



Presents

PRINT THE LEGEND



A Film by Luis Lopez & J. Clay Tweel
USA | 2014 | HD

Winner Special Jury Prize at SXSW 2014

PrintTheFilm.com

TAGLINE

The 3D printing revolution has begun. Who will make it?

LOGLINE

3D printing is changing the world. PRINT THE LEGEND follows the people racing to bring this hot new technology to your home, documenting the “Macintosh Moment” of this revolution and exploring what it takes to live the American Dream.

SYNOPSIS

3D printing is changing the world – from printing guns and human organs, to dismantling the world’s industrial infrastructure by enabling home manufacturing. It’s “the next Industrial Revolution.” For the first time in history, the stories of the human beings building an industry have been filmed. The result: PRINT THE LEGEND, which follows the people racing to bring 3D printing to your desktop and into your life. For the winners, there are fortunes – and history – to be made. PRINT THE LEGEND is both the definitive 3D Printing Documentary – capturing a tech in the midst of its “Macintosh Moment” – and a compelling tale about what it takes to live the American Dream in any field.

FILMAKER’S STATEMENT:

When we began to film *Print the Legend*, all we knew was that we were entering the “Macintosh Moment” of an exciting technology, the time when 3D Printing was shifting from an industrial process to one you could do at home. We knew this held untold promise for future innovation. We knew we were making a time capsule of a historical moment. What we did not know was that the astoundingly hard working entrepreneurs who were chasing their dreams in this Wild West marketplace were going to teach us lessons about a story we’ve all been told a thousand times: the myth of the American Dream. We did not know we’d learn that what we ask of our business heroes is like what we ask of our politicians or professional athletes: tremendous self---sacrifice that selects out for all but the most obsessive, the most competitive, the most willing to achieve at all cost. The people in *Print the Legend* are benefitting and challenging us all, because they are achieving things that will shape our future in powerful ways. Some of them have lived and will live the American Dream. But at what cost? What do we ask of them? What do they ask of themselves? 3D Printing will one day give us the power to make almost anything, but to handle that power responsibly, we must start by asking how we want to make ourselves. *Print the Legend* seeks to ask those questions through compelling human stories unfolding in the birth of a disruptive technology.

- Luis Lopez & Clay Tweel, Directors
- Steven Klein, Producer

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ABOUT THE FILMMAKERS:

Directors Bios

Luis Lopez hails from Tijuana and loves tacos. J. Clay Tweel is from Charlottesville and loves whiskey. Among other credits, they share THE KING OF KONG (Clay & Luis: editor, shooter, and associate producer) and MAKE BELIEVE (Clay: director and editor, Luis: editor and co--producer), which won the grand jury prize at the LA Film Fest in 2010.



Producer Bio

Steven Klein hails from Boston and loves whiskey and tacos, especially together. Steven last worked with Clay and Luis on their LA Film Festival---winning documentary, MAKE BELIEVE. Steven recently Produced and starred in the indie feature film KENSHO AT THE BEDFELLOW, now in post.

Additional Creative Team Bios

Seth Gordon (Producer) hails from Seattle and loves steak. Among other work, Seth directed doc THE KING OF KONG, and produced MAKE BELIEVE, FREAKONOMICS, the 2012 Oscar--winner UNDEFEATED, and MITT while staying busy directing hit movies like HORRIBLE BOSSES and IDENTITY THIEF.

Mary Rohlich (Executive Producer) hails from Iowa and loves wine. She first teamed with Seth Gordon on FOUR CHRISTMASSES and went on to collaborate on HORRIBLE BOSSES and IDENTITY THIEF, which she co---produced. She's teamed with this doc crew as a producer on MAKE BELIEVE and FREAKONOMICS.

The Producing Team Collective Bio

PRINT THE LEGEND is brought to you by an award---winning documentary team whose members have produced FREAKONOMICS, THE KING OF KONG, MAKE BELIEVE, and the 2012 Oscar---winner UNDEFEATED.

