Designing for Truth in Counterfactual Documentary Games

The following essay brings together two distinct and seemingly irreconcilable threads: first, the place of interactive narratives and games within the broader context of documentary media; and second, the value of *counterfactual* narrative as a documentary form. I will weave these two threads using my own counterfactual documentary game as the guide. Currently under development in Twine, the game is rooted in archival research about the past yet is about a version of the past that didn't happen. The game asks the following counterfactual question: *what if gene editing technology like CRISPR had been invented in the 1920s and 1930s, the height of the eugenics movement in the United States?* What follows is part theoretical exploration, part artist statement, and part devlog for this game.

Documentary Games

Documentary film and video has a long history of production and criticism. The game designer Tracy Fullerton suggests that Michael Renov's work is a useful starting point for understanding "questions of objectivity, selection, omission, intent, narrative, and the nature of reality" in documentary media (Fullerton 2016). Documentary media has four "tendencies," as Renov puts it in *Theorizing Documentary*:

1. to record, reveal, or preserve

2. to persuade or promote

3. to analyze or interrogate

4. to express. (21)

All fairly straightforward, except perhaps "to express," a deliberately vague term that accommodates avant-garde or innovative ways of working with the medium. Documentary media need not assume a realist mode, though that's certainly the default.

What's implied with all four of these tendencies is the phrase "the past or present." To record, reveal, or preserve *the past or present*. To analyze or interrogate *the past or present*. But what about—and this is a key question I'm asking—what about a documentary game about a version of the past that didn't happen? I'll get to that question soon enough.

Documentary videogames try to do what other forms of documentary media do: reveal the past, preserve the present, analyze a fraught situation, persuade us and so on. But because of their interactive and procedural nature, games can adopt techniques not available to still or time-based documentary media. In *Newsgames*, the game studies scholars Ian Bogost, Simon Ferrari, and Bobby Schweizer describe how videogames offer what they call "playable realities" (63–75). These playable realities simulate historical or contemporary events, ostensibly helping players to understand the past or present more deeply. Bogost and his collaborators identify three kinds of playable realities videogames are well-suited to present. The first is a "spatial reality," in which players explore the physical environment of a historical event. The second is an "operational reality," which recreates specific events and allows the player to work through them. This category is what people typically think of when it comes to playing the past in a videogame. The third type of playable reality is "procedural reality." Here a game models "the behaviors underlying a situation, rather than merely telling stories of their effects" (Bogost et al. 69).

The term "procedural" alludes to the way games are rule-driven systems and as such, an ideal medium to model networks of cause and effect that exist outside the game

world. "Procedural" sounds cold and clinical, but one could argue that these games actually foster empathy, because they can convey the experience of being caught in or manipulated by a system beyond your control. A recent example of a game that focuses on procedural reality is Fobazi Ettarh's [Killing Me Softly](#) (2016), which is about the cumulative effects of microaggressions—those small, seemingly minor indignities that chip away at the sense of belonging of already marginalized people.

Killing Me Softly begins with the player selecting a character, either Alex or Leslie. This initial choice changes the kind of microaggressions the player encounters, as well as the range of possible responses to each microaggression. Here's an example of one of the microaggressions the player faces as Leslie, a disabled black woman (see Figure 1).

[Insert Figure 1. Full Column]

Leslie's response to her work colleague's comment about her hair will shape the game's narrative as it moves forward. As microaggressions pile up, they wear the character down. This sense of exhaustion is cleverly modeled in the game. Choices you might have wanted to make are no longer available to you, signaled by strikethrough text (see Figure 2). Anastasia Salter identifies the "visible yet unavailable choice" in Twine games as a primary mechanic for developing player empathy in emotionally-fraught games (Salter 4). Limiting choices in videogames may seem counterintuitive, but by leaving traces of once-possible paths, the game forces the player to be "constantly aware of the 'right' decisions but unable to escape the limitations of the character" (Salter 5). In the case of *Killing Me Softly*, Ettarh uses the procedural system of the game to model her and her friends' navigation of work and social situations that on the surface try to be inclusive but through subtle effects erode their sense of agency.

