

BACK AT GOOGLE, THE Glass team began to splinter. Those who developed Glass knew the device's limitations, but the top brass seemed unwilling to project anything less than unbridled enthusiasm.

Babak Parviz had watched in horror when J. T. Holmes jumped from the blimp and onto the Moscone Center. "If you actually jump from a blimp at that height wearing one of those wingsuits and the parachute doesn't open, there isn't a second parachute," he said. "So it's definitive death. And this was all live, with a few million people watching... [if something went wrong] we would be plastering someone against the

roof of the Moscone Center live and seeing their death from their point of view. It was incredibly nerve-wracking.”

When Holmes stuck the landing, Parviz felt relieved that Google hadn’t been launched with a human sacrifice, and recalled thinking “Okay, we got lucky, let’s never try this again. And then Sergey called me and was like ‘Yeah, I’m going to try to do it again tomorrow morning.’ And I was like ‘No, you’re crazy! Don’t do it!’ But obviously he did.”

Holmes doesn’t remember why they did two jumps. “Literally no idea why we jumped the next day, but we did,” he said. “Not sure if it was another conference or what, but I’m sure there was a good reason.”

Miraculously, nothing had gone wrong so far. But after three years of lightning-fast development and stunning technological breakthroughs, Glass now faced its first major dilemma—how did you sell something that required human behavior to be rewritten in order to be successful?

“We didn’t market it correctly,” Thrun said. “This was the first of three grave mis-

takes that we made, for which I take all the blame.”

For thirteen years, Google had operated with a triumvirate of leadership: Larry Page, Sergey Brin, and Eric Schmidt, all of whom were equal in their respective roles. But in April of 2012, just days before the big I/O reveal, Larry Page took the helm as CEO and the other two stepped down. It was reportedly a smooth transition, but turbulence at the top made for turbulence below.<sup>47</sup>

“So Sergey was looking for what to do inside the company, and he picked up two areas,” Thrun explained. “One was security, and the other was Google X.” In other words, Brin “became the de facto head of Google Glass.” Thrun would report directly to Sergey.

“Sergey was definitely very hands on,” Parviz added. “He’s a fantastic person, he’s a friend, and he was quite involved in this when I was there.”

According to Thrun, Glass should have

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<sup>47</sup> Levy, Steven. 2012. “Larry Page’s First Year as Google CEO: Impatience Is a Virtue.” *Wired*. <https://www.wired.com/2012/04/opinion-levy-page-first-year/>

been marketed as more of a sports product, like a GoPro. By highlighting the utility in the tech, people would have been excited about the same things that excited the engineers: being “out and about” and “engaged in something physical or visual in nature” that they could record and share on social media.

Parviz, too, believed Glass’s marketability was self-evident in the technology itself: “To me the vision was very compelling—let’s give people this superpower so they can access information instantly, and share the world that they see with others that they care about in a way that they’ve never been able to. That’s very compelling to me.”

In the years since running Glass, Thrun has wondered how they could have done things differently to emphasize this aspect of Glass. “It didn’t perform well at a romantic dinner, you can’t have your date come in and you’re blinking up at your eyes instead of engaging—that destroys romance,” Thrun said. “All the...complaints came from people wearing them indoors, not outdoors.”

Thrun speculated that if Glass had been

sunglasses from the very beginning, Glass would've by definition been an outdoor device. "There would've been no question about indoor use, because you're not going to wear sunglasses indoors," Thrun said. "That would've completely resolved a much better purpose and direction and communication for the device in what we chose."

Making sunglasses is exactly what Snapchat did when they created Spectacles in 2016. Spectacles were a \$130 dollar pair of sunglasses that recorded video that was then directly uploaded to your Snapchat account. Snap has since released new versions of Spectacles every year, improving the product gradually and also gradually increasing the price tag. Evan Spiegel, the CEO of Snap, recently told Kara Swisher that Snap is also planning to delve deeper into the possibilities of augmented reality, but that Snap isn't planning to have anything available to market for ten years.<sup>48</sup>

It's impossible to know what might have

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48 Swisher, Kara. 2018. "Snap CEO Evan Spiegel | Full interview | 2018 Code Conference." Youtube. <https://www.youtube.com/watch?v=SQYBLv6sbM>

happened if Glass had been marketed as more of an outdoor sports camera. Might this have kept it from getting a reputation as an elite product only meant for people with too much money to burn?

Brin wanted people to wear Glass soon, and he wanted them to wear the device all day, every day. This meant that Glass therefore should be marketed—and priced—as a high-end piece of jewelry. Otherwise, Glass would merely be nothing but a new toy for tech nerds.