KEY CREDITS

AUDAX Films presents a Chad Troutwine production, in association with Exhibit A

Executive Producers:

Walter Kortschak
Mary Rohlich

Producers:

Seth Gordon
Dan O'Meara
Chad Troutwine

Co---Producer

Andrew Kortschak

Associate Producer:

Rafi Chaudry

Produced by Steven Klein

Directed by Luis Lopez & J. Clay Tweel

Lead Cast

Bre Pettis
Maxim Lobovsky
Avi Reichental
Cody Wilson
Chris Anderson
David Cranor
Natan Linder
Jenny Lawton





SXSW Review: How 'Print the Legend' Turns the Prospects of 3D Printing Into a Fascinating Corporate Drama

The technological possibilities of 3D printing may provide ideal fodder for the imagination, but that doesn't necessarily make for great drama. The chief accomplishment of "Print the Legend," the lively overview of various leading figures invested in advancing the 3D printer revolution from directors Luis Lopez ("Chevolution") and J. Clay Tweel ("Make Believe"), involves its capacity to do more than just show off the fancy new toys. Instead, "Print the Legend" delves into the industrial challenges facing the printer's development in addition to the numerous personal and professional hurdles that the field has already encountered. In short, it's less a movie about the gadget than the cutthroat business around it.

However, the filmmakers expertly illustrate the dazzling possibilities of 3D printing from the swift opening, when a number of visionaries sing the praises of the device's progressive abilities. "If the last evolution was about bits," one inventor says, "this one's about atoms." The footage backs up that claim: Taking directives from software, the microwave-like device is seen building artwork and medical tools alike. While it's explained that the concept has been around for decades, it's explained that only recently have the prospects of 3D printing transformed into a tantalizing reality.

But the quest to deliver on those promises quickly becomes the movie's main concern. As "Print the Legend" shifts from celebrating the 3D printer to exploring the characters working on bringing it to the marketplace, it develops a fascinating human dimension that practically renders its specific topic moot.

Using a blend of talking heads and well-crafted graphics, "Print the Legend" establishes out the key American companies invested in 3D printers over the past few years: On one side of the arena, Brooklyn-based MakerBot operates under the aggressive leadership of co-founder Bre Pettis, who advocates for cost-efficient products; at the other, there's the scrappy Formlabs, which maintains humbler development goals but struggles to keep its funding intact. By poking at the motives of the personalities behind these entities, "Print the Legend" uses its subject as an excuse for exploring the obsessive, paranoid sentiments of the technology space, a world populated by figures rushing to stay ahead of the curve.

While there have been other documentaries that tackle the uneven trajectories of managers and innovators in cutting edge fields — "Startup.com" and "Indie Game: the Movie" are two significant precedents — "Print the Legend" stands out for its thoroughly contemporary anticipation of a new product, beckoning comparisons to the rise of Steve Jobs. The specter of Jobs' accomplishments looms large for these mostly white male executives, but not always with positive connotations.

Pettis, who looks to Jobs for inspiration, ultimately comes across as the one most compromised by the lure of financial gain. As one colleague suggests, the narrative of Jobs' success "gave a lot of people permission to be assholes." While he grows increasingly uncomfortable with the cameras and gets lost in the mythology of his company's rise, Pettis strikes a notable contrast with less cunning developers like Formlabs co-founder David

Cranos, who confesses a sweeter childhood fascination with the geeky science dad in "Honey, I Shrank the Kids." By frequently cutting between the two companies' journeys, "Print the Legend" illustrates the distinction between exploiting a vision and passionately indulging in it.

Into this intriguing equation arrives Austin-based anarchist Cody Wilson, who manages to raise the ire of the government and achieve a modicum of media notoriety by firing the first 3D-printed handgun. By existing outside the diplomatic processes of the printer companies, devil-eyed Wilson gives the movie a subversive kick — suggesting that, no matter who manages to advance the technology, it ultimately must take on a life of its own — opening a whole new set of problems no upper level manager can coordinate.

Given this sensational assertion, it's unfortunate when "Print the Legend" wanders too deep into thorny office politics, and sometimes it seems as though the printing invention itself gets short shifted. But that's also crucial to its accessibility: The movie offers a consistently snazzy package of talking heads, media collages and illustrations (strung together with an energizing score by Noah Wall, Matthew McGaughey and Kyle Johnston) that celebrates the trajectory of modern technological progress while remaining wary of the conflicting interests it invites.

As various figures leave their companies, engage in public spats, contemplate going public or maintaining their grassroots origins, the situation never reaches the efficiency of the product at its center. By the end, it's clear that the future is arriving faster than even the people inventing it can anticipate.

Criticwire Grade: B+

HOW WILL IT PLAY? A slick documentary with widespread appeal, "Print the Legend" is likely to generate widespread interest in limited theatrical release and reap major commercial rewards in the digital marketplace, where interest from the tech community is likely to be potent.



SXSW Interview: Startup Culture Exposed in 3D Printing Doc *Print the Legend*

Directors Luis Lopez and Clay Tweel discuss their award-winning documentary *Print the Legend*, which had its world premiere this month at the 2014 South By Southwest Film Conference and Festival.