[Insert Figure 2. Full Column]

Another game that attempts to design for empathy is Stephen Granade's Will Not Let Me Go (2017). In this interactive fiction, the player-character is an older man going through progressively worse stages of dementia. The story is inspired by Granade's experience with a family member's Alzheimer's (Granade). Like Ettarh, Granade tries to convey a personal, often internal, experience through game mechanics. You get lost in your own home. You struggle to find the correct words. You repeat certain sequences, only discovering afterward you had already done them. Through the procedural logic of the game, *Will Not Let Me Go* offers a semi-fictionalized documentary account of living with dementia. The game offers up a playable procedural reality.

It's important to note that designing for empathy in games is not without complications, even troubling consequences. Indie game developer Merritt Kopas cautions again "empathy tourism" (Kopas 14)—which is similar to Lisa Nakamura's critique of "identity tourism" in videogames, wherein a player appropriates a marginalized racial identity "without any of the risks associated with being a racial minority in real life" (Nakamura 40). Empathy tourism similarly promises only a superficial encounter with difference, what videogame theorist Teddy Pozo calls an "emotional fantasy." Pozo argues that empathy in games may in fact reinforce stereotypes, encourage the objectification of others, and marginalize "already marginalized artists" (Pozo). Pozo offers a number of ways for game designers to move beyond "transactional empathy experiences," including the aesthetics of haptics and "weaponized cuteness." To this list I want to add another possibility: the revelation of an ideological reality.

Ideological Reality

Both *Killing Me Softly* and *Will Not Let Me Go* are built in Twine. An open source platform created by Chris Klimas, Twine exploded in popularity in 2013, when the indie game designer Anna Anthropy published *The Rise of the Videogame Zinesters*. Anthropy argues that videogames have the potential to be what zines were in the 1990s, when photocopiers and new self-distribution channels online made it possible for anyone to share their personal stories and creative work. A queer trans game designer herself, Anthropy sees in videogames a creative art form that shouldn't be dominated by multimillion dollar first-person shooters and racing games. Just as zines circumvented the mainstream magazine publishing industry, small personal videogames can add a "plurality of voices" to the art form (Anthropy 8). Anthropy discusses several game development platforms that everyday people who wouldn't otherwise see themselves as game designers can use to create "personal and meaningful" games (Anthropy 10). And one of those platforms is Twine. Twine is also the platform I am using for the game under discussion for the rest of this paper, the game that is at once a documentary game and a counterfactual game. And though the game integrates the three playable modes of spatial, operational, and procedural reality, it ultimately attempts to model a fourth mode of playable reality, what I am calling ideological reality.

What is that ideological reality? The game is titled *You Gen 9*, a play on words that becomes evident as the story progresses. Broadly speaking, *You Gen 9* collapses contemporary anxieties about class, race, immigration, and citizenship onto the eugenics movement of the early 20th century, which was also concerned with class, race,

immigration, and citizenship. What if, the game asks, the eugenics movement of a hundred years ago had the technological tools of today?

In order to explore this question, the game synthesizes eugenics discourse of the early 20th century. This synthesis is rooted in archival research, for example surveying the widespread use of the catchall term "feebleminded" during the era. A typical text in this regard is a four-volume book series from 1914 called *The Eugenic Marriage: A Personal Guide to the New Science of Better Living and Better Babies*. Written by a medical doctor at Columbia University's College of Physicians and Surgeons, *The Eugenic Marriage* covers a host of pregnancy and child-rearing topics. The book begins, though, with an explanation of the eugenical approach to marriage, the goal of which is the elimination of "feebleminded" individuals from family bloodlines. Later the author defines what exactly counts as the feebleminded: "the criminal, the imbecile, the insane, and the epileptic" (Hague 37).

One of the most notorious eugenical works of the era is Madison Grant's 1916 *The Passing of the Great Race: The Racial Basis of European History*. The intersection of nationalism and racism in *The Passing of the Great Race* is uncomfortably familiar these days. A profound influence on Hitler's *Mein Kampf* (Black 274–75), Grant's racist screed makes an extended case for the superiority of the Nordic race and the dangers it faces from lesser races and impure blood lines. Among the threats the "great race" faces are what Grant calls "moral perverts, mental defectives, and hereditary cripples" (Grant 49). Elsewhere Grant laments the burden that the feebleminded place upon society, proclaiming, "A great injury is done to the community by the perpetuation of worthless types." (45).

