombroso, Briefly Summarised by His Daughter Gina Lombroso Ferrero* (New York: G.P. Putnam’s Sons, 1911). [↑](#footnote-ref-37)
18. The observation here that the right brain is “wired” mainly to the left side of the body, and the left brain to the right, is correct. [↑](#footnote-ref-38)
19. Daniel R. Shafer, *Man and Woman; Or, Creative Science and Sexual Philosophy* (St. Lois: J.H. Chambers & Co., 1882). How Fowler arrived at his many weird conclusions is anyone’s guess; they were easily disproved by noticing that people with a single testicle or ovary were perfectly capable of having children of any sex. [↑](#footnote-ref-39)
20. *Die sprache des traumes: Eine darstellung der symbolik und deutung des traumes in ihren bezeihungen zur kranken und gesunden seele, für ärzte und psychologen* (J.F. Bergmann, 1911), 466. [↑](#footnote-ref-40)
21. Wilhelm Fliess, *Der Ablauf des Lebens: Grundlegung zur exakten Biologie* (Franz Deuticke, 1906). Translation mine. [↑](#footnote-ref-41)
22. Strict same-sex attraction is defined as either sexual or romantic attraction to the same sex, and no attraction of either kind to the opposite sex; it’s only defined for people who answer “yes” to only one of “Are you a man?” or “Are you a woman?” [↑](#footnote-ref-42)
23. Once again, this somewhat awkward framing (as opposed, for example, to “trans man” or “trans woman”) avoids to the degree possible the confounding effects of the shifting definition of identities like “trans” across ages and between populations, a topic we’ll explore in Chapter 9. [↑](#footnote-ref-43)