Premiering last week at South By Southwest, the documentary *Print the Legend* chronicles the mainstream rise of 3D printing over the past five years, due in large part to startups such as Makerbot and its aspiring rival FormLabs. The film also features the anarchist Cody Wilson, whose attempts to spark an anarchist revolution with his plastic, made-from-scratch handgun ("The Liberator") caused a major ripple in the ongoing national debate over gun control.

In contrasting the behind-the-scenes machinations that brought this new technology to the forefront with the hipster-glam personas of the key players, *Print the Legend* separates fact from myth, offering up a wholly riveting biopic of a burgeoning industry.

Directors Luis Lopez and Clay Tweel, who met while working on Seth Gordon's *The King of Kong: A Fistful of Quarters*, found themselves in the right place at the right time in 2009, when they stumbled upon what they call a "macintosh moment."

While stereolithography (the technical term for 3D printing) was developed in 1986, it took over a decade for the technology to find its way into models that made sense for home use, and Lopez and Tweel were there to document the startup culture that soon developed.

With Makerbot--led by self-proclaimed Steve Jobs-wannabe Bre Pettis -- leading the way, Formlabs followed a few years later, raising capital via what became a high-profile Kickstarter campaign. Adding another layer to the story, the open source community that made everything possible -- even Cody Wilson's gun plans -- was soon at odds with the profit-margin realities of building a corporation. Ideals were tested, integrity was questioned, partnerships crumbled, and these filmmakers were there to capture it all.

We caught up with Lopez and Tweel at SXSW, where we discussed the vision they had for their debut feature, their impressions of startup culture, the significance of the film's title, and what it's like to hang out with a self-proclaimed radicalizing anarchist. (Wilson's not that into the Second Amendment, they swear.)

VARIETY

SXSW Film Review: 'Print the Legend'

A technology that promises (some would say threatens) to permanently transform our lives and businesses gets compelling behind-the-scenes treatment in "Print the Legend," Luis Lopez and Clay Tweel's skillful overview of the major players in the 3D printing industry, the ingenious and highly competitive products they've turned out, and the controversy they've stirred up vis-a-vis the gun-control debate. Still, as cutting-edge as these innovations may be, the dramatic trajectory here — the initial thrill of a successful collaboration giving way to the forces of hubris, conflict and betrayal — could hardly be more timeless or universally applicable. Reminiscent of such classic studies of geek entrepreneurship as "Startup.com" and "The Social Network," though it's ultimately a softer-edged, more optimistic film than either, this well-handled documentary should maximize its modest theatrical potential on the basis of its remarkable access and early-bird take on a fascinating subject.

In covering the technology known as stereolithography, which can be used to "print" everything from chess pieces to prosthetic hands and functioning human organs, directors Lopez ("Chevolution") and Tweel ("Make Believe") had the good fortune to begin filming at a crucial moment for the biz, which aims to make 3D printers as ubiquitous and home-user-friendly as personal computers. At one end of the spectrum is MakerBot Industries, the Brooklyn-based garage operation turned \$400 million powerhouse whose rise is widely attributed to the charisma and vision of its co-founder/CEO, Bre Pettis — a figure likened here by many to Steve Jobs, for better or worse.

At the other end of the spectrum is Boston-based up-and-comer Formlabs, founded in 2011 by three college grads in their 20s. These include Max Lobovsky, whose visible discomfort in the spotlight makes him an odd public face for the company, though by film's end, his own talents and growth potential have been amply confirmed. The struggle to get Formlabs off the ground offers a valuable lesson in the challenges and rewards of Kickstarter funding, as the free 3D printers they promise their investors are endlessly held up by production and testing delays.

While these two companies are seen at very different points on their respective timelines, their narratives are unsurprisingly similar: In each case, a few budding tech geniuses pooled their smarts and resources to launch a company on a shoestring and experienced an exciting period of success and growth, only to see their personal and professional relationships strain and break under the pressures of expansion. In the case of Formlabs, differences of opinion and personality among upper management send co-founder David Cranor packing, leaving Lobovsky in the driver's seat. Another setback: 3D Systems, another major player in the industry, files a lawsuit against the fledgling company for patent infringement.