Among Grant's solutions to the problem of the "germ plasm" of the Great Nordic founders of America being diluted by generations of feebleminded foreigners was sterilization. Sterilization was considered progressive at the time, as it would contribute, or so its proponents argued, to the betterment of the human species. For example, a 1929 report by one of the leading eugenics organizations at the time, the Human Betterment Foundation, sounds the alarm about "defects" scattered through the "germ plasm of the nation" (Gosney and Popenoe 5). Voluntary sterilization was seen a humane way to eliminate such defects. Particularly concerning at the time were "feeble-minded females," defined in the report as "oversexed," "feebly inhibited", and "delinquent" (40). The report goes on to identify categories of people that should be sterilized. Among them are "helpless defectives," which are girls of "the lowest intelligence" (57); and "troublesome delinquents," which are "young women, unmarried though often illegitimate mothers, sexually delinquent and often mentally abnormal" (58).

Forced sterilization (as opposed to voluntary) was also on the table as a solution to the supposed danger that nonconforming women and unmarried mothers represented. Forced sterilization was the issue at the heart of the infamous 1927 Supreme Court case *Buck v. Bell*. In 1924 Virginia had passed the Eugenical Sterilization Act, a law that legalized the involuntary sterilization of "mental defectives." As historians such as Matt Wray have thoroughly documented, this notion of mental defectives often included poor white women, seen as hereditary "degenerates" (Wray 93–94). Such was the case with 17-year-old Carrie Buck, who had been raped by a relative of her foster family. In its decision to *Buck v. Bell*, the Supreme Court affirmed the state's right to carry out involuntary sterilization. The closing statement of Justice Oliver Wendall Holmes' majority opinion concludes with the

famous line: "three generations of imbeciles are enough." The Supreme Court, in a case that has never been explicitly overturned, gave its stamp of approval to pseudo-scientific policies designed to reinforce gender, class, and racial hierarchies.

You Gen 9 confronts this ideological reality and connects it to the discourses, policies, and practices of 21st century America by collapsing elements of the present onto the past. What if the early 20th century eugenicists' naïve understanding of what they called "germ plasm" had somehow leapfrogged technologically into the genetic tools we have today? What would today's complete domination and manipulation of the human genome look like when thrust upon the classist and racist ideology of the years leading up to World War II?

Counterfactual Thinking

Such questions are a staple of counterfactual thinking. While the term "counterfactual" is often applied to any fictional divergence from historical reality, cultural critics and literary scholars have begun theorizing counterfactual thinking in a deeper way. In *Telling It Like It Wasn't*, the Victorianist Catherine Gallagher examines 19th and 20th century British and American counterfactual literature, arguing that counterfactual fiction is often concerned with "the role of human agency and responsibility in history" and "the possibilities of historical justice and repair" (Gallagher 4). Meanwhile the prominent digital humanist and alternate reality game (ARG) designer Kari Kraus has formulated what she calls a "family of subjunctive practices"—approaches in art, design, science, and the humanities to arrive at subjunctive knowledge, that is, "knowledge about what might have been or could be or almost was" (Kraus 164). Kraus's classification system for subjunctive knowledge includes

forgeries and counterfeits, hoaxes, speculative design, and counterfactual games and literature, which she describes as "fictional interventions in the historical record…that offer 'what-if' alternatives to reality, where reality is understood to encompass empirical data, historical documentation, and fact-based events" (165).

This the realm *You Gen 9* inhabits. On one hand, the game incorporates real people, events, and artifacts. On the other hand, it imagines one significant revision to the historical record. Elsewhere Kraus and her collaborators have detailed their approach to designing a counterfactual ARG, in which they highlight the importance of "locating opportunities for counterfactual intervention" (Bonsignore et al. 2080). These opportunities, or "fault lines," as Kraus calls them elsewhere (Kraus 164), are specific instances in the contemporary or historical record where game designers and storytellers can insert evidence, narratives, and events that run counter to empirical data and fact-based events.