“Or, let’s say, ‘dorks,’” Thrun said. “And I don’t mean that derogatorily.... But if the early adopters are all dorks, who wants to be associated with dorks?”

Brin suspected that the engineers were too focused on the tech to know how to *really* market Glass to cool people. “Sergey was a fashion-oriented, design-focused person,” said Thrun. “He attends the Oscars and stuff like this, and he would say ‘if you got Glass into a high fashion show, it’ll be associated with high fashion and high art.’”

On September 9, 2012—five months after the skydiving reveal at I/O—Glass made

its next major public appearance during New York Fashion Week at the Diane Vvon Furstenberg show.<sup>49</sup>

Brin and Furstenberg sat in the front row, their faces adorned with Glass. Supermodels strode down the runway, all wearing Glass and outfits that paired with the color of their specs. Google's intent was to show that Glass was a technology cherished and celebrated within the upper echelons of power and influence, and thus, some version would also soon be a ubiquitous part of daily life for everyone else.

Backstage, Glass was already suffering the same mistakes that would ultimately lead to its public demise. "It just seemed random for a brand like DVF to collaborate with Google, especially at NY Fashion Week," recalled Katryn Kruger, a South African model tasked with wearing Glass on the runway during the show. "Designers work for months on their collection, so why add something that could take away from

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49 Google. 2012. "DVF [Through Google Glass]." Youtube. <https://www.youtube.com/watch?v=30PjI31cyDY>

her work?”<sup>50</sup>

The people on the ground—the actual models—were skeptical of the way in which Glass was being shoehorned into the show at the last minute. “They mentioned something about [Glass] at the fitting a day before the show, but we only saw the glasses when we got backstage,” Kruger said. “I remember thinking it was a cool gadget that I would never have even known of if it wasn’t for the DVF show, but I also thought it was a bit strange to have it be part of a fashion show as an accessory. Looking back, I guess Google paid [Diane von Furstenberg] a lot of money to do it, or maybe she was desperate for something new. Who knows?”

Brin was adamant that this would be the best way to get the right people excited. “And he was right,” Thrun said. “I believe [Glass] became a reference point of wealth, of being special, and I could feel that—because I would wear it every day and bring it to meetings, or go dancing, go to a party. I was celebrated like a rock star because of it,

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50 Kruger, Katryn. Personal interview. 23 June 2020

[which] was shocking in the sense that I'm a geek. I'm in the dork category myself...but it had this effect on people."

The blogosphere was a bit more critical. Analyzing the photos of models (and Sarah Jessica Parker) wearing Glass, BuzzFeed's Amy Odell saw the fashion show as little more than Google paying a premium to de-nerdify how people saw Glass.

"Just to show you how big a part of this fashion show Google's sponsorship was, Brin even took a bow with DVF and her designer (right) at the end of it," wrote Odell. "Usually, designers just take a bow themselves, or occasionally with their favorite model. But going out there with Brin is almost like picking up your diploma at graduation with your parents at your side because they paid for it."<sup>51</sup>

The show proved that Google was willing to throw a lot of money into manufacturing interest around Glass—bloggers and privacy experts be damned. But this show of

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51 Odell, Amy. 2012. "Well Here's One Way to Make Google Glasses Less Goofy (Maybe)." BuzzFeed. <https://www.buzzfeed.com/amyodell/well-heres-one-way-to-make-google-glasses-less-go>

force reeked of desperation to many.

“It’s clear that Google feels that these GooGlasses will probably receive a chilly welcome from the world at large and this is one of the outreach efforts that will encourage folks to at least give them a fair shake,” wrote John Biggs for TechCrunch. “I worry that these sorts of shows will turn Glass into the must-have accessory of the year and that space-age Internet glasses will replace the Bluetooth headset as the douche gear of the next decade.”<sup>52</sup>

One way to make sure that the right kind of people were wearing Glass was to keep it out of the hands of the proles by making it unaffordable. “Internally they’d say, ‘If a human being is willing to wear this thing on their face, that is an incredibly high mark,’” said Thrun. “So you might as well treat it like a piece of jewelry. The consequence of that was to say ‘let’s price it like a piece of jewelry.’”

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52 Biggs, John. 2012. “Diane von Furstenberg Models Wear Google Glass On The Catwalk.” TechCrunch. <https://techcrunch.com/2012/09/10/diane-von-furstenberg-models-wear-google-glass-on-the-catwalk/>

This was the logic that caused Google to price Glass at \$1,500, a move which baffled everyone who was paying attention.