The tensions at MakerBot are considerably thornier and more complicated. Industry watchers here criticize the company's 2011 decision to switch from open-source hardware

to a proprietary closed-source model, signifying a huge shift in corporate philosophy that was described by co-founder Zachary “Hoeken” Smith as “the ultimate betrayal.” Smith is one of the many former MakerBot staffers who speak out here, with varying degrees of diplomacy, about Pettis’ overly controlling leadership and refusal to tolerate dissent among his ranks; the film’s best line comes from former MakerBot VP of sales and business development Jeff Osborn, noting that Steve Jobs’ biography “gave a lot of people permission to be assholes.”

Because Lopez and Tweel are tracking the rise but not the fall, “Print the Legend” doesn’t have the falling-apart-before-your-eyes immediacy of “Startup.com.” It’s more talking-heads piece than fly-on-the-wall drama, and statements to the effect of “I’m not sure I should be talking about this” are about as close as anyone gets to dropping their guard. The film’s central insight is by now so familiar — how can such brainy, innovative thinkers be so susceptible to the banal temptations of greed, ego and compromise? — that it actually robs the picture of some specificity; more in-depth details on the actual mechanics of 3D printing, even at the risk of alienating less tech-savvy members of the audience (present company included), would have been welcome.

To that end, the documentary’s secret weapon, so to speak, is Cody Wilson, the law student and free-market anarchist who made headlines by firing the first 3D-printed gun, and who is determined to put that technology in the hands of Americans everywhere. As the founder of Defense Distributed, which publishes open-source, 3D-printable gun designs online, Wilson delights in the reality that disruptive technology, by its very definition, produces outcomes that neither the government nor society can ultimately control. He may be an impish professional troublemaker, but Wilson’s voice feels like a necessary one, insofar as it spotlights an ethical quandary that, to judge by “Print the Legend,” the industry would generally prefer to ignore. (In the wake of the 2012 Sandy Hook tragedy, MakerBot yanked all downloadable 3D-printing files for gun parts from its website and launched an ad campaign focusing on the technology’s constructive rather than destructive potential.)

Tech credits rep a solid, straightforward mix of informative graphics and cleanly shot, crisply edited footage, most of it filmed at corporate offices and consumer electronics tradeshows. Some of the musical choices — Nancy Sinatra’s “Bang Bang (My Baby Shot Me Down)” for the gun portion, Buck Owens’ “Act Naturally” for Pettis’ image-makeover montage — are too on-the-nose.

SXSW Film Review: 'Print the Legend'

Reviewed at SXSW Film Festival (competing), March 9, 2014. Running time: **96 MIN.**

Production

(Documentary) An Audax Films presentation of a Chad Troutwine production in association with Exhibit A. Produced by Seth Gordon, Dan O'Meara, Troutwine, Steven Klein. Executive producers, Walter Kortschak, Mary Rohlich. Co-producer, Andrew Kortschak.

Crew

Directed, edited by Luis Lopez, Clay Tweel. Written by Steven Klein, Lopez, Tweel. Camera (color, HD); Lopez, Tweel; music, Noah Wall; music supervisor, Kevin J.

Wyatt; re-recording mixer, Jeremy Grody associate producers, Rafi Chaudry, Natalia Duncan, Ryan Johnston.

With

Bre Pettis, Maxim Lobovsky, Avi Reichental, Cody Wilson, Chris Anderson, David Cranor, Natan Linder, Jenny Lawton.



Print the Legend: SXSW Review

Luis Lopez and Clay Tweel look at two rival startups in the new 3D printing field.

AUSTIN — Luis Lopez and Clay Tweel take a snapshot of a nascent but outrageously promising industry in *Print the Legend*, focusing on the potentials of 3D printing itself only long enough to see how it motivates two rival startups. Full of interpersonal drama and touching on the bigger perils of growing from a small partnership into a huge company in a handful of years, the doc should entertain tech-industry auds (even if it teaches them little) and attract outsiders looking to see a possibly world-changing field being born.

The companies in question are MakerBot Industries, whose CEO Bre Pettis hopes to be the Steve Jobs of his field — taking a technology formerly available only to huge corporations and putting it on individuals' desktops — and Formlabs, whose frontman Max Lobovsky intends to offer a higher-quality "prosumer" home unit.

The two men have wholly different personalities: Former teacher Pettis is a goofy-looking glad-hander with a cocked grin; kid-genius Lobovsky is a poor communicator who can seem arrogant to those around him. And neither is the sole founder of his company, which turns out to be a big focus here: Lopez and Tweel observe how each firm started as three friends with complementary gifts, then evolved, with business pressures and ego clashes weeding co-founders and key early employees out.