For example, designers might devise new categories of information to supplement pre-existing categories, a "Categorical" design pattern. Or, create new causes for historical events that otherwise have indeterminate origins (a "Causal" design pattern). A "Correlational" design pattern integrates historical facts and figures with some proximity to the historical narrative into the counterfactional narrative. A "Documentary" design pattern introduces fictive documentary evidence that supports the counterfactual narrative. Designers might also invent counterfactual personages, places, or events that are somehow derived from historical personages, places, or events (a "Genealogical" design pattern) (Bonsignore et al. 2082).

You Gen 9

You Gen 9 employs several of these design patterns and introduces others. The game opens with a short, jarring title sequence, as the player-character is wheeled into an operating room on a gurney. We don't realize it yet, but she's about to receive her first gene-editing treatment, which is intended to sterilize her. The sequence lasts about 25 seconds, describing in fragments the character's disoriented perspective. There are no choices to be made here; timed text flashes on the screen, unfocused and frantic. This sequence is the textual equivalent of a subjective camera shot, showing the world precisely from the character's point of view. As Alexander Galloway notes, the subjective shot is rarely used in cinema, reserved for extreme moments of distress and disorientation (Galloway 56). In *You Gen 9* this early subjective perspective reinforces the limited agency of the character. The unnamed player-character is similar to other victims of forced sterilization in the 1920s and 1930s: an unconventional, unmarried poor white woman deemed to be promiscuous. Or, using the pseudo-scientific language of the day, "feebleminded." Before the genetic treatment can begin, the title sequence ends and the game flashes back to 1924, when the unnamed player-character is about 12 years old and has just snuck into the North Carolina State Fair without paying admission. These scenes at the fair establish that the player-character is anything but "feebleminded" or "unfit." She is brave, independent, clever, and curious. And full of agency.

She and her friend head toward the midway attractions but are distracted by several exhibits. First they encounter an old-time patent medicine salesman hawking liver pills (see Figure 3).

[Insert Figure 3. Full Column]

The blue words are interactive links; throughout the game they variously expose new text, lead to different passages, offer chances for the player to make critical decisions, and more. The name and description of the pills comes straight from an advertisement for Polk Miller's Liver Pills that appeared in the program for the 1924 North Carolina state fair (*North Carolina State Fair Premium List*). It is historically accurate, in other words. Yet in the next scene the heroine encounters another hawker of goods, this time a counterfactual presentation I've grafted onto the fair (see Figure 4). According to Bonsignore et al.'s classification of counterfactual design patterns, this scene is a Categorical pattern, expanding an existing category (patent medicine) to include a counterfactual example (gene extraction and manipulation technology).

[Insert Figure 4. Full Column]

One of my primary design goals for *You Gen 9* is to transform historical documents into playable archives. This is a slight tweak to the idea of "fault lines" for counterfactual intervention in that what's counterfactual is not the documentary evidence itself but the way the player-character engages with it. A parallel term to Categorical, Causal, and so on (and a nod to the playable realities discussed earlier) would be an Operational design pattern, as in operationalizing archival material in a way that diverges from the historical record.

Let's take a look at the way *You Gen 9* operationalizes archival material. Figure 5 shows a chart displayed at the Kansas Free Fair (the equivalent of a state fair) around 1929 at a eugenics exhibit.

[Insert Figure 5. Full Column]

You Gen 9 turns this historical document into a mini-game embedded in the text-based narrative. First, the game reimagines the static chart as an interactive display (see Figure 6).

[Insert Figure 6. Full Column]

When players tap or click "the marriage game," they can interact fully with a dynamic version of the chart that fairgoers would have encountered in the 1920s. Given that, in the name of accessibility, distribution, and playability, *You Gen 9* is entirely text-based (with occasional audio effects), it was a challenge to render the "Marriage—Fit and Unfit" chart as a game. But the final result is in fact a playable version of the chart, an operationalized archive in other words (see figure 7).

