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English Composition II

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Project Proposal

1. Defining an object

Insulin is a hormone that helps absorb sugar from blood into fat, muscle, and liver cells. A lack of insulin characterizes the disease diabetes which, until the early 20th century, was essentially a death sentence. Early work by University of Toronto scientists discovered that insulin derived from animal (now mostly pork) pancreases can substitute human insulin for diabetics. But porcine insulin is an imperfect substitute for human insulin. In the past few decades, synthesizing insulin has become the manufacturing method of choice. Genetically engineered bacteria, typically *E. coli*, can mass-produce "biologic insulin," a category of drugs with similar effects to the insulin produced by non-diabetic pancreases. I will be focusing on a specific biologic insulin, insulin glargine, under the Lantus brand made by Sanofi. The genetic code inserted into the bacteria is different for this compound in such a way that it lasts for 24–36 hours rather than the 2–3 of standard human insulin.

Unfortunately, this medicine isn't widely available: at $306 per 10ml vial, diabetics are forced to pay thousands just to stay alive. Sanofi can charge this much because of patents: the US government has given them a legal monopoly on insulin glargine and the surrounding processes until 2027. Most other insulins suffer from the same issue. Diabetics get the choice between generic versions of older, less reliable insulin with expired patents and paying through the nose. The price gap isn't a fundamental issue with the drug industry either: the manufacture cost is estimated as, at most, $133 per patient per year.

2. Crafting a "take," story, or thesis

Pharmaceutical companies are accurately described as giants, funneling billions in annual rev-

enues through research, marketing, lobbying, management, all in service of shareholder profits. The United States especially, but not exclusively, has an exceedingly beneficial "regulatory environment." Long-lasting patents, the Digital Millennium Copyright Act on devices like pumps and implants, research subsidies, preventing Medicare from negotiating, a large uninsured population (i.e. without advocacy), and industry price-fixing have all enriched pharmaceutical companies at the expense of their customers. Insulin is the "poster child for the wider problem of high drug prices," and I want to focus on the historical development of this issue alongside the development of insulin and auxiliary technologies.

In the way of Steven Johnson's "consilient thinking," I want to look closer at the medical side of insulin. I think the resource struggle of a diabetic might be similar to the resource struggle of an individual cell. I also hope to find evidence of the inefficiencies of the corporatist system affecting the government, corporations themselves, or even medically—to build the case of market inefficiency in the industry. I will focus on this lens of market inefficiency, which I'm going to frame as a result of the power these companies hold.

3. Generating a Video

My video is going to use a video essay style. I am going to make a slideshow focused on visual illustrations and images, mostly external images from Creative Commons sources. However, I probably won't include any long-form written content because imagery or, even better, animated or other video content, (if I could find any) are more captivating without distracting from my speaking. However, emphasizing certain words by repeating them visually may help with technical or otherwise important terms. I will record myself presenting the script of the video, and I'm going to focus on maintaining cadence in my tone and enunciation, especially after editing. With respect to editing, I will avoid splicing different recordings in one segment, but I will probably use different recordings per segment, as necessary. Because of the medium (video), I will probably include impressions of different characters to strengthen the narrative and maintain a chronology (insofar as that's the central structure). To distinguish different characters, I will use cues, nonverbal (tone and cadence) and visual (possibly some sort of animation). For visuals or minor animations, I'm

probably going to need to create some if I can't find what I need, and I'll make these during the editing stage as needed.

4. Research Plan

To support my framing, I'm going to need a deeper understanding of the medical side of insulin/diabetes. I'll also need knowledge of the manufacturing process so that I can talk about the products reasonably. For these, I will look for some medical research or summaries of relevant information. I'm also going to look into the variety of medical devices surrounding insulin for evidence of inefficiency and anti-consumer behavior.

To develop a sense of history for this product, I'm going to look into the history of Sanofi. Various leadership teams, major research, and mergers or pivots are relevant to their current behavior. I'm going to look at corporate press releases and general news about the company to determine lobbying activity, if any, and build a narrative. I'm also going to build on my cursory understanding of recent trends in antitrust (monopolies are restricted less and less) and where pharma companies fit in. My research will probably emphasise intellectual property, and I'll be looking at the legal system, so legislation and case law will probably fit into some of my research.

I've already looked into a few editorials and anecdotes about insulin pricing and the underserved market for "looping," (using blood sugar data to time insulin infusions) but more should be valuable. The perception of the general public or the average diabetic will help tell the story with a personal focus, although specific persons' experiences may be more valuable.

5. Timeline

I only have this proposal as of November 17, so I will have the annotated bibliography on the 18th, the script/slideshow by the 19th, and I'll finish recording by the 22nd, when I'll start editing.