STORY: Late-Night Hosts Go Head to Head in Austin SXSW

The transformation is most extreme, and most poignant, at MakerBot, which began as an idealistic champion of open-source hardware: That is, all the technology within the desktop printer was public information, allowing others to improve it so long as their innovations were also public. That changed suddenly in 2012, as rapid growth encouraged those in charge to nail down ways to make money. Suddenly the device ran on proprietary technology, leaving a legion of early adopters feeling betrayed.

Pettis becomes the doc's most puzzling subject: a man who early on radiated utopian optimism now looks sad, avoiding certain subjects uncomfortably, and is accused by former supporters of cruelty and capriciousness in firing many of those who built the company. Meanwhile, Formlabs suffers major, reputation-damaging delays in getting its highly anticipated product ready to ship.

Many viewers with only a casual awareness of 3D printing will be expecting more about the possibilities of these technologies and a broader assessment of the state of the art — much is being done in the field beyond making plastic trinkets in machines that can fit on a desk chair. One use gets some screen time, as we visit a bit with the loathsome self-promoter rushing to enable the world to make 3D-printed guns at home. But that example, and the film's one look at industrial-scale 3D printing, are only here to illuminate the many non-technical challenges faced by new companies trying to become the Apple or Microsoft of 3D printing.

Production Companies: AUDAX Films

Directors-Directors of Photography-Editors: Luis Lopez, Clay Tweel

Screenwriters: Steven Klein, Luis Lopez, Clay Tweel

Producers: Seth Gordon, Dan O'Meara, Chad Troutwine, Steven Klein

Executive producers: Walter Kortschak, Mary Rohlich

Music: Noah Wall

Sales: Liesl Copland, WME

No rating, 96 minutes

Filmmaker Q and A:

1. What do you personally think is revolutionary about 3D printing? What excites you about it? Do you have a 3D printer?

It is hard to tell how "revolutionary" 3D printing is going to be because the technology is still pretty new. What excites us most about the technology are the medical and other professional uses. Things like customized medical implants and NASA's use of 3D printers to prototype new tools for spacecrafts sound like science fiction, but they are becoming an affordable reality. We have not made the leap and bought a 3D printer ourselves, but the time is not far off when we probably would. (And Netflix did buy one and is already loving using it.)

2. After filming these guys, where do you see 3D printing going?

We still very much consider ourselves amateurs in the field, but if forced to prognosticate, we see 3D printing being a huge boost to the engineering and product design industries in the near future. As for the far future, bio-printing has the capabilities to change medical science in radical ways, and we can't wait for the time when we could be "printing" replacement (or extra?) body parts!

3. How do you think tech start ups differ now from say the Apple days? for example, kickstarter to raise money

It appears to us that there are quite a few differences since the birth of Apple. Tech start-ups are now seen as a viable profit vehicle, when 30 years ago they were more of a gamble. Also, because of their success, the competition between tech start-ups is even more fierce than it was back in the Homebrew Computer Club days. All that being said, the people who decide to pioneer tech start-ups have strikingly similar attributes to those of the early PC era.

4. How did the story change from when you started filming? ie. was there anything you didn't expect?

Documentaries like ours are constantly evolving while you are making them, so "yes," things definitely changed. What started out as a time capsule of an industry shifted to be more about the challenges it takes to grow any sort of business today and how people handle and are changed by success. We knew the 3D printing industry was growing fast, but the exponential nature of all of these businesses didn't really hit us until we finished the film and realized how much had happened in a relatively short time.

5. What did you find most surprising during the shoot?

Beyond the surprise of Makerbot's and Formlabs' growing pains of just the last year, the other thing that surprised us was Cody Wilson. We imagined him to be a self-serving gun nut, and he turned out to be an extremely intelligent guy who had a well thought out persona he uses to attract media attention to issues he cares about. (And a bit to himself, but we can respect that, and it's wonderful for our film.)

6. What did you make of the turning of Bre Pettis champion of open source to business hard head? Is it typical of a start up getting bigger, unavoidable, or just personality, as former VP Jeff Osborne said?

We think that Bre's change of attitude and business practices are not uncommon at all. As far as we observed, the people who start companies are usually idealistic, obsessive, and incredibly driven to succeed. We hope that the film is an example of what happens when the idealism of a person like this is challenged by the inevitable, hard business realities of succeeding and growing in a capitalist system. The "American Dream" of great financial success can be a path littered with compromised ethics and discarded colleagues, so we just wanted to examine how much of that path is unavoidable and how much is a conscious decision. After years of filming and reflection, there does not seem to be one clear-cut answer to this question.

7. Anything else you'd like to say?

Tim Cahill's goal was the best goal of the World Cup. Thank you!