[Insert Figure 7. Full Column]

A short while later in the game, the player has another opportunity to engage with a historical document. This is another sign often found at eugenical exhibits and Fitter Family Contests, competitions at state fairs in which families competed against each other to win the honor of being a eugenically "fit" family (see Figure 8).

[Insert Figure 8. Full Column]

The heroine of *You Gen 9* encounters this "Born to be a Burden" exhibit. The game operationalizes this historical document to an even greater extent than the "Fit and Unfit" marriage game. As the player-character explores the exhibit, she realizes she could easily vandalize it (see Figure 9). And indeed, she does. It's this act of vandalism that results in her being kicked out of the fair and being subsequently labeled "delinquent." It's a designation that will come back to haunt her in the game's second act, which picks up with

her being a test subject for "You Gen 9," the ninth generation of the gene editing technique revealed earlier in the fair.

[Insert Figure 9. Full Column]

Moving from simply engaging with a historical document to actually destroying it fulfills that design goal of operationalizing the archive. The first act of *You Gen 9* is largely complete, the second act, which picks up with the title sequence, is under development. It will employ more of the counterfactual design patterns. Genealogically, the company that developed the gene editing techniques is derived from the very real Human Betterment Foundation and the North Carolina-based Human Betterment League; in terms of a Correlational design pattern, historical figures such as Madison Grant, James Hanes (the hosiery mogul and one of the founders of the Human Betterment League), and Clarence Gamble (a prominent medical doctor, eugenicist, and heir of the Proctor & Gamble soap fortune) will appear.

Historical Truth with Counterfactual Narratives

Colson Whitehead's Pulitzer Prize-winning novel *The Underground Railroad* (2016) is an astounding feat of the counterfactual imagination. In Whitehead's novel the underground railroad—that death-defying perilous journey out of the slave-owning South—is an actual railroad that runs underground. It seems fantastical and it is, but it lays bare a comforting lie America has told itself about its past, that freedom for enslaved people was just a short escape away. No. The truth—as Whitehead insists by paradoxically using fiction—the truth was much harder to bear. Similarly, counterfactual games try to get at some underlying truth—in this case the ideological reality of race science, class privilege, and nationalism—

by interweaving fiction and facts. *You Gen 9* not only questions the past, it challenges us in the present to hold society accountable for what it's done and what it's doing. Counterfactual games, like more conventional documentaries, reveal, persuade, and analyze. And they can also express empathy, frustration, and anger about the past and present—and maybe hope for the future.

Figures

You go to the bar. The bar is loud and boisterous. (Just the thought of being surrounded by so many drunk people for an extended period of time makes you tired, but you want to make a good impression). You and your coworkers have a couple of drinks. As the drinking continues so does the boisterousness. After a while, the joking begins. You start to feel uncomfortable as the jokes become less and less funny, and more and more sexist. As you try and figure out the best exit strategy, a coworker drunkenly leans on you, puts her hands in your hair, and says how your hair isn't as ghetto as she thought it'd be. You freeze. And:

Laugh uncomfortably and say thanks.

Push her off and say don't touch me.
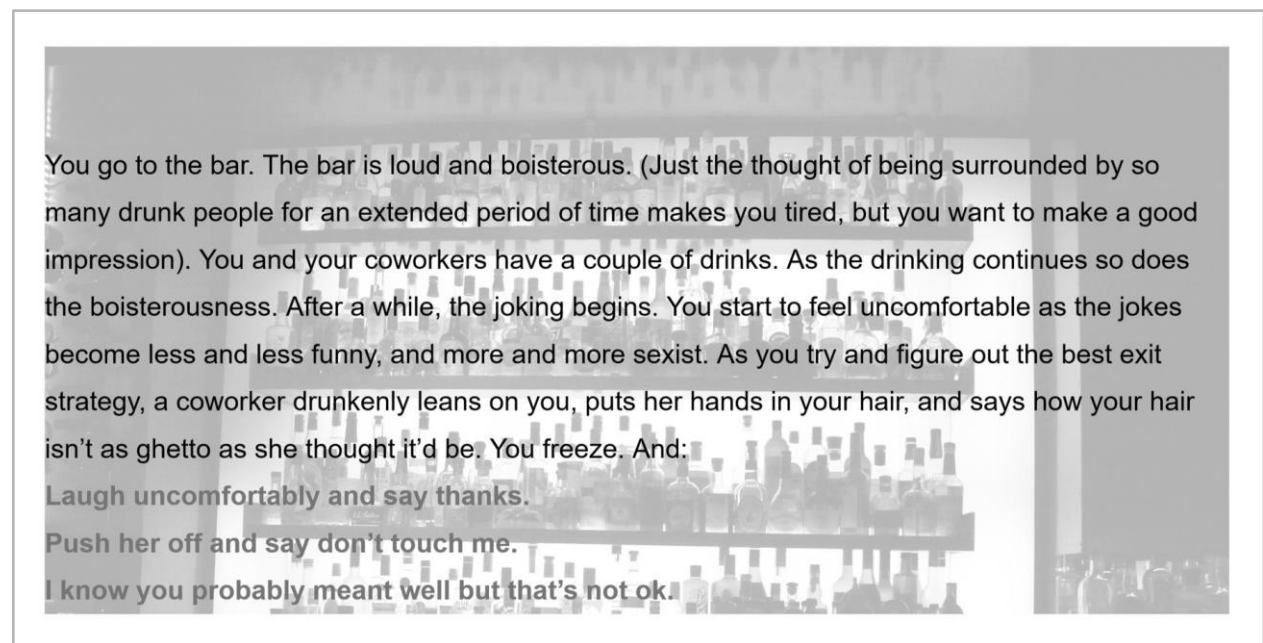
I know you probably meant well but that's not ok.

Figure 1: A microaggression Leslie faces in *Killing Me Softly*.

Anxious about being in another public space after your experience, you almost back out. But deciding that food is more important than discomfort you agree to go. Jesse decides to treat you to the nice Italian restaurant the two of you had been eyeing for a while. You get seated and order your food. You realize that the server only talks to Jesse throughout your time there. Later on your way to the bathroom, you overhear the servers talking and your server complaining about how "your people" never tip well. You hurry back to the table and eat the rest of your food in silence. When it's time for the check you:

~~Leave a stingy tip. The server gave you terrible service and insulted you.~~

~~Leave an extremely good tip. That will show her not to make assumptions!~~

Tell Jesse to pick up the tab.

Figure 2: Strikethrough text signaling lack of agency in *Killing Me Softly*.

It's 1924, not 1824, yet here's a starchy old man in a red and white striped vest, calling out in a braying auctioneer's voice. "Polk Miller's Liver Pills! The one and only!" He points to a passing gentleman. "You sir! What ails you?" The man looks bothered, as he'd rather this patent medicine salesman didn't exist.

"Polk Miller's Liver Pills," the salesman goes on, at an ever increasing pace, "aid nature in relieving billiousness, chills and fever, torpid liver, constipation, dizziness, headache, stomach troubles, shallow skin." The man pauses a beat.

Figure 3: Polk Miller's Liver Pills

"And here," the man taps his pointer on a **bright yellow spiral** on his diagram. "You can see the germ plasm through which, with our experimental extraction technique, we can analyze and reproduce specific animal germ characteristics in a laboratory setting. Our scientists recently made a breakthrough that moves this technique from the lab to the farm. We call this second generation technique 'You Gen 2.'" The **man ends with a flourish** of his pointer.

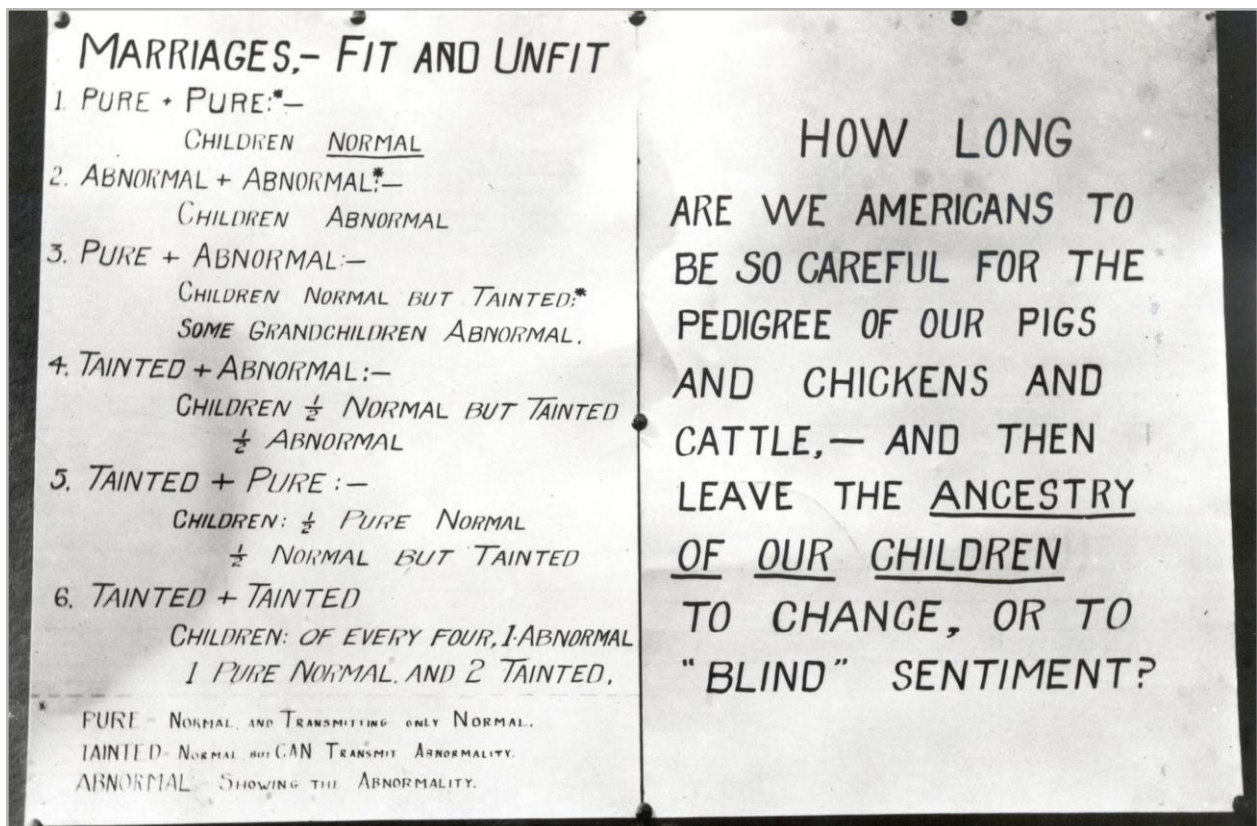Figure 4: The introduction of a gene-editing technique

Figure 5: (American Philosophical Society, *Chart Used at Kansas Free Fair Showing*

"Marriages Fit and Unfit" with Outcomes of "Pure" and "Abnormal" Unions.)

You turn the left dial experimentally. It clicks into place and the word **Tainted** appears in the window next to the dial. The dial on the **Mother** side stays on **Pure**. A bell chimes and you notice a red button in the bottom center, labeled **Children?**

The display now reads:

50% are Pure Normal
50% are Normal but Tainted

The machine reminds you of a children's toy. You can spin the dials and see different results every time. You play with **the marriage game** some more.

Figure 6: The player-character encounters a game about marriages.

The Marriage Machine: Fit or Unfit?

Father   *Mother*
Pure   **Abnormal**

Children?

Normal but Tainted
Some Grandchildren will be Abnormal

Figure 7: The playable "Marriage Machine"

Figure 8: This exhibit with three flashing lights appeared at the Sesqui-Centennial

International Exposition in Philadelphia in 1926

(American Philosophical Society, *Flashing Light Sign*).

The "Born to Be a Burden" display is a simple contraption. The light bulbs are simply screwed into the wooden board and you could easily **loosen them** so they don't light up at all. That might be funny. Or you could even try **poking around** with the wires behind the board.

Figure 9: Deciding how to vandalize the "Born to Be a Burden" display.

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