The former financial media company Minyanville had already declared Glass to be the “most promising foray into the wearable tech market by a major company thus far,” but couldn’t understand why it was so expensive. So they enlisted experts to reduce Glass to its individual components and determine what the technology might’ve cost to manufacture.<sup>53</sup>

Based on all Glass’s parts—including assembly, testing, packaging, and other related costs—Minyanville (along with other independent research firms) came to the conclusion that a single device cost somewhere between \$150 to \$210 to produce.<sup>54</sup>

Of course, that didn’t factor in the time

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53 Minyanville. 2013. “Breaking Google Glass into Pieces: The Costs of Production and Likely Retail Price.” Nasdaq. <https://www.nasdaq.com/articles/breaking-google-glass-pieces-costs-production-and-likely-retail-price-2013-08-23>

54 “Google Glass is Far More than the Sum of its Parts, IHS Teardown Reveals.” 2014. IHS Pressroom. Archived: <https://web.archive.org/web/20140605023930/http://press.ihs.com/press-release/design-supply-chain/google-glass-far-more-sum-its-parts-ihs-teardown-reveals>

and labor of inventing Glass, nor the fact that nearly every component of the device was customized in some way to meet the demands of the technology (which likely raised the price of manufacturing).

Still, analysts had long predicted that if Google truly intended to upend the cell phone market, they'd price Glass around \$299. And in 2012, anonymous employees within Google told *The New York Times* that the retail price for Glass would be between \$250 and \$600.<sup>55</sup>

Even if Google followed the typical pricing margins of smartphones at the time, the price *still* wouldn't have been so high. For example, the components and assembly for a base-level iPhone 5 only cost \$205, but sold for \$649. If Glass were to follow this same 68 percent margin, they would have priced Glass around \$600. So where had the \$1,500 price tag come from?

Google had almost tripled the estimates

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55 Bilton, Nick. 2012. "Google to Sell Heads-Up Display Glasses by Year's End." *The New York Times*.  
<https://bits.blogs.nytimes.com/2012/02/21/google-to-sell-terminator-style-glasses-by-years-end/>

made by market analysts. They outpriced every “out-and-about” apartment-dwelling hipster in New York, outpriced suburban moms hoping to record their babies while holding them, and outpriced every potential demographic to whom they’d advertised so far—except, of course, those sitting in the front row at the Diane von Furstenberg fashion show.

Was Google actually trying to change society? Selling 10,000 beta-units at \$1,500 apiece would certainly be an innovative approach to mitigating R&D costs. However, maybe they were already trying to recoup the costs of a failed gambit.

In 2012, the independent technology research and consulting firm IHS iSuppli (now Omdia) predicted that Glass’s most optimistic scenario for 2015 would be selling two million units. If they sold all those units at a reasonable high-end smartphone range, this would amount to a gross profit of \$600 million—\$1.2 billion if Google continued selling Glass at a massive markup.<sup>56</sup>

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<sup>56</sup> IHS iSuppli. 2013. “Spurred by Google Glass, IHS Forecasts

At the time, Google was enjoying \$29.7 billion in gross profits and \$10.7 billion net profits per year.<sup>57</sup> One could argue that \$600 million from Glass sales wouldn't be contributing much to their overall numbers.

So what was Google's plan? The price tag meant that they didn't seem interested in creating a new software ecosystem like a games console manufacturer who sold their consoles at a loss. The anonymous sources that had "repeatedly" told *The New York Times'* Nick Bilton in 2012 that "Google was not thinking about potential business models with the new glasses" also claimed that Google saw the project "as an experiment" that anyone would be able to join. Google seemed to be equally unsure about their product's ultimate role in society, claiming that they would only "explore

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Nearly 10 Million Smart Glasses to Ship from 2012 to 2016." iSuppli Press Release. Archived: <https://web.archive.org/web/20130831125057/http://www.isuppli.com/Home-and-Consumer-Electronics/News/pages/Spurred-by-Google-Glass,-IHS-Forecasts-Nearly-10-Million-Smart-Glasses-to-Ship-from-2012-to-2016.aspx>

57 Minyanville. 2013. "Breaking Google Glass Into Pieces: The Costs of Production and Likely Retail Price." Nasdaq. <https://www.nasdaq.com/articles/breaking-google-glass-pieces-costs-production-and-likely-retail-price-2013-08-23>

possible revenue streams” if Glass was a hit with consumers.<sup>58</sup>

With a \$1,500 price tag, the company provided a definitive answer to the question of whose problems Glass would solve: affluent egomaniacs with money to burn.

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58 Bilton, Nick. 2012. “Google to Sell Heads-Up Display Glasses by Year’s End.” The New York Times. <https://bits.blogs.nytimes.com/2012/02/21/google-to-sell-terminator-style-glasses-by-years-end/?ref